Linking animal science and animal agriculture: Meeting the global demands of 2050

DRAFT

SCIENTIFIC PROGRAM

ADSA • ASAS • CSAS
**Note About Abstract Numbering**

To better facilitate locating abstracts within their topic area the abstract number system has been adjusted for the 2014 JAM. First abstracts were split into oral and poster presentations, then grouped by their section (topic area) and finally sorted by presentation order. This modified abstract numbering system will ensure that all abstracts within the abstract book are grouped by oral and poster as well as by topic area. To help locate the abstract within their sessions we are providing two listing of sessions and the abstract numbers within those sessions; the first lists the abstracts grouped by oral and poster and then within their topic area, the second is a listing of sessions in presentation order by day.

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**Workshops: Crafting USAID's Livestock Research Agenda – Animal Science Priorities Under Feed the Future** ........................................................................................................... 781 – 786
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SYMPOSIA AND ORAL SESSIONS

ASAS-ASN Preconference: Next Step from Innovate 2013: Feed Bunk to Bedside to Bench: Current Analytical Platforms in Nutrition

Chair: Doug Burrin, Baylor College of Medicine
2505A

8:00 AM  Welcome and Introductions
Teresa Davis and Jim Sartin

8:15 AM  Techniques for imaging and correlating functional and physical early brain development influenced by nutrition
R. W. Johnson, University of Illinois, Urbana

9:00 AM  Perturbations in Calcium and Phosphorus Homeostasis
J. S. Radcliffe*, Purdue University, West Lafayette, IN

9:45 AM  Stem Cell Biology & Beyond in GI Research
D. G. Burrin*, Baylor College of Medicine, Houston, TX

10:30 AM  Break

10:45 AM  SCID Pig Model
Speaker to be confirmed.

11:30 AM  Gut Enteroids – What Are They and How Can We Use Them?
S. E. Blut*, Baylor College of Medicine, Houston, TX

12:15 PM  Lunch and Poster Competition

1:45 PM  Microbiome Applications in Animals
K. Swanson, University of Illinois, Urbana

2:30 PM  Functional Crosstalk between the Metagenome and Metabolome
T. Savidge*, Baylor College of Medicine, Houston, TX

3:15 PM  Use of forward genetics to locate genetic regions controlling calcium absorption in vitamin metabolites
Speaker to be confirmed.

4:00 PM  Closing Remarks
D. G. Burrin*, Baylor College of Medicine, Houston, TX

Beta Agonist Symposium: “What the Data Say”

Chair: Don Topliff, West Texas A&M University
2502

9:00 AM  Muscle Fat/Biology: Muscle
Brad Johnson Texas Tech University

9:30 AM  Muscle Fat/Biology: Fat
Steve Smith Texas A&M University

10:00 AM  Live/Carcass Performance: Swine
Todd See, North Carolina State University

10:30 AM  Live/Carcass Performance: Beef
Ryan Rathman, Texas Tech University

11:00 AM  Carcass Transfer/Composition: Swine
Jason Apple, University of Arkansas

11:30 AM  Carcass Transfer/Composition: Beef
Ty Lawrence, West Texas A&M University

12:00 PM  Lunch Break
1:00 PM  Sensory Characteristics (color/palatability): Swine
Dustin Boier, University of Illinois

1:30 PM  Sensory Characteristics (color/palatability): Beef
Chance Brooks, Texas Tech University

2:00 PM  Private Industry Perspective
Kendall Karr, Cactus Feeders

2:30 PM  Trade Barriers
Paul Clayton, United States Meat Export Federation

3:00 PM  Panel Discussion

Triennial Lactation Symposium / BOLFA: Nutrigenomics in Dairy Cows
Chair: Monique Rijnkels, Baylor College of Medicine
2505B

8:30 AM  Welcoming Remarks

8:40 AM  Utilizing ‘omic’ techniques to understand energy balance in the lactating dairy cow.

J. P. McNamara*, Washington State University, Pullman

10:10 AM  Break

10:30 AM  Insights provided by nutrigenomics into the effect of diet on metabolism and milk production.
K. J. Harvatine*, Pennsylvania State University, University Park

11:15 AM  Nutrigenomics in dairy cows.
M. Bionaz* and J. J. Loor*, Oregon state University, Corvallis, *University of Illinois, Urbana

12:00 PM  Lunch Break

1:30 PM  Systems biology and the role of nutrition in coordinating adaptations to lactation.
J. J. Loor* and M. Bionaz*, University of Illinois, Urbana, *Oregon state University, Corvallis

2:15 PM  Nutrient partitioning during intramammary inflammation: A key to severity of mastitis and risk of subsequent disease?
K. M. Moyes*, Department of Animal and Avian Sciences, University of Maryland, College Park

3:00 PM  Nutritional effects on immunology and inflammation in dairy cattle.
E. Trevisi*, P. Grossi and A. Minuti, Università Cattolica del Sacro Cuore, Piacenza, Italy

3:45 PM  Concluding Remarks

3:55 PM  Tucker Award Ceremony
Monday, July 21, 2014

POSTER PRESENTATIONS

7:30 AM – 9:15 AM

Exhibit Hall AB

ADSA-SAD Undergraduate Student Paper Competition: Original Research

787 M001 Characterization of serotonin (5-HT) and glucose patterns and their hepatic receptor profiles during the transition period in dairy cows.

788 M002 Inhibitory Factors Of Casein Synthesis In Mammary Tissue Of Lactating Dairy Cows.

789 M003 Health of Holstein Bull Calves Fed a Fermentation Extract of Aspergillus Oryzae.
R. M. Townsley, T. T. Yohe, E. M. Dudash, Y. Roman Garcia, A. R. Gibson, K. M. O’Diam and K. M. Daniels, Department of Animal Sciences, The Ohio State University, Wooster

790 M004 Fecal Score Evaluation of Pre-Weaned Dairy Calves in Group Housing.
M. Kittell, J. Augustine and S. I. Kehoe, University of Wisconsin - River Falls, River Falls

Animal Behavior & Well-Being Posters I

791 M005 Free range pork production system on savanna pasture.

792 M006 Behavioral Laterality, Facial Hair Whorls, and Heart Rate Variability in Horses.
C. B. Shivley*, T. Grandin and M. Deising, Colorado State University, Fort Collins

793 M007 Effects of rearing system and stocking density on growth performance, carcass quality and welfare of male Arbor Acres broilers.
W. Chang*, J. Tang, G. Liu and H. Cai, Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China

794 M008 Comparison of Three Acute Stressors in Horses.
A. J. Bachman, A. Berzas and C. E. Ferguson*, McNeese State University, Lake Charles, LA

795 M009 Effect of social housing on pre- and post-weaning intake of dairy calves.
E. K. Miller-Cushon*, R. Bergeron*, K. E. Leslie*, G. J. Mason* and T. J. DeVries*, University of Guelph, Kemptville, ON, Canada, University of Guelph, Kemptville, ON, Canada, University of Guelph, Kemptville, ON, Canada

796 M010 Associations of Stall Design, Behavior, and Hygiene of Lactating Dairy Cows.
M. A. Overvest* and T. J. DeVries, University of Guelph, Kemptville, ON, Canada

797 M011 Time Budget and Rumen Development of Dairy Calves around the Time of Weaning.
M. A. Overvest*, E. K. Miller-Cushon and T. J. DeVries, University of Guelph, Kemptville, ON, Canada

798 M012 Use of peripartum period cud chewing and activity data for diagnosis of health disorders.

799 M013 Effect of stall size, tie-rail position, and chain length on cow injuries and cleanliness in Eastern Canadian tie-stall farms.
V. Bouffard*, A. M. de Passille*, J. Rushen*, E. Vasseur*, D. B. Haley* and D. Pellerin*, Université Laval, Québec, QC, Canada, Valacta, Sainte-Anne-de-Bellevue, QC, Canada, University of British Columbia, Agassiz, BC, Canada, University of Guelph - Campus d'Alfred, Alfred, ON, Canada, University of Guelph, Guelph, ON, Canada

800 M014 Evaluation of cow cleanliness and fly avoidance behaviors among cows with docked, switch-trimmed, and switch-intact tails.
E. A. Morabito*, D. T. Nolan and J. M. Bewley, University of Kentucky, Lexington

801 M015 Effect of reduced hair coat on performance of feedlot steers during summer heat stress.
A. K. Curtis*, B. Scharf, W. J. Sexten and D. E. Spiers, University of Missouri, Columbia
Animal Health: Models of Animal Immune Status and Performance

827 M016 Gastrointestinal and Hepatic Tissue Fatty Acid Composition and Interleukin-6 Concentration in Broiler Chickens: Effect of Maternal Dietary n-3 Fatty Acids.
C. J. Ballock, G. Bobe and G. Cherian1, Oregon State University, Corvallis

828 M017 Sandwich enzyme-linked immunosorbent assay for detection of Fasciola gigantica excretory secretary in goats sera.
H. R. Metaw2 and E. M. Ouda1, 1Animal Production Research Institute, Agriculture Research Center, Cairo, Egypt, 2Faculty of Agriculture, Mansoura University, Mansoura, Egypt

829 M018 Response of beef cows offered a chlortetracycline fortified mineral and either strip or continuous stocked to stockpiled fescue.
M. S. Gadberry1, D. S. Hubbell, III2, J. D. Tucker2, T. Hess3, P. A. Beck2, J. Jennings1, J. G. Powell2 and E. A. Backes3, 1Department of Animal Science, University of Arkansas, Little Rock, 2University of Arkansas Livestock and Forestry Research Station, Batesville, 3Department of Animal Science, University of Arkansas, Hope, 4Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville

830 M019 Regulation of gene expression and chemotactic and phagocytic function of bovine neutrophils incubated with citrus oil and lipopolysaccharides.
M. Garcia1, D. Biswas1, T. H. Elsasser2 and K. M. Moyes1, 1Department of Animal and Avian Sciences, University of Maryland, College Park, 2USDA/ARS Growth Biology Lab, Beltsville, MD

831 M020 Effect of Penicillium mycotoxins on bovine macrophage (BoMac) function.
S. Y. Oh1, H. J. Boermans2, H. V. L. N. Swamy3, T. K. Smith4 and N. A. Karrow1, 1Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 2Department of Biomedical Sciences, University of Guelph, Guelph, ON, Canada, 3Haladi Consultancy Services, Bangalore, India

832 M021 The Mycobacterial Diseases of Animals (MDA) Multistate Initiative - a cooperative effort addressing animal diseases.
K. E. Olson1, V. Kapur2, P. CousSENS2 and D. H. Lein1, 1KEO Consulting, Schaumburg, IL, 2Pennsylvania State University, State College, PA, 3Michigan State University, East Lansing, 4Cornell University, Ithaca, NY

833 M022 Up-regulation of Fetal Cardiac Genes following Persistent and Transient Bovine Viral Diarrhea Virus Infection.
S. W. Hahn1, T. R. Hansen1 and H. Han2, 1Colorado State University, Fort Collins, 2Colorado State University, Fort Collins

834 M023 Omnigen-AF® supplementation inclusion rate independently promotes immune function in a rat model.
J. A. Branson1,2, D. J. McLean3, N. E. Forsberg4, S. A. Armstrong1, T. H. Schell1 and G. Bobe1, 1OmniGen Research, Prince Agri Products, Corvallis, OR, 2Oregon State University, Corvallis

835 M024 Effects of Betaine on Growth Performance, Carcass Characteristics and Meat Quality of Broilers.
J. Ma, W. Chang, G. Liu, H. Cai, S. Zhang and A. Zhen, Feed Research Institute, Chinese Academy of Agricultural Sciences, Beijing, China

836 M025 Effects of dietary polyphenols on inflammatory processes, nutrient digestibility and microbiota in the intestine of piglets.
A. Fiesel1, D. K. Geßner1, B. Eckel1 and K. Eder1, 1Institute of Animal Nutrition and Nutrition Physiology, Universität Gießen, Gießen, Germany, 2Dr. Eckel GmbH, Niederzissen, Germany

837 M026 Effects of CO2 and filter pore size on bovine neutrophil chemotaxis.
A. M. Barnard1, R. Nebenhaus, S. Polukis and T. F. Gressley, University of Delaware, Newark

838 M027 Preliminary Evaluation of the Effect of a Mushroom (Coriolus versicolor) Probiotic on Gene Expression in Goat Blood.
K. A. Ekwenimalor1, North Carolina Agricultural and Technical State University, Greensboro

839 M028 Current clostrums management practices on Jersey farms in Vermont and New York State.
K. M. Morrill1, M. M. Spring2 and H. D. Tyler2, 1Cornell University, Ithaca, NY, 2Iowa State University, Ames

840 M029 Effect of 2,4-thiazolidinedione treatment in milk production and leukocytes phagocytosis after sub-clinical mastitis induction in lactating dairy goats.
S. G. Richards1, L. Robertson, D. Dahl, L. Johnston, C. T. Estill and M. Bionaz, Department of Animal and Rangeland Sciences, Oregon State University, Corvallis

841 M030 Cross-talk between liver and mammary tissue after experimental Escherichia coli mastitis in Holstein dairy cows using RNAseq.
M. Bionaz1, K. M. Moyes2 and P. Sorensen3, 1Department of Animal and Rangeland Sciences, Oregon State University, Corvallis, 2Department of Animal and Avian Sciences, University of Maryland, College Park, 3Center for Quantitative Genetics and Genomics, Department of Molecular Biology and Genetics, Aarhus University, Tjele, Denmark

842 M031 Identifying the major bacteria causing intramammary infections in individual milk samples of sheep and goats using traditional bacteria culturing and Real-time Polymerase Chain Reaction.
M. Roval1, G. Caja1, A. Salama1,2, A. Juber3, B. Lazaro4, M. Lazaro3 and G. Leitner3, 1Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain, 2Animal Production Research Institute, Dokki, Giza, Egypt, 3Laboratori Interprofessional Lletter de Catalunya (ALLIC), Cabrils, Spain, 4Vacunek, Ibaizabal Bidea 800, Parque Científico y Tecnológico de Bizkaia, Derio, Spain, 5National Mastitis Reference Center, Kimron Veterinary Institute, Bet-Dagan, Israel

843 M032 Antibiotic dry-off therapy for intramammary infections in dairy sheep and goats.
M. Roval1, G. Caja1, A. Salama1,2, C. L. Manuelian1, X. Such1, M. Cervino1 and G. Leitner3, 1Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain, 2Animal Production Research Institute, Dokki, Giza, Egypt, 3Boehringer-Ingelheim España S.A., Barcelona, Spain, 4National Mastitis Reference Center, Kimron Veterinary Institute, Bet-Dagan, Israel

844 M033 Tissue Protein Nitration and Peripheral Blood Endotoxin Activity are Indicative of the Severity of Systemic Organ Compromise in Naturally-Occurring Clinical Cases of Bacterial Mastitis in Holstein Dairy Cows.
S. Kahl1, T. H. Elsasser and G. Sample, USDA, Agricultural Research Service, Beltsville, MD

845 M034 Proinflammatory Responses of a hTERT-Transformed, Immortalized Line of Cultured Bovine Mammary Epithelial cells (BME).
T. H. Elsasser1, S. Kahl1, D. E. Kerr1, E. Zudaire2 and F. Cuttitta2, 1USDA, Agricultural Research Service, Beltsville, MD, 2University of Vermont, Burlington, 3NIH-NCl, Bethesda, MD

A. Vanniokours1, Center for Animal Nutrigenomics and Applied Animal Nutrition, Altech, Nicholasville, KY

847 M036 Identification Of Immune Response Markers To Omnigen-AF® Supplementation In A Rat Model.
J. A. Branson1,2, D. J. McLean1, N. E. Forsberg1, S. A. Armstrong1, T. H. Schell1 and G. Bobe1, 1OmniGen Research, Prince Agri Products, Corvallis, OR, 2Oregon State University, Corvallis

848 M037 Effects of recombinant bovine somatotropin treatment during the transition period on serum growth hormone and insulin-like growth factor 1 concentrations and liver content of lipid, triglyceride, and glycogen.
P. Basso Silva1,2, D. S. Lobao3, D. H. Keisler2 and R. C. Chebel1, 1University of Minnesota, Saint Paul, 2Dep. Animal Science, University of Minnesota, St. Paul, 3University of Missouri-Division of Animal Sciences, Columbia, MO, 4Dep. Veterinary Population Medicine, University of Minnesota, St. Paul

849 M038 Vitamin D Signaling Enhances Expression of Antibacterial β-Defensin Genes in Bovine Monocytes.
C. D. Nelson1, K. E. Merriman1 and J. D. Lippolis2, 1University of Florida, Gainesville, 2USDA, ARS, National Animal Disease Center, Ames, IA

850 M039 Effects of genotype and transportation stress on cytokine gene expression in steers.
M. A. Sales1, M. Ata1, B. Williamson1, K. P. Coffey1, M. L. Looper2 and C. F. Rosenkrans3, 1University of Arkansas, Fayetteville, 2USDA-ARS Dale Bumpers Small Farms Research Center, Booneville, AR

851 M040 Prevalence and molecular identification of Cryptosporidium spp. In lambs on the Huasteca Alta Region, State of Veracruz, Mexico.
S. S. Gonzalez1 and I. Vitela-Mendoza2, 1Colegio de Postgraduados, Montecillo Estado de Mexico, Mexico, 2Instituto Tecnologico El Llano, Aguascalientes, Mexico

852 M041 Bacteriological Culture and California Mastitis Test Results of Non-Clinical Quarter from Cows with Clinical Mastitis.
A. Lago1 and N. Silva-del-Rio2, 1DairyExperts, Tulare, CA, 2VMTRC, University of California, Tulare

853 M042 Effect of early feed restriction programs on IgY production of broiler chickens.
M. L. Moraes1, F. M. Butzen, M. M. Vieira, C. M. M. Pimentel and A. M. L. Ribeiro, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil

Breeding and Genetics: Applications and Methods in Animal Breeding - Beef

929 M043 Effects of Functional Polymorphisms on Beef Carcass Merit.

930 M044 Steers carcass characteristics with different genetic predominance fed with diets containing substitution levels of grain corn by millet grain.
R. M. D. Silva1,2,3, J. T. Pádua4, J. J. R. Fernandes3, R. Z. Taveira1, R. L. Missio5, P. S. Pacheco5, D. A. Fausto6 and J. Restle2, 1Universidade Estadual de Goiás, São Luís de Montes Belos, Goiás, Brazil, 2University Federal de Goiás, Goiânia, Goiás, Brazil, 3FAPEG, Goiânia, Goiás, Brazil, 4Universidade Federal de Goiás, Goiânia, Brazil, 5University federal de Goiás, Goiânia, Goiás, Brazil, 6Universidade Tecnológica Federal do Paraná, Pato Branco, Paraná, Brazil, 7University Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil, 8ESALQ / USP, Piracicaba, São Paulo, Brazil
931 M045 Genome-wide association analysis for beef traits in Marchigiana cattle breed.
S. Sorbolini1, C. Gruber2, C. Dimaro2, G. Gaspa3, M. Celleti2, A. Valentini3 and N. P. P. Macciotta1, 1Università di Sassari, Sassari, Italy, 2Dipartimento per l’Innovazione dei sistemi biologici, agroalimentari e forestali, Viterbo, Italy

934 M047 Copy number variation in the genome of Nellore cattle.
M. V. A. Lemos1, M. P. Berton1, C. Aboujaoude1, F. Feitosa1, G. C. Venturini2, R. L. Tonussi2, R. Espigolan2, H. N. Oliveira2, L. G. Albuquerque2 and F. Baldi2, 1State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, São Paulo, Brazil, 2State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, São Paulo, Brazil, Jaboatobacal, Brazil, Jaboatobacal, Brazil, Jaboatobacal, Brazil, 4State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, Brazil, Jaboatobacal, Brazil, Jaboatobacal, Brazil, 5Universidade Estadual Paulista “Júlio de Mesquita Filho” – UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboatobacal, Brazil, 6State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, Brazil, 7Universidade Estadual Paulista “Júlio de Mesquita Filho” – UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboatobacal, Brazil, 8Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho, São Paulo, Brazil.

935 M046 Estimation of Genetic Parameters for Reproductive Traits in a Multibreed Population of Beef Cattle.
S. O. Peters1, K. Kizilkaya2, D. J. Garrick3, R. L. Fernando1, E. J. Pollak4, M. Enns5 and I. G. Imumorin6, 1Berry College, Mount Berry, GA, 2Adnan Menderes University, Aydın, Turkey, 3Iowa State University, Ames, 4USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 5Colorado State University, Fort Collins, 6Cornell University, Ithaca, NY

936 M048 Seasonality and fresh semen quality from Pantaneira and Nellore bulls raised in Brazilian Pantanal.
L. E. S. Silva1, 2, L. K. Hatamoto-Zervoudakis2, A. F. Ramos2, P. P. Tsucheda1, F. M. Wingert1, M. F. Duarte Junior3, T. B. Castaldelli1, R. D. Almeida1 and J. D. O. Moraes1, 1Federal University Of Mato Grosso, Cuiaba, Brazil, 2Embrapa - Cenargen, Brasilia, Brazil

937 M049 Sliding Window methods to detection of regions under selection in Nellore cattle.
D. F. Cardoso1,2, G. C. Venturini1, D. J. A. Santos1, R. R. Aspilcueta Borquís1, A. A. Stella2, F. Baldi2, L. G. Albuquerque2, M. E. Z. Mercadante2 and H. Tonhati2, 1State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, Brazil, 2Bolsista - Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), São Paulo, Brazil, 3São Paulo State University (UNESP), Jaboatobacal, Brazil, 4UNESP Univ Estadual Paulista, Jaboatobacal, Brazil, 5Universidade Estadual Paulista “Júlio de Mesquita Filho” – UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboatobacal, Brazil, 6State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, Brazil, 7State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, Brazil, 8Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho-SP, Brazil

938 M050 Association between copy number variation regions in the Nellore cattle genome and meat tenderness.
M. P. Berton1, M. V. A. Lemos1, C. Aboujaoude1, G. M. de Camargo1, F. Feitosa1, G. C. Venturini1, R. L. Tonussi2, R. Espigolan4, D. M. Gordan2, A. S. C. Pereira1, H. N. Oliveira1, L. G. Albuquerque2 and F. Baldi2, 1State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, São Paulo, Brazil, Jaboatobacal, Brazil, Jaboatobacal, Brazil, Universidade Estadual Paulista “Júlio de Mesquita Filho” – UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboatobacal, Brazil, 2State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboatobacal, Brazil, Jaboatobacal, Brazil, 3São Paulo State University (UNESP), Jaboatobacal, Brazil, 4State University of São Paulo, Jaboatobacal, Brazil

939 M053 Signature of selection reveals large difference in selection traits.
X. Zhang1, J. Misztal2, M. Heidaritabar2, J. W. M. Bastiaansen3, R. Hawken4, R. Okimoto3, R. L. Sapp3, H. H. Cheng4, D. A. L. Lourenco1 and W. M. Muir4, 1University of Georgia, Athens, 2Wageningen University, Wageningen, Netherlands, 3Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands, 4Cobb-Vantress Inc., Siloam Springs, AR, 5USDA, ARS, ADOL, East Lansing, MI, 6Purdue University, West Lafayette, IN

940 M054 Weighted single-step genomic BLUP: an iterative approach for accurate calculation of breeding values and SNP effects.
X. Zhang1, D. A. L. Lourenco and I. Misztal, University of Georgia, Athens

941 M055 Derivation of Bayes and Minimax decision rules for allelic frequencies estimation in biallelic loci.
C. A. Martínez1,2, K. Kharé3 and M. A. Elzo1, 1Department of Animal Sciences, University of Florida, Gainesville, 2Department of Statistics, University of Florida, Gainesville

D. Lourenco1 and I. Misztal, University of Georgia, Athens

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CSAS Graduate Student Poster Competition

979 M057  Effect of dietary supplementation with linseed oil on the miRnome profile of the bovine mammary gland.
R. Li1,2, F. Beaudoin1, X. Zhao1, C. Lei1 and E. M. Ibeagha-Awemu3, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2Northwest A & F University, Xi’an, China, 3McGill University, St Ann De Bell, PQ, Canada

980 M058  Effect of co-expression of Lc and C1 flavanoid regulatory genes in alfalfa on nutritive value and ruminal methane production.
R. G. Heendeniya Vidanaral11, M. Y. Gruber10, Y. Wang9, D. A. Christensen4, J. J. McKinnon4, B. Coulman1 and P. Yu8, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 3University of Alberta, Edmonton, AB, Canada

981 M059  Predicting milk fat concentration from nutrient content and DCAD of the diet.
L. Fadul-Pacheco5, D. Pellerin, P. Y. Chouinard and E. Charbonneau, Université Laval, Québec, QC, Canada

982 M060  Evaluation of methane prediction equations for beef cattle fed high forage or high concentrate diets.
P. Escobar10, K. A. Beauchemin1 and M. Oba2, 1University of Alberta, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 3Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 4University of Alberta, Edmonton, AB, Canada

983 M061  Non-protein nitrogen improves feed efficiency of growing pigs fed a diet deficient in non-essential amino acid nitrogen.
W. D. Mansilla1, J. K. Hoo2 and C. F. de Lange1, 1University of Guelph, Guelph, ON, Canada, 2Evonik Industries AG, Hanau-Wolfgang, Germany

984 M062  Impact of the fatty acids in the diet on milk fat content: analysis from a database of commercial farms.
H. Mannai1, P. Y. Chouinard, L. Fadul-Pacheco, D. Pellerin and E. Charbonneau, Université Laval, Québec, QC, Canada

985 M063  Pregnancy and lambing rates in anestrous ewes bred to a new synchronization protocol and laparoscopic timed artificial insemination (TAI).
S. B. Turner1, M. B. Gordon1, T. Gowans1, J. A. Small1 and D. M. W. Barrett1, 1Faculty of Agriculture, Dalhousie University, Truro, NS, Canada, 2Agriculture and Agri-Food Canada, Truro, NS, Canada

986 M064  Effect of Duration on Feed and Energy Substrate on the Digestive physiology of Finishing Feedlot Cattle.
F. Joy1, J. J. McKinnon, S. Hendrick and G. B. Penner, University of Saskatchewan, Saskatoon, SK, Canada

987 M065  A prepartum diet supplemented with rolled canola seed reduced pituitary sensitivity to GnRH in dairy cows during second week postpartum.
R. Salehi11, M. G. Colazo1, M. Oba1 and D. J. Ambrose2, 1University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Rural Development, Edmonton, AB, Canada

988 M066  Utilization of high lipid byproduct pellet in the finishing diet of feedlot steers to improve carcass traits and reducing feed costs.
F. Joy1, J. J. McKinnon1, P. Gorka2 and G. B. Penner1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2University of Agriculture in Krakow, Krakow, Poland

Dairy Foods: Technical Poster Session I: Cheese / Yogurt

989 M067  Physicochemical and sensory characteristics of Processed Cheese Manufactured From Goat's Milk Fed Diet Supplemented with Sunflower seed or Sunflower oil.
A. G. Mohamed1, T. A. Morsy and S. Kholif, National Research Center, Cairo, Egypt

990 M068  Fatty Acid Profile Of Sheep Cheeses That Are Commercialized In Chile.
E. Vargas-Bello-Pérez1, C. Ugalde, P. Toro-Mujica, R. Vera and C. Aguilar, Pontificia Universidad Católica de Chile, Santiago, Chile

991 M069  Investigating the Impact of Distiller's dried grains with Solubles on the Quality of Milk and Swiss Cheese.
V. Manimann Sankarlal, E. D. Testroet and S. Clark, Iowa State University, Ames

992 M070  Evaluation of unidentified structural features in hard, aged cheeses and soft, washed rind cheeses by powder X-ray diffractionmetry.
G. F. Tansman1, P. S. Kindstedt2 and J. M. Hughes2, 1Department of Nutrition and Food Sciences, University of Vermont, Burlington, 2Department of Geology, University of Vermont, Burlington

993 M071  Quality of milk and minas freshcheese of pasture cows supplemented with licuri cake.
A. C. C. Ferreira1, R. L. Oliveira2, J. F. Vieira2, T. M. Silva1, A. M. Barbosa2, S. M. P. L. Jaeger1 and D. D. Amaral2, 1Universidade Federal da Bahia, 48823, MI, 2Universidade Federal da Bahia, Salvador, Brazil, 3Universidade do Reconcavo da Bahia - UFRB, Cruz das Almas, Brazil
M072 Microbial Stress Responses and Gene Expression during Aging of Cation-substituted full fat Cheddar cheese. B. Ganesan, S. Muruganandam and D. J. McMahon, Western Dairy Center, Utah State University, Logan

M073 Characteristics of yogurt manufactured using reconstituted yogurt cultured milk powder compared to yogurt powder. L. Song and K. J. Aryana, Louisiana State University, Baton Rouge; Louisiana State University Agricultural Center, Baton Rouge, LA

M074 Impacts of Different Types of Exopolysaccharides on the Physical and Rheological Properties of Yoghurts. U. Pachekepapoly, J. A. Lucey and D. S. Horne, Department of Food Science, University of Wisconsin – Madison, Madison, Wisconsin Center for Dairy Research, Madison, WI

M075 Substituting KCl for NaCl in fresh Queso Fresco. D. L. Van Hekken, D. X. Ren and M. H. Tunick, USDA, ARS, ERRC, Dairy & Functional Foods Research Unit, Wyndmoor, PA; Institute of Dairy Science, College of Animal Science, Zhejiang University, Hangzhou, P.R., China

M076 Effect of potassium sorbate and sodium benzoate concentrations on growth of cheese starter cultures. D. Olson, E. Gonzalez, M. Ponce and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge

M077 Influence of submicronization of sodium chloride on the sensory characteristics of surface salted cheese crackers. M. Moncada, C. Sabliov, C. Astete and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge

M078 Submicronization of sodium chloride and its effect on the physico-chemical and microbiological characteristics of surface salted cheese crackers. M. Moncada, C. Sabliov, C. Astete and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge

M079 Influence of various health beneficial spices on some characteristics of yogurt culture bacteria and Lactobacillus acidophilus and sensory acceptability of spicy probiotic yogurt. M. Sánchez-Vega and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge

M080 Yogurt characteristics as affected by added lactose. B. Mena and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge

M081 Influence of added lactose on some probiotic properties of yogurt culture bacteria. B. Mena and K. J. Aryana, Louisiana State University Agricultural Center, Baton Rouge

M082 Evaluation of the Perten Dough Lab for production of Imitation Mozzarella Cheese. A. Kommineni, S. Patel, A. C. Biswas, C. Marella and L. Metzger, Dairy Science Department, South Dakota State University, Brookings; Dairy Science Dept, South Dakota State University, Brookings; Dairy Science Department, South Dakota State University, Brookings; Dairy Science Department, California Polytechnic State University, San Luis Obispo; Midwest Dairy Foods Research Center, South Dakota State University, Brookings

M083 Genome analysis of two Lactobacillus curvatus strains that have emerged as dominant non-starter lactic acid bacteria in cheese. C. J. Oberg1, T. S. Oberg2, J. R. Broadbent2, M. D. Culumber1, D. J. McMahon3 and J. L. Steele4, Department of Microbiology, Weber State University, Ogden, UT; Department of Nutrition, Dietetics, and Food Sciences, Western Dairy Center, Utah State University, Logan; Western Dairy Center, Utah State University, Logan; University of Wisconsin, Madison

M084 Use of a Water-in-Oil-in-Water (W/O/W) Double Emulsion to Simulate the Full-Fat Cheese Physical Properties in a 30% Reduced-Fat Cheese. L. Liu, D. Clayton and D. J. McMahon, Key Laboratory of Dairy Science, Ministry of Education, Northeast Agricultural University, Harbin, China; Western Dairy Center, Utah State University, Logan

Forages and Pastures Posters I: Silages and Forages in Dairy Production Systems

M085 The influence of wilting on the quality of Leucaena leucocephala silage. T. Clavero and R. Razz, Universidad Del Zulia, Maracaibo, Venezuela; Universidad del Zulia, Maracaibo, Venezuela

M086 Comparison of milk fatty acid profiles of dairy cows grazing cool-season perennial ryegrass or birdsfoot trefoil pasture on a commercial organic dairy farm. R. G. Christensen, J. S. Eun1, V. Fellner, A. J. Young1 and J. W. MacAdam1, Utah State University, Logan; North Carolina State University, Raleigh

M087 Lactational response of Holstein cows to brown midrib or leafy-floury corn silage. S. Y. Morrison, K. W. Cotanch1, C. S. Ballard, H. M. Dann, E. O. Young, R. J. Grani and C. I. Key, William H. Miner Agricultural Research Institute, Chazy, NY; Healthy Herd Genetics & Nutrition, LLC, Oneida, NY

M088 Production response of lactating cows to diets based on corn or forage sorghum silage produced from first or second harvest. J. K. Bernard, University of Georgia, Tifton
MONDAY, JULY 21, 2014

1072 M089 Feeding Strategy and Pasture Quality Relative to Nutrient Requirements of Grazing Dairy Cows in the Northeastern U.S. A. N. Hafli,1 K. J. Soder,1 A. F. Brito,1 R. Kersbergen,1 F. Benson,2 H. Darby3 and M. D. Rubano4, USDA-Agricultural Research Service, University Park, PA, 1University of New Hampshire, Durham, 2University of Maine Cooperative Extension, Waldo, ME, 3Cornell University Extension, Cortland, NY, 4The University of Vermont, Albans

1073 M090 Use of biological additives to improve lactic fermentation tropical silages. L. Bernal1, J. Mazabé2, R. Herrera3, P. Avila2, H. Jimenez2 and M. Cuchillo2, 1La Salle University, Bogotá, Colombia, 2International Center for Tropical Agriculture, Cali, Colombia, 3Corpoica, Bogota, Colombia

1074 M091 Quality evaluation of five varieties of corn for silage production in crop-livestock-forest integration system in the Cerrado Region. M. C. A. Santana1, A. A. Pinheiro1, V. A. Silva1, J. T. C. Pacheco1, A. C. Fernandes1, I. D. Carneiro1, V. C. Modesto2 and J. Cavali1, 1Emater, Goiânia, Brazil, 2UNESP, Jaboriçal, Brazil, 3Universidade Federal de Rondônia - Unir, Rondonia, Brazil

1075 M092 Impact of hybrid and growing location on yield and composition of corn plants harvested for silage. D. Bolinger1, L. Nuzback2 and F. N. Owens3, 1DuPont Pioneer, Perrinton, MI, 2DuPont Pioneer, Johnston, IA

1076 M093 Impact of corn plant maturation and planting density on nutrient composition and potential milk yield. L. Brown1, L. Nuzback2, B. Redentus, P. M. Walker4 and F. N. Owens5, 1DuPont Pioneer, Bloomington, IL, 2DuPont Pioneer, Johnston, IA, 3Illinois State University, Normal, IL


1079 M096 The Effect of Chemical Additives with Anti-Fungal Properties on the Fermentation and Aerobic Stability of Corn Silage. M. C. Windle1, C. Merrill, M. C. N. Agarussi, L. O. Rosa and L. Kung Jr., University of Delaware, Newark

1080 M097 Effect of Lactobacillus plantarum MTD1, Potassium Sorbate or their Combination on Production of Volatile Organic Compounds and Aerobic Stability of Corn Silage. M. C. Windle1, C. Merrill, M. L. Smith1, S. D. Haffner2, F. M. Miltohn3, R. Franco1 and L. Kung Jr.1, 1University of Delaware, Newark, 2Hafner Consulting LLC, Washington, DC, 3University of California, Davis, CA

1081 M098 The Effects of Strains of Yeasts or Lactobacillus buchneri 40788 on the Fermentation, Production of Volatile Organic Compounds (VOCs), and Aerobic Stability of Corn Silage. R. M. Savage1, M. C. Windle1, S. D. Johannsmeier1 and L. Kung Jr.1, 1University of Delaware, Newark, 2USDA-ARS Food Science Research Unit, Raleigh, NC

1082 M099 Isolation and identification of lactic acid bacteria in forage peanut silage. L. D. Rufino1, E. S. Leandro1, K. G. Ribeiro1, H. C. Mantovani2, T. C. Silva3 and O. G. Pereira4, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

1083 M100 Evaluating top losses in Argentine corn silages. L. O. Abdelhadi1, G. Marley2 and J. M. Barneix1, 1Est. El Encuentro, Research & Extension in Ruminant Nutrition, Brandsen, Buenos Aires, Argentina, 2Sil-All Global Product Manager, Gloucestershire, United Kingdom, 3Sil-All Argentine Product Manager, Lincoln, Buenos Aires, Argentina

1084 M101 Corn Silage Analysis as Influenced by Sample Size. I. M. Malehana1, D. J. R. Cherney2 and W. J. Cox2, 1Agricultural Research Council, Pretoria, South Africa, 2Cornell University, Ithaca, NY

1085 M102 In Situ Degradation Characteristics of Sorghum Silage Treated with Fibrolytic Enzymes. A. Coronado1, K. C. McCuistion1, J. L. Foster1, G. Schuster1 and Z. Lopez1, 1Texas A&M University - Kingsville, Kingsville, 2Texas A&M AgriLife Research-Beeville Station, Beeville, TX, 3Dow AgroSciences, Knoxville, TN

1086 M103 Effect of ensiling time on fermentation profile and starch digestibility in whole plant corn silage from two different hybrid types. L. F. Ferrareto1, R. D. Shaver1, S. Massis2, R. Singo2, D. M. Taysom3 and J. P. Brouillette4, 1University of Wisconsin, Madison, 2Renaissance Nutrition Inc, Roaring Springs, PA, 3Dairyland Laboratories Inc, Arcadia, WI, 4Dow AgroSciences, Mycogen Seeds, Indianapolis, IN

1087 M104 Fermentation profile, chemical composition and microbial population in silages of Stylosanthes Campo Grande with microbial inoculant and pelleted citrus pulp. W. F. D. Souza1, K. G. Ribeiro2, S. A. Santos3, T. C. Silva2, V. P. Silva2 and O. G. Pereira3, 1Universidade Federal da Bahia,
Recombined, late harvested ensiled alfalfa leaves and stems give comparable performance to normally harvested alfalfa silage.

R. D. Hatfield1, M. B. Hall1, R. E. Muck1, W. J. Radloff1 and K. J. Shinners2, 1U.S. Dairy Forage Research Center, USDA-ARS, Madison, WI, 2Biological Systems Engineering, University of Wisconsin, Madison

Changes in the structural carbohydrates of corn stover silage added with yeast culture and fermented apple pomace.

N. H. Ruiz1, C. Rodríguez-Muela, D. Diaz-Plascencia, O. Ruiz-Barrera, A. Corral, A. Ramirez-Godinez and C. Arzola-Alvarez, Universidad Autónoma de Chihuahua, Chihuahua, Mexico

Effects of different additives on chemical composition, fermentation characteristics and aerobic stability of barley silage.

Y. Joo1, D. Kim1, H. Lee1, S. M. Amanullah1, S. C. Kim2 and I. H. Choi2, 1Division of Applied Life Science (BK21Plus, Insti. of Agri. & Life Sci.), Gyeongsang National University, Jinju, South Korea, 2Department of Companion Animal and Animal Resources Science, Joongbu University, Geumsan-gun, South Korea

Effects of bacterial inoculation on the fermentation and aerobic stability of whole crop soybean silage.

B. D. Nkosi1, R. Meeske2, T. Langa1, T. F. Mutavhatzindi1 and I. M. Malebana1, 1ARC-Animal Production Institute, Irene, South Africa, 2Outeniqua Research Farm, Western Cape Dept. Agric., George, South Africa

Effects of adding an α-Amylase when ensiling corn shredlage on nutritional characteristics and in vitro NDF digestibility.

L. L. Solórzano1, L. C. Solórzano2 and A. A. Rodriguez3, 1Larkin, Fitchburg, WI, 2DSM Nutritional Products, Parsippany, NJ, 3University of Puerto Rico, Mayaguez, PR

Quality and fermentation profile of sugar cane silage treated with chemical and microbial additives.

L. L. Cardoso, M. I. Marcondes1, K. G. Ribeiro, O. G. Pereira, T. E. Silva and D. G. Ferreira, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

Graduate Student Competition: ADSA Dairy Foods Poster

The Effect of Native Phospholipids on the Flavor and Flavor Stability of Bleached Cheddar Whey.

C. Park1 and M. Drake, Southeast Dairy Foods Research Center, NCSU, Raleigh, NC

The Effect of Norbixin Destruction or Removal on Flavor and Functionality of 80% Whey Protein Concentrate.

Y. Qiu1, T. Smith, A. Foegeding and M. Drake, Southeast Dairy Foods Research Center, NCSU, Raleigh, NC

Storage and Temperature Effects on the Solubility, Maillard Browning, and Sensory Characteristics of Milk Protein Concentrates.

T. Smith1, R. Campbell and M. Drake, Southeast Dairy Foods Research Center, NCSU, Raleigh, NC

The Salt, pH and Thermotolerance of A Novel Nonstarter Lactic Acid Bacterium That Might Be Associated With Slit Defect In Ripened Cheddar Cheese.

F. Ortaib1, J. R. Broadbent1, C. J. Oberg1, 2 and D. J. McMahon1, 1Department of Nutrition, Dietetics, and Food Sciences, Western Dairy Center, Utah State University, Logan, 2Department of Microbiology, Weber State University, Ogden, UT, 3Western Dairy Center, Utah State University, Logan

Role of protein interactions on microstructure and rheological properties of Greek-style Yogurt.

G. H. Meletharayil1, H. A. Patel2 and S. G. Sucariva3, 1South Dakota State University, Brookings, 2Dairy Science Department, South Dakota State University, Brookings

Assessment of consumer perceptions and preferences regarding fluid milk at the beginning and end of printed code date.

M. E. Paterson1, Iowa State University, Ames

Performance of Cross-linked and Calcium-reduced Milk Protein Concentrate Ingredients in Model High-protein Nutrition Bars.

J. C. Banach1, S. Clark1, L. Metzger2 and B. P. Lamsal1, 1Iowa State University, Ames, 2Midwest Dairy Foods Research Center, South Dakota State University, Brookings

The Effects of Post-Exercise Consumption of a Kefir Beverage on Performance and Recovery During Intensive Endurance Training.

K. V. O’Brien1, Louisiana State University, Baton Rouge

Manufacture of high protein yogurts with Low-Ca MPC.

A. Kommineni1, C. Marella2, A. C. Biswas1 and L. Metzger1, 1Dairy Science Department, South Dakota State University, Brookings, 2Dairy Science Department, California Polytechnic State University, San Luis Obispo, CA, 3Dairy Science Department, South Dakota State University, Brookings, 4Midwest Dairy Foods Research Center, South Dakota State University, Brookings
Effect of titanium dioxide, annatto and homogenisation on the translucency of reduced-fat cheddar cheese.
R. A. Ibanez and P. L. H. McSweeney, University College Cork, Cork, Ireland, University of Wisconsin-Madison, Madison

Graduate Student Competition: ADSA Production Poster, MS

Effects of supplemental garlic (Allium sativum) powder and probiotics on diarrhea and immunoglobulin response in pre-weaned dairy calves.
T. W. Kekana, University of Venda, Thohoyandou, South Africa

Development of an application for touch-screen devises to capture defined calving-related events in dairy herds.
A. A. Barragan, J. D. Workman and G. M. Schuenemann, Department of Veterinary Preventive Medicine, The Ohio State University, Columbus

Effects of dietary crude protein levels during a twelve-week period on late-lactation dairy cow performance.
M. A. Quaasdsorf, T. Barros, J. J. Olmos Colmenero, M. J. Aguerre, S. J. Bertics and M. A. Wattiaux, University of Wisconsin-Madison, Madison, University of Guadalajara, Tepatilan, Mexico

Patterns of circulating serotonin (5-HT), calcium, and glucose in lactating Jersey and Holstein dairy cows.
S. A. E. Moore, J. Laporta and L. L. Hernandez, University of Wisconsin-Madison, Madison

Ruminal degradability and intestinal digestibility of protein and amino acids in canola meal.
N. Jayasinghe, South Dakota State University, Brookings

Estimate of serum immunoglobulin G concentration in Jersey calves using refractometry.
M. M. Spring, K. M. Morrill, A. L. Robinson and H. D. Tyler, Iowa State University, Ames, Cornell University, Ithaca, NY

Examination of pre-milking teat disinfectant contact times using the excised teat model.
B. D. Enger, L. K. Fox, J. M. Gay and K. A. Johnson, Washington State University, Pullman

The effects of feeding an algae supplement on milk yield, milk components, and dry matter intake.

Rumen Morphology Measurements in Periruminant Holstein Bull Calves Fed a Fermentation Extract of Aspergillus oryzae.
T. T. Yohe, E. M. Dudash, K. M. O’Diam and K. M. Daniels, Department of Animal Sciences, The Ohio State University, Wooster

Response of dairy cows supplemented with antioxidants and/or chelated trace minerals to intra-mammary bacterial challenge.

Graduate Student Competition: ADSA Production Poster, PhD

Effect of feeding diets with different type of carbohydrates on dry matter intake, rumen fermentation, and productivity of lactating dairy cows.
X. Gao, J. Mewis and M. Oba, University of Alberta, Edmonton, AB, Canada

Propionate is a dominant inducer of bovine cytosolic phosphoenolpyruvate carboxykinase gene expression.
Q. Zhang, S. L. Koser and S. S. Donkin, Purdue University, West Lafayette, IN

Slow-release Urea, Rumen-protected Methionine, and Histidine: Effects on Expression and Activation of the mTOR Signaling Pathway in Skeletal Muscle of Dairy Cows Receiving a Diet Deficient in Metabolizable Protein.
F. Giallongo, H. Sadr, A. N. Hristov, J. Werner, C. Parys, B. Sarem, H. Sauerwein and C. Lang, Department of Animal Science, The Pennsylvania State University, University Park, Institute of Animal Science, Physiology & Hygiene Unit, University of Bonn, Bonn, Germany, Animal Resource Program, The Pennsylvania State University, University Park, Evonik Industries AG, Hanau, Germany, Department of Cellular and Molecular Physiology, Penn State College of Medicine, Hershey

M. L. Stock, R. Gehring, S. T. Millman, C. Wang, L. W. Wulf, L. A. Barth and J. F. Coetzee, Iowa State University, Ames, Kansas State University, Manhattan, Pharmacology Analytical Support Team, Iowa State University College of Veterinary Medicine, Ames

Effect of storage temperature on the bacterial growth and pH levels of bovine colostrum.
C. Cummins, I. Lorenz and E. Kennedy, Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland
1154 M137 Interaction among energy status, retinol-binding protein and retinoids status in periparturient dairy cows: hepatic and adipose gene expression.

1155 M138 The Effect of Prepartum Housing on Metabolic and Reproductive Health in Dairy Cows.
C. L. Miltenburg and S. J. LeBlanc, University of Guelph, Guelph, ON, Canada

1156 M139 Intake, milk production, ruminal, and feed efficiency responses to DCAD in lactating dairy cows.
M. E. Iwaniuk and R. A. Erdman, University of Maryland, College Park

1157 M140 Hepatic metabolomics and transcriptomics in prepartal dairy cows supplemented with Smartamine M and MetaSmart during the transition period.
K. Shahzad, J. S. Osorio, D. N. Luchini and J. J. Loo, University of Illinois, Urbana-Champaign, Illinois, University of Illinois, Champaign, Adisseo S.A.S., Alpharetta, GA

1158 M141 Detection of subclinical milk fever and ketosis in fresh dairy cows using rumination time, lying time, reticulorumen temperature, and neck activity,

1159 M142 Effects of stage of gestation and feeding regime on intake and apparent total tract digestibility in Holstein × Gyr dairy cows.
P. P. Rotta, S. C. Valadares Filho, T. E. Engle, L. F. Costa e Silva, M. I. Marcondes, F. S. Machado, T. R. Gionbelli, B. C. Silva and F. A. S. Silva, Colorado State University, Fort Collins, Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Minas Gerais, Brazil, Universidade Federal de Viçosa, Viçosa, Brazil, EMBRAPA, Juiz de Fora, Brazil, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

1160 M143 Description of High Cow Premix Recipes in California Dairies.
Y. Trillo, A. Lago and N. Silva-del-Río, VMTRC, University of California, Tulare, DairyExperts, Tulare, CA

Lactation Biology Poster I

1222 M144 Relationship between dry period length and production and reproduction in grazing Jersey and Holstein cows in Costa Rica.

1223 M145 Effect of insulin on mRNA expression of genes related to milk synthesis in primary bovine mammary epithelial cells cultured in vitro.
T. Qin, H. Y. Wang, D. P. Bu and H. B. Zhu, Embryo Biotechnology and Reproduction Laboratory, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1224 M146 Conjugated linoleic acid (CLA) trans-10, cis-12 decreases ACC-α gene expression in lactating mammary gland by decreasing specific transcripts from different promoters.
D. E. Oliveira, D. E. Bauman and K. J. Harvatiné, Santa Catarina State University, Lages, SC, Brazil, Cornell University, Ithaca, NY, Penn State University, State College, PA

1225 M147 Conjugated linoleic acid (CLA) affects in different ways acetyl-CoA carboxylase alpha (ACC-α) transcripts from different promoters in mammary and adipose tissue from lactating ewes.
E. Ticiani, M. Urió, A. P. Povaluk, M. V. Camera, R. Ferreira, L. C. Miletti, K. J. Harvatine and D. E. Oliveira, Santa Catarina State University, Lages, SC, Brazil, Santa Catarina State University, Chapecó, SC, Brazil, Penn State University, State College, PA

1226 M148 Effect of different hormones on α-casein and lactoferrin expression in mammary epithelial cells.
W. Q. Li, J. Q. Wang, D. P. Bu and X. M. Nan, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, College of Life Science, Henan Agricultural University, Zhengzhou, China

1227 M149 Effects of methionyl-methionine on milk protein synthesis in bovine mammary gland.
J. X. Yang, H. Y. Liu, C. H. Wang, Q. B. Xu and J. X. Liu, Institute of Dairy Science, Zhejiang University, Hangzhou, China, Zhejiang University, Hangzhou, China

1228 M150 Effect of bta-miR-145 over-expression and down-expression on the other microRNA expression in primary bovine mammary epithelial cells.
W. Q. Li, D. P. Bu, J. Q. Wang and X. M. Nan, State Key Laboratory of Animal Nutrition, Institute of Animal Science,
Stearic Acid Alters microRNA Profiles in Bovine Mammary Gland Epithelial Cells.
Y. G. Chai¹, X. M. Nan¹, D. P. Bu², J. J. Loor¹ and J. Q. Wang¹, ¹State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

The peroxisome proliferator-activated receptor gamma (PPARγ) agonist thiazolidinedione (TZD) does not overcome trans-10, cis-12 conjugated linoleic acid (CLA) inhibition of milk fat synthesis in lactating dairy ewes. E. C. Sandri¹, E. M. Sandri², M. V. Camara¹, A. P. Povaltik¹, M. Urio¹, E. Ticiani¹, K. J. Harvatine¹ and D. E. Oliveira¹, ¹Santa Catarina State University, Lages, SC, Brazil, ²Santa Catarina State University, Chapecó, SC, Brazil, ³Penn State University, State College, PA

Fatty acid synthase is essential for milk fat formation in goat mammary gland.
J. Zhu¹, J. Luo¹, Y. Sun¹ and H. Shi¹, ¹Northwest A&F University, Yangling, China, ²Northwest A & F University, Yangling, China

Meat Science & Muscle Biology Posters I

Proximate composition and physico-chemical characteristics of broiler fed varying levels of honey in their diet. F. Patience Ohusola¹, A. Victor O², O. Bayonle O³ and O. Olumuyiwa Jacob⁴, ¹Osun State University, Osogbo, Nigeria, ²Osun State University, College of Agriculture, Osogbo, Nigeria

Carcass and organ characteristics of broilers fed varying levels of honey.
A. Victor Olabisi¹, F. Patience Ohusola³, O. Olumuyiwa Jacob and O. Kehinde O., Osun State University, Osogbo, Nigeria

Ractopamine and Immunocastration: Effects on enhanced pork loin. A. F. S. I. de Freitas¹,², D. S. Lucas³, D. A. Fausto⁴, S. F. N. Pertile⁵, E. F. Delgado⁶, N. S. Janzantti² and E. T. F. Silveira⁷, ¹UNESP, São José do Rio Preto, São Paulo, Brazil, ²IFMT, Campo Novo do Parecis, Mato Grosso, Brazil, ³UFF, Rio de Janeiro, Rio de Janeiro, Brazil, ⁴ESALQ / USP, Piracicaba, São Paulo, Brazil, ⁵UNESP, São José do Rio Preto - São Paulo, Brazil, ⁶ITAL, Campinas, São Paulo, Brazil

Analysis of Porcine Myosin Heavy Chain Isoforms by Liquid Chromatography and Mass Spectrometry. G. D. Kim¹, E. Y. Jung², H. W. Seo³, J. Y. Jeong⁴, S. T. Joo⁵ and H. S. Yang⁶, ¹Department of Food Science and Biotechnology, Kyungnam University, Changwon, South Korea, ²Division of Applied Life Science, Gyeongsang National University, Jinju, South Korea, ³Institute of Agriculture and Life Science, Gyeongsang National University, Jinju, South Korea, ⁴Department of Animal Science, Gyeongsang National University, Jinju, South Korea, ⁵Division of Applied Life Science, Gyeongsang National University, Jinju, South Korea

Occurrence of dietary unsaturated fatty acids and their biohydrogenation products in muscles of non-ruminating foregut fermenters. A. Schwarm¹, M. Kreuzer², F. Leiber³, S. Ortmann³ and M. Clauss³, ¹ETH Zurich, Institute of Agricultural Sciences, Zurich, Switzerland, ²ETH Zurich, Zurich, Switzerland, ³Research Institute of Organic Agriculture (FiBL), Frick, Switzerland, ⁴Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany, ⁵University of Zurich, Clinic for Zoo Animals, Exotic Pets and Wildlife, Zurich, Switzerland

Effects of amino acid supplementation of reduced crude protein (RCP) diets on fatty acid compositions of subcutaneous fat and muscle.
A. N. Young¹, J. K. Apple, J. W. Yancey, T. M. Johnson, T. C. Tsai and C. V. Maxwell, Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR

Postmortem pH evolution in four muscles and onset, state and resolution of rigor mortis of guinea pigs (Cavia porcellus) carcass.
D. Núñez-Valle¹, L. P. Cevallos-Velastegui¹, A. Morales-delaNuez², N. Castro³, A. Argüello³ and D. Sánchez Macías⁴, ¹Agroindustrial Engineering, Universidad Nacional de Chimborazo, Riobamba, Ecuador, ²Facultad de Ciencia Pecuarias, Escuela Superior Politécnica de Chimborazo, Riobamba, Ecuador, ³Department of Animal Science, Universidad de Las Palmas de Gran Canaria, Arucas, 35413, Las Palmas, Spain

Water holding capacity and cooking losses of different muscles of guinea pigs (Cavia porcellus).
L. P. Cevallos-Velastegui¹, D. Núñez Valle¹, A. Morales-delaNuez², N. Castro³, A. Argüello³ and D. Sánchez Macías⁴, ¹Agroindustrial Engineering, Universidad Nacional de Chimborazo, Riobamba, Ecuador, ²Facultad de Ciencia Pecuarias, Escuela Superior Politécnica de Chimborazo, Riobamba, Ecuador, ³Department of Animal Science, Universidad de Las Palmas de Gran Canaria, Arucas, 35413, Las Palmas, Spain

Nonruminant Nutrition: Amino Acid, Mineral and Energy Nutrition in Monogastrics
1288 M162 Calcium level and dEB affect the protein and mineral digestibility of lactating sows. 
R. Davin\textsuperscript{1}, S. A. Guzmán-Pino\textsuperscript{1}, D. Solá-Oriol\textsuperscript{2}, E. G. Manzanilla\textsuperscript{1} and J. F. Pérez\textsuperscript{3}, \textsuperscript{1}Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain, \textsuperscript{2}Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain

1289 M163 Early dietary amino acid restrictions and flaxseed oil supplementation on the leanness of pigs and quality of pork: Growth performance, serum metabolites, and carcass traits. 
C. K. Adhikari\textsuperscript{1}, I. L. Chiba\textsuperscript{1}, S. D. Brotzge\textsuperscript{1}, M. D. S. Vieira\textsuperscript{1}, S. P. Rodning\textsuperscript{1}, W. G. Bergen\textsuperscript{1}, C. L. Bratcher\textsuperscript{2} and E. G. Welles\textsuperscript{1}, \textsuperscript{1}Auburn University, Auburn, AL, \textsuperscript{2}Federal University of Rio Grande do Sul, Porto Alegre, Brazil

1290 M164 Effects of supplementation with a commercial source of selenium in a laying hen feeding system. 
L. Betancourt\textsuperscript{1}, Universidad de La Salle, Bogotá, Colombia

1291 M165 Correlating Molecular Spectroscopy and Chemometrics to Explore Carbohydrate Utilization of Co-products from Bio-Fuel and Bio-Brewing Processing. 
L. Chen\textsuperscript{1,2}, X. Zhang\textsuperscript{1}, X. Huang\textsuperscript{1} and P. Yu\textsuperscript{1}, \textsuperscript{1}Department of Animal Science, Tianjin Agricultural University, Tianjin, China, \textsuperscript{2}Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada

1292 M166 Phosphorus utilisation and sodium-dependent phosphate co-transporters gene expression in growing pigs fed low available phosphorus diets. 
B. B. Pookharel\textsuperscript{1}, C. M. Nyachoti\textsuperscript{2} and W. K. Kim\textsuperscript{1}, \textsuperscript{1}Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, \textsuperscript{2}University of Manitoba, Winnipeg, MB, Canada, \textsuperscript{3}University of Georgia, Athens

1293 M167 The Impact of an Inflammatory Challenge and Dietary Omega-6 to Omega-3 Fatty Acid Ratios on Protein Deposition in Nursery Pigs. 
L. Eastwood and D. Beaulieu, Prairie Swine Centre, Inc., Saskatoon, SK, Canada

1294 M168 Phosphorus digestibility in high protein canola meals, conventional canola meal, and soybean meal fed to growing pigs. 
C. K. Parr\textsuperscript{1}, Y. Liu, C. M. Parsons and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana

1295 M169 Effect of dietary net energy concentrations on the growth performance of growing gilts housed individually. 
G. I. Lee\textsuperscript{1}, K. S. Kim\textsuperscript{1}, J. C. Park\textsuperscript{2} and D. Y. Kil\textsuperscript{1}, \textsuperscript{1}Chung-Ang University, Anseong-si, South Korea, \textsuperscript{2}Rural Development Administration, Cheonan-si, South Korea

1296 M170 Gluconeogenesis and substrate utilization in chicken embryos during later development determined by in ovo continuous infusion of \textsuperscript{13}C\textsubscript{6}glucose and \textsuperscript{13}C\textsubscript{2}glycerol. 
Q. Hu\textsuperscript{1}, U. Agarwal and B. J. Bequette, Department of Animal and Avian Sciences, University of Maryland, College Park

1297 M171 Plasma vitamin concentrations are altered by fat-soluble vitamin administration in suckling pigs. 
Y. D. Jang\textsuperscript{1,2}, J. Y. Ma\textsuperscript{1}, S. M. Monegue\textsuperscript{1}, H. J. Monegue\textsuperscript{1}, R. L. Stuart\textsuperscript{2} and M. D. Lindemann\textsuperscript{1}, \textsuperscript{1}University of Kentucky, Lexington, \textsuperscript{2}Stuart Products Inc, Bedford, TX

1298 M172 Digestibility of amino acids in distillers dried grains with solubles produced in Europe from wheat, maize, or mixtures of wheat and maize and fed to growing pigs. 
S. M. Curry\textsuperscript{1,2}, J. K. Htoo\textsuperscript{1}, H. Y. Masey O’Neill\textsuperscript{3} and H. H. Stein\textsuperscript{1}, \textsuperscript{1}University of Illinois at Urbana-Champaign, Urbana, \textsuperscript{2}Evonik Industries AG, Hanau-Wolfgang, Germany, \textsuperscript{3}AB Vista Feed Ingredients, Marlborough, United Kingdom

1299 M173 The Determination of the Amino Acid Requirements of Pigs in the Nursery Phase. 
E. A. Vermillion\textsuperscript{1}, C. R. Dove and M. J. Azain, University of Georgia, Athens

1300 M174 Effect of dietary energy level and weaning weight on growth performance and digestibility in weanling piglets. 
M. D. S. Vieira\textsuperscript{1}, A. M. L. Ribeiro\textsuperscript{1}, A. D. M. Kessler\textsuperscript{1}, I. L. Chiba\textsuperscript{1}, M. L. Somensi\textsuperscript{1}, L. Bockor\textsuperscript{1} and L. G. Teixeira\textsuperscript{1}, \textsuperscript{1}Federal University of Rio Grande do Sul, Porto Alegre, Brazil, \textsuperscript{2}Auburn University, Auburn, AL

1301 M175 Effect of dietary energy level and body composition and efficiency of energy utilization in weanling piglets. 
M. D. S. Vieira\textsuperscript{1}, A. M. L. Ribeiro\textsuperscript{2}, A. D. M. Kessler\textsuperscript{1}, M. L. Somensi\textsuperscript{1}, I. L. Chiba\textsuperscript{1,2}, L. Bockor\textsuperscript{1} and C. S. Marcolla\textsuperscript{1}, \textsuperscript{1}Federal University of Rio Grande do Sul, Porto Alegre, Brazil, \textsuperscript{2}Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, \textsuperscript{3}University of São Paulo - USP, Pirassununga, Brazil

1302 M176 Egg quality of brown laying hens fed with different Met + Cys and chelate Cu levels. 
J. E. D. Moraes\textsuperscript{1}, C. C. Pizzolante\textsuperscript{1}, A. P. O. Saccomani\textsuperscript{1}, E. A. D. Oliveira\textsuperscript{1}, S. K. Kakimoto\textsuperscript{1}, J. C. Dadalt\textsuperscript{1} and M. A. D. T. Neto\textsuperscript{1}, \textsuperscript{1}APTA - Unidade de Pesquisa de Brotas-SAA-SP, Brotas, Brazil, \textsuperscript{2}Instituto de Zootecnia - APTA -SAA-SA, Nova Odessa, Brazil, \textsuperscript{3}Secretaria de agricultura de Brotas, Brotas, Brazil, \textsuperscript{4}Granja Kakimoto, Bastos, Brazil, \textsuperscript{5}University of São Paulo - USP, Pirassununga, Brazil
1303 M177 Validation of net energy system of feed formulation in growing-finishing pigs fed barley based diets with alternative feed ingredients.
D. E Velayudhan* and C. M. Nyachoti, University of Manitoba, Winnipeg, MB, Canada

1304 M178 Effects of dietary tryptophan:lysine ratio and sanitary conditions on performance of weaned pigs fed antibiotic-free diets.
B. Jayaraman1, J. K. Htoo1 and C. M. Nyachoti1, 1University of Manitoba, Winnipeg, MB, Canada, 2Evonik Industries AG, Hanau-Wolfgang, Germany

1305 M179 Egg quality of brown layers fed with different levels of threonine and chelate zinc.
J. E. D. Moraes1, C. C. Pizzolante1, A. P. O. Saccamani1, E. A. D. Oliveira1, S. K. Kakimoto4, J. C. Dadalt5 and M. A. D. T. Neto1, 1APTA - Unidade de Pesquisa de Brotas-SAA-SP, Brotas, Brazil, 2Instituto de Zootecnia - APTA-SAA-SP, Nova Odessa, Brazil, 3Secretaria de agricultura de Brotas, Brotas, Brazil, 4Granja Kakimoto, Bastos, Brazil, 5University of São Paulo - USP, Pirassununga, Brazil

1306 M180 Tryptophan:lysine ratio for pigs from 15 to 30 kg of body weight.
T. J. Pasquetti1, P. C. Pozza1, I. Moreira1, L. M. Diaz Huepá1, L. D. Castilha1, M. R. Fachinello1, L. A. C. Esteves1, V. R. C. Paula1 and S. W. Kim1, 1Universidade Estadual de Maringá, Bolsista CAPES, Maringá, PR, Brazil, 2Universidade Estadual de Maringá, Maringá, PR, Brazil, 3North Carolina State University, Raleigh

1307 M181 Energy intake and nutrient digestibility in heavy finishing swine fed varying levels of soluble fiber.
D. J. Rodrigues1, M. C. Thoma1, U. D. S. Ruiz1, M. M. Lima1, M. S. F. Oliveira1, M. V. Marujo1, F. F. Castro1 and E. Daniel1, 1Sao Paulo State University, Jaboticabal/SP, Brazil, 2Univ. Estadual Paulista - UNESP, Dracena, Brazil, 3Department of Animal Science - FCAU/UNESP, Jaboticabal/SP, Brazil

1308 M182 Amino acid digestibility in field peas, fish meal, corn, soybean meal, and soybean hulls.
J. K. Mathai1 and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana

1309 M183 Lysine and tryptophan levels in diets for gilts from 15 to 30 kg of body weight.
T. J. Pasquetti1*, P. C. Pozza1*, I. Moreira1*, T. C. D. Santos2, D. Perondi1, C. D. L. Costa Filho2, W. Tanamati2, P. L. D. O. Carvalho1 and C. F. Muniz1*, 1Universidade Estadual de Maringá, Bolsista CAPES, Maringá, PR, Brazil, 2Universidade Estadual de Maringá, Maringá, PR, Brazil, 3Department of Animal Science - FCAU/UNESP, Jaboticabal/SP, Brazil, 4Universidade Estadual do Oeste do Paraná, Marechal Cândido Rondon, PR, Brazil

1310 M184 Effects of mineral supplementation on the performance of nulliparous and multiparous does fed forage containing diets.
L. Verjel-Trigos1*, I. Rodriguez-Carrascal1* and C. Ordoñez-Gomez1, 1Universidad Francisco de Paula Santander-Ocaña, Ocaña, Colombia, 2Universidad Nacional de Colombia, Bogotá, Colombia

1311 M185 Amino acid digestibility in oilseed meals fed to growing pigs.
C. S. Park1, A. R. Son and B. G. Kim, Konkuk University, Seoul, South Korea

1312 M186 Standardized total tract digestibility of phosphorus in oilseed meals fed to growing pigs.
C. S. Park1*, Y. D. Jeong2, B. G. Kim1 and S. K. Park2, 1Konkuk University, Seoul, South Korea, 2Rural Development Administration, Suwon, South Korea

1313 M187 Standardized total tract digestibility of phosphorus in cereal grains and coproducts fed to growing pigs.
Y. D. Jeong1, C. S. Park2*, B. G. Kim1 and S. K. Park2, 1Rural Development Administration, Suwon, South Korea, 2Konkuk University, Seoul, South Korea

Physiology and Endocrinology I

1371 M188 Comparison of endocrine changes, timing of ovulations, ovarian follicular growth, and efficacy associated with Estradoublesynch and Heatsynch protocols in Murrah buffaloes (Bubalus bubalis).
R. Mirmahmoudi1 and B. S. Prakash2, 1Department of Animal Science, Faculty of Agriculture, University of Jiroft, Jiroft, Iran, 2National Dairy Research Institute, Karnal, India

1372 M189 Development of a novel strategy for synchronization of ovulation and fertility augmentation in cycling buffalo cows.
R. Mirmahmoudi1 and B. S. Prakash2, 1Department of Animal Science, Faculty of Agriculture, University of Jiroft, Iran, 2National Dairy Research Institute, Karnal, India

1373 M190 Maternal Dietary Effects on Embryonic Ovarian Development in Cattle.
S. E. Echternak1*, D. R. Eborn1 and R. A. Cashman1, 1USDA, Agricultural Research Service, Clay Center, NE, 2ARS/ US Meat Animal Research Center, Clay Center, NE, 3USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

1374 M191 Effects of excessive energy intake and supplementation with chromium propionate on insulin resistance parameters in lactating dairy cows: I. Inter-day and weekly physiological measurements.
T. Leiva1, R. F. Cooke2, F. G. Dantas3, F. P. Santos3, A. P. Brandao4, J. Ranches4, A. C. Ahoin5 and J. L. M. Vasconcelos6, 1UNESP - FMVZ, Botucatu, Brazil, 2Oregon State University - EOARC Burns, Burns, OR
MONDAY, JULY 21, 2014

1375 M192 Association of monocyte chemoattractant protein-1 and vascular endothelial growth factor in subcutaneous and visceral adipose tissue of early lactating dairy cows.
S. Häussler1, C. Sacré2, P. Friedrichs2, S. Dänicke2 and H. Sauerwein1, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 2Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany

1376 M193 Reactive oxygen metabolites (ROM) and advanced oxidation protein products (AOPP) as influenced by energy intake and niacin supplementation in the periparturient dairy cow.
H. Sadri1, D. Nakov2, S. Dänicke3, U. Meyer2, R. Tienken2 and H. Sauerwein4, 1Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 2Institute for Animal Biotechnology, University St. Cyril and Methodius, Skopje, Macedonia, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany, 4University of Bonn, Institute of Animal Science, Bonn, Germany

1377 M194 The effect of aspirin on prostaglandin F2α secretion in lactating dairy cows during the luteal phase of the estrous cycle.
J. A. Spencer*, K. Steinkamp, B. Shaﬁ and A. Ahmadzadeh, University of Idaho, Moscow

1378 M195 Association between oxidative stress through excessive fat accumulation and the number of mitochondrial DNA copies in adipose tissue of dairy cows.
L. Laubenthal1, L. Locher3, J. Winkler4, U. Meyer4, J. Rehage3, S. Dänicke4, H. Sauerwein4 and S. Häussler4, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 2Institute for Veterinary Medicine, Foundation, Hannover, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany

1379 M196 Telomere length shortening in response to an excessive fat accumulation in subcutaneous adipose tissue of dairy cows.
L. Laubenthal1, L. Locher3, J. Winkler4, U. Meyer4, J. Rehage3, S. Dänicke4, H. Sauerwein4 and S. Häussler4, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 2Institute for Veterinary Medicine, Foundation, Hannover, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany

1380 M197 Pregnancy per ai of high producing holstein cows treated with norgestomet ear implant or progesterone intravaginal device.
H. Ayres1,2, C. M. Azevedo3, J. B. Solak4, O. Corso5, S. Soriani6, M. C. Wiltbank7 and R. M. Ferreira2, 1MSD Animal Health, São Paulo, Brazil, 2Departamento de Reprodução Animal, USP, São Paulo, Brazil, 3Qualy Calf Consultoria Ltda, Venceslau, Brazil, 4Castrovet Consultoria Veterinária, Castro, Brazil, 5Fazenda Colorado, Araras, Brazil, 6University of Wisconsin, Madison

1381 M198 Telomere length in different visceral and subcutaneous adipose tissue depots of overconditioned cows.
L. Laubenthal1, L. Locher3, J. Winkler4, U. Meyer4, J. Rehage3, S. Dänicke4, H. Sauerwein4 and S. Häussler4, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 2Institute for Veterinary Medicine, Foundation, Hannover, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany

1382 M199 Liveability of Buck Spermatozoa after Cold Storage Using Egg Yolk Citrate Extender.
A. O. Ladokun1, J. A. Abiona, J. O. Daramola, E. O. Oke and A. M. Onfude, Federal University of Agriculture, Abeokuta, Nigeria, Abeokuta, Nigeria

1383 M200 Bedding surface does not alter circulating patterns of cortisol, corticosteroid-binding globulin, or free cortisol index in preweaned Jersey calves.
H. G. Kattesh1, C. A. Kurman, B. E. Gillespie, P. D. Krawczel and A. M. Saxton, University of Tennessee, Knoxville

1384 M201 Niacin Increases Chemerin mRNA Abundance in Differentiated Bovine Preadipocytes In Vitro.
C. Kopp1, H. Khalilvandi-Behroozy2, H. Sauerwein3 and M. Mielenz4, 1Institute of Animal Science, Physiology & Hygiene Unit, University of Bonn, Bonn, Germany, 2Department of Animal Science, Urmia University, Urmia, Iran, 3University of Bonn, Institute of Animal Science, Bonn, Germany, 4Leibniz Institute for Farm Animal Biology (FBN), Institute of Nutritional Physiology, Dummerstorf, Germany

1385 M202 Macrophage infiltration into subcutaneous adipose tissue in overconditioned cows after excessive fat accumulation.
S. Häussler1, L. Laubenthal1, L. Locher3, J. Winkler4, U. Meyer4, J. Rehage3, S. Dänicke4 and H. Sauerwein1, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 2Institute for Veterinary Medicine, Foundation, Hannover, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany

H. Sadri1, C. M. Azevedo3, A. N. Hristov1, C. Lang1, J. Werner2, C. Pars1, B. Saremi3 and H. Sauerwein1, 1Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 2Department of Animal Science, The Pennsylvania State University, University Park, State College, PA, 3Department of Cellular and Molecular Physiology, Hershey Medical Center, Penn State College of Medicine, PA, 4Evonik Industries AG, Hanau, Germany, 5Evonik Industries AG, 63457 Hanau, Germany
Antioxidant supplementation during in vitro maturation increased oocyte mitochondrial membrane potential and bovine embryo development.
B. C. D. S. Leão1, N. A. D. S. Rocha Frigoni, P. C. Dall'Acqua and G. Z. Mingoti, University of Sao Paulo State (UNESP), Araçatuba, Brazil

Hepatic and adipose mRNA expression of genes related to FGF21 in response to conjugated linoleic acid (CLA) supplementation in dairy cows during early lactation.
H. Sadri1, S. Dănicică2, J. Rehage1 and H. Sauerwein3, 1Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 2Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany, 3University for Veterinary Medicine, Foundation, Hannover, Germany

Effect of melatonin (MEL) or maternal nutrient restriction on vascularity of the ovine placenta.
K. A. Vonnahme1, M. E. Wilson2, S. Romero2, S. T. Dorsam2, J. Haring2, P. P. Borowicz2, D. A. Redmer1 and C. O. Lemley3, 1North Dakota State University, Fargo, 2West Virginia University, Morgantown, WV, 3Mississippi State University, Mississippi State

Follicle-stimulating hormone stimulates beta-catenin via protein kinase B in granulosa cells.
B. I. Gomez1, C. A. Gifford4, D. M. Hallford4 and J. Hernandez Gifford4, 1Oklahoma State University, Stillwater, 2New Mexico State University, Las Cruces, NM

Hecal Tight Junction Gene Expression in Glucagon-like Peptide 2-treated Dairy Bull Calves with and without Coccidiosis.
M. P. Walker1, E. E. Connor1, R. L. Baldwin2 and S. Kahle, 1USDA-ARS, BFGL, Beltsville, MD, 2USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD

Effects of heat stress on the metabolic transcriptional profile of peripheral tissues in growing pigs.
M. Sanz Fernandez1, J. S. Johnson1, J. T. Seibert1, R. L. Boddicker1, S. C. Isom1, L. Cox1, J. W. Ross1, R. P. Rhoads2 and L. H. Baumgard1, 1Iowa State University, Ames, 2Utah State University, Logan, 3Virginia Tech, Blacksburg

Effect of feeding high or low portions of concentrate during the transition period on serum adiponectin concentrations and mRNA expression of adiponectin and its receptors in subcutaneous and retroperitoneal fat of dairy cows.
P. Friedrichs1, M. Weber2, L. Locher2, S. Dănicică2, U. Meyer2, R. Tienken2, H. Sauerwein1 and M. Mielenz2, 1Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 2University for Veterinary Medicine, Foundation, Hannover, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany, 4Leibniz Institute for Farm Animal Biology (FBN), Institute of Nutritional Physiology, Dummerstorf, Germany

HEAT STRESS AFFECTS INSULIN SENSITIVITY IN PRIMARY BOVINE ADIPOCYTES.
P. P. Faylon1, L. H. Baumgard2, R. P. Rhoads2 and D. M. Spurlock2, 1Iowa State University, Ames, 2Virginia Tech, Blacksburg

mRNA expression of chemerin and its receptor in a subcutaneous and a visceral fat depot of dairy cows fed with high or low portions of concentrate during the transition period.
P. Friedrichs1, H. Khalilvandi-Behroozvar2, L. Locher2, S. Dănicică2, U. Meyer2, R. Tienken2, H. Sauerwein1 and M. Mielenz2, 1Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 2Department of Animal Science, Urmia University, Urmia, Iran, 3University for Veterinary Medicine, Foundation, Hannover, Germany, 4Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany, 5Leibniz Institute for Farm Animal Biology (FBN), Institute of Nutritional Physiology, Dummerstorf, Germany

Individual trans Monounsaturated Fatty Acids Have Distinct Effects on Lipogenesis in 3T3-L1 Adipocytes.
P. Vahmani1, T. D. Turner1, P. D. Duff1, D. C. Rolland2, C. Mapiye2, W. J. Meadows3 and M. E. R. Dugan4, 1Agriculture & Agri-Food Canada, Lacombe, AB, Canada, 2Stellenbosch University, Stellenbosch, Western Cape, South Africa

Modeling Diurnal Variation in Ruminal Temperature of Beef Cows.
B. H. Boehmer1 and R. P. Wettmann, Oklahoma Agricultural Experiment Station, Stillwater, OK

beta-hydroxybutyrate profile of high-yielding dairy cows of a Brazilian intensive system.
C. Bespalhok Jacometo3, J. Oliveira Feijó1, P. Mattei1, A. Marangon Oliveira2, E. Schmitt2, V. Coitinho Tabeleão1, C. Cassal Brauner3, F. B. Del Pino2, S. Soriani2 and M. Nunes Corrêa3, 1Federal University of Pelotas, Pelotas, Brazil, 2Embrapa, Porto Velho - RO, Brazil, 3Fazenda Colorado, Araras, Brazil

Analysis of transcription regulator gene networks in peripartal bovine liver during summer and spring seasons.
K. Shahzad1, H. Akbar1, L. Basiricò2, P. Morera2, U. Bernabucci2 and J. J. Loom1, 1University of Illinois, Urbana-Champaign, 2Università degli Studi della Tuscia, Viterbo, Italy
**MONDAY, JULY 21, 2014**

1456 M217 A six year study evaluating health, milk and milk quality in 427 dairy herds fed OmniGen-AF to dry and lactating cows. O. Bewley1, T. Boyle1, M. Brady1, K. Brubaker1, J. D. Chapman1, T. Elliott1, L. O. Ely2, S. Fitzen1, A. E. Holland1, D. Larson1, R. Shaw1 and J. Ydstie1, 1Prince Agri Products, Inc., Quincy, IL, 2UGA, Athens, GA

1457 M218 Crude Glycerin as a Replacement for Dry Ground Corn in Finishing Diets for Beef Cattle: Economic Analysis. P. Del Bianco Benedetti1,2, P. V. R. Paulino1, M. I. Marcondes1, A. Faciola1, I. França Smith Maciel1 and M. Custódio da Silva1, 1Federal University of Viçosa, Viçosa, Brazil, 2University of Nevada, Reno, 3Nutron Alimentos Ltda, Campinas, Brazil

1458 M219 Inhibition of rumen methanogenesis induced by Bioflavex® and its pure flavonoid components under in vitro fermentation using rumen fluid from steers fed high concentrate diets. A. R. Seradj1, J. Crespo2,2, D. Villalba1 and J. Balce1, 1University of Lleida, Lleida, Spain, 2Interquim S. A. (Ferrer Health Tech), Barcelona, Spain

1459 M220 Effects of Trace Mineral-Fortified, Limit-Fed Creep Supplements on Performance of Beef Calves (Pre-Weaning). A. Saran Neto1, L. S. Caramalac2, P. G. M. D. A. Martins2, P. Moriel2, H. J. Fernandes2 and J. D. Arthington2, 1University of São Paulo, Pirassununga, Brazil, 2UF/IFAS Range Cattle Research and Education Center, Ona, FL, 3State University of Mato Grosso do Sul, Aquidauana, Brazil

1460 M221 The effect of a maternal yeast cell wall supplement during gestation on cow performance and calf growth and immunity. M. C. Roberts1,2,*, S. E. Schmidt3, D. A. Neuendorff4, R. C. Yann3, N. C. Burdick Sanchez4, J. R. Corley6, J. A. Carroll7, T. H. Welsh Jr.8 and R. D. Randel1,1, Texas A&M AgriLife Research, Overton, TX, 2Texas A&M University, College Station, 3Texas A&M AgriLife Research, Overton, TX, 4MAFES - Brown Loam Experiment Station, Mississippi State University, Raymond, MS, 5USDA-ARS, Lubbock, TX, 6Lesaffre Feed Additives, Milwaukee, WI, 7USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 8Texas A&M University Department of Animal Science, College Station, TX

1461 M222 Effect of restricted feeding on body weight, some hematological and biochemical parameters in sheep and goats raised under semi-arid conditions. E. B. Abdalla1, Faculty of Agriculture, Ain Shams University, Cairo, Egypt

1462 M223 Effects of Trace Mineral-Fortified, Limit-Fed Creep Supplements on Performance of Beef Calves (Post-Weaning). A. Saran Neto1, L. S. Caramalac2, P. G. M. D. A. Martins2, P. Moriel2, H. J. Fernandes2 and J. D. Arthington2, 1University of São Paulo, Pirassununga, Brazil, 2UF/IFAS Range Cattle Research and Education Center, Ona, FL, 3State University of Mato Grosso do Sul, Aquidauana, Brazil

1463 M224 Young Beef Calves Preferentially Consume Supplements Fortified with Hydroxy vs. Organic and Sulfate Sources of Cu, Zn, and Mn. L. S. Caramalac1,2, H. J. Fernandes2 and J. D. Arthington1, 1UF/IFAS Range Cattle Research and Education Center, Ona, FL, 2State University of Mato Grosso do Sul, Aquidauana, Brazil

1464 M225 Predicting dry matter intake of steers and heifers in the feedlot by using categorical and continuous variables. O. Koskan1,*, H. Koknaroglu1, D. D. Loy2 and M. P. Hoffman2, 1Suleyman Demirel University, Isparta, Turkey, 2Iowa State University, Ames

1465 M226 Comparison of High-performance Dairy Cows fed Concentrates vs. those fed no Concentrates over a Period of 10 Years. P. L. Kien1,*, M. Buergisser2 and M. Fuerg2, 1Bern University of Applied Sciences, Zollikofen, Switzerland, 2Agricultural Education and Advisory Centre Plantatof, Landquart, Switzerland

1466 M227 Effect of Leuconostocctreleum SK2556 fermented korean aged garlic extract (KAGE) on feed intake, production performance, egg quality, odor gas emission from feces, excreta microbiota and hematological profiles in laying hens. D. Jung1, J. H. Cho and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

1467 M228 Effects of probiotics supplementation on growth performance, nutrient digestibility, carcass characteristics, meat quality, intestinal microflora and fecal noxious gas emission in broilers. I. H. Kim1, Y. Lei and S. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

1468 M229 Effects of a symbiotic feed additive on milk quality and calving interval in Brazilian dairy herds. R. D. Sainz1,*, E. A. Filgueiras2,3,4, C. U. Magnabosco1, P. H. Medes1 and K. S. Mendanha2, 1University of California - Davis, Davis, CA, 2Universidade Federal de Goiás, Goiânia-GO, Brazil, 3Bioformula Ltda, Goiânia-GO, Brazil, 4CAPES, Brasilia-DF, Brazil, 5Embrapa Cerrados, Brasilia, Brazil

1469 M230 Effects of Injectable Trace Minerals at the Start of the Breeding Season on Attainment of Pregnancy in Commercial Beef Cows. J. D. Arthington1, P. G. M. D. A. Martins1, P. Moriel1,2 and L. Havenga2, 1UF/IFAS Range Cattle Research and Education Center, Ona, FL, 2MultiMin USA, Ft. Collins, CO
1470  M231  Does the method of feeding milk replacer affect calf performance?
M. Terré¹, J. M. Pont², P. Martinez³, L. Viña³ and A. Bach¹, ¹IRTA, Caldes de Montbui, Spain, ²Granja San Jose, S.A., Tamarite de Litera, Spain, ³Department of Ruminant Production, IRTA, Caldes de Montbui, Spain

1471  M232  Cost analysis of feeding bromegrass (Cynodon dactylon) or ryegrass (Lolium multiflorum) plus rye (Secale cereale) baleage based on nutrient composition and forage refusal of weaned crossbred beef calves.
R. M. Martin¹, R. J. Pruett¹, B. Buttery¹ and R. Walker³, ¹LSU AgCenter, School of Animal Sciences, Baton Rouge, LA, ²LSU AgCenter, Agricultural Economics and Agribusiness, Baton Rouge, LA, ³LSU AgCenter, Hill Farm Research Station, Homer, LA

1472  M233  Evaluation of Three Copper Sources on Measures of Forage Utilization and Copper Status in Beef Cattle.
P. G. M. D. A. Martins¹, O. F. R. Cunha¹, G. P. Caputti¹, A. Saran Nero¹, J. M. B. Vendramini¹ and J. D. Arrthington¹, ¹UF/IFAS Range Cattle Research and Education Center, Ona, FL, ²University of São Paulo, Pirassununga, Brazil

1473  M234  Comparison of camellina meal and DDGS in the diet of replacement beef heifers.
E. E. Grings, A. Sackey² and G. A. Perry, South Dakota State University, Brookings

1474  M235  Effects of prepartum evaporative cooling and vitamin E supplementation on immune function of Holstein cows during summer in Florida.
G. C. Gomes¹, J. E. Zuniga¹, E. Karakaya¹, L. F. Greco¹, L. D. P. Sinedino¹, N. Martinez¹, R. S. Bisinotto¹, E. S. Ribeiro¹, P. M. Leopoldo Junior¹, M. A. Engstrom¹, J. P. Driver¹, J. E. P. Santos¹ and C. R. Staples¹, ¹Department of Animal Sciences, University of Florida, Gainesville, ²DSM, Eden Prairie, MN, ³Dept. of Animal Sciences, University of Florida, Gainesville

1475  M236  Forages used in High Producing Cow Rations in CA.
Y. Trillo¹, A. Lago¹ and N. Silva-del-Rio¹, ¹VMTRC, University of California, Tulare, CA, ²DairyExperts, Tulare, CA

1476  M237  Evaluating on-farm methods for measuring dry matter content of potatoes.
R. J. Norell¹, J. B. Glaze Jr.², M. Chahine² and N. L. Olsen³, ¹University of Idaho, Idaho Falls, ID, ²University of Idaho, Twin Falls, ID, ³University of Idaho, Kimberly, ID

1477  M238  Optimizing drying time of potatoes by food dehydrator and Koster Moisture Tester.
R. J. Norell¹, J. B. Glaze Jr.², M. Chahine² and N. L. Olsen³, ¹University of Idaho, Idaho Falls, ID, ²University of Idaho, Twin Falls, ID, ³University of Idaho, Kimberly, ID

1478  M239  Effects of soybean processing on performance and blood parameters of dairy cows.
G. R. Ghorbani¹, I. Sadrearhami, A. Sadeghism and N. Naderi, Isfahan University of Technology, Isfahan, Iran

1479  M240  Validating a refractometer to evaluate Immunoglobulin G concentration in Jersey colostrum and the impact of multiple freeze-thaw cycles on evaluating colostrum quality.
K. M. Morritt¹, K. Hard², M. M. Spring³, A. L. Robinson⁴ and H. D. Tyler⁵, ¹Cornell University, Ithaca, NY, ²Iowa State University, Ames

**Ruminant Nutrition Posters I**

1527  M241  Metagenomic analysis of the rumen microbiome of dairy cows during the transition period.
D. W. Pitta¹, S. Kumar¹, N. Indugu¹, R. Sinha¹, B. Veiccharelli¹, B. Bhukya¹ and J. Ferguson¹, ¹University of Pennsylvania, Kennett Square, ²University of Pennsylvania, Kennett Square, ³University of Pennsylvania, Philadelphia

1528  M242  Peripartal supplementation of Smartamine M has positive effects on blood neutrophil activation in dairy cows.
J. S. Osorio¹, P. Jr.¹, J. K. Drackley¹, D. N. Luchini² and J. J. Loor³, ¹University of Illinois, Champaign, IL, ²William H. Miner Agricultural Research Institute, Chazy, NY, ³University of Illinois, Urbana, ⁴Adisseo S.A.S., Alpharetta, GA, ⁵University of Illinois, Urbana-Champaign

1529  M243  Effect of a limited supply of phenylalanine, threonine, and tryptophan on mammary metabolism of dairy cows.
I. H. Iroshan¹, H. Lapiere² and L. Doepel³, ¹University of Calgary, Calgary, AB, Canada, ²Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada

1530  M244  Effects of Supplemeting Rumen-Protected Met and Lys on Diets Containing Soybean Meal or Canola Meal in Lactating Dairy Cows.
G. A. Broderick⁴,¹ and A. Faciola⁴, ¹US Dairy Forage Research Center, Madison, WI, ²University of Wisconsin-Madison, Madison, ³University of Nevada, Reno, NV

1531  M245  Determination of the comparative bioavailability of lysine in two rumen-protected lysine products using the in vivo plasma lysine response method.
H. A. Tucker¹, M. Miura¹, I. Shinzato¹, C. S. Ballard² and H. M. Dann¹, ¹William H. Miner Agricultural Research Institute, Chazy, NY, ²Ajinomoto Co., Inc., Kawasaki, Japan, ³Ajinomoto Heartland Inc., Chicago, IL
Impacts of feeding ruminally protected phenylalanine and/or methionine to early lactation cows fed diets containing high levels of canola meal.
N. Swanepoel1,2, P. H. Robinson1 and L. J. Erasmus2, 1University of California, Davis, CA, 2University of Pretoria, Pretoria, South Africa

M246

Ruminal degradation and intestinal digestibility of crude protein and amino acids and correction for microbial contamination in rumen-undegradable protein.
H. A. Paz Manzano1, E. Castillo-Lopez2, T. J. Klopfenstein1 and P. J. Kononoff1, 1University of Nebraska-Lincoln, Lincoln, 2University of Saskatchewan, Saskatoon, SK, Canada, 3University of Nebraska, Lincoln

M247

Validation of the bioavailability of the second generation Ajipro®-L using the in vivo plasma lysine response method.
N. L. Whitehouse1, A. F. Brito1, A. Crowther1, A. B. D. Pereira2, C. G. Schwab2, I. Shinzato3 and M. Miura4, 1University of New Hampshire, Durham, NH, 2Schwab Consulting, LLC, Boscobel, WI, 3Ajinomoto Heartland Inc., Chicago, IL, 4Ajinomoto Co., Inc., Kawasaki, Japan

M248

Comparison of duodenal nitrogen and amino acid flows in dairy cows fed a corn straw or mixed forage diet.
C. Qin1,2, P. Sun1, D. P. Bu1, J. Q. Wang1, P. Zhang2 and P. An1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2Hunan Provincial Key Laboratory for Genetic Improvement of Domestic Animal, College of Animal Science and Technology, Hunan Agricultural University, Changsha, China

M249

Comparison of mammary amino acid utilization in dairy cows fed a corn straw or mixed forage diet.
C. Qin1,2, P. Sun1, D. P. Bu1, J. Q. Wang1,2, P. Zhang2 and P. An1, 1Heilongjiang Bayi Agricultural University, Daqing, China, 2State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 3Hunan Provincial Key Laboratory for Genetic Improvement of Domestic Animal, College of Animal Science and Technology, Hunan Agricultural University, Changsha, China

M250

Effects of the ideal profiles of lysine, methionine, threonine, phenylalanine, histidine, and valine on milk protein synthesis gene network expression in bovine mammary epithelial cells.
S. Li1,2, W. Zhao3, A. Hosseini4, J. X. Liu5 and J. J. Loo7, 1Zhejiang University, Hangzhou, China, 2University of Illinois, Urbana, 3Northwest A & F University, Yangling, China, 4University of Bonn, Bonn, Germany

M252

Changes in plasma methionine concentrations after administration of two different doses of rumen protected methionine.
P. D. Carvalho1, N. E. Lobos1, M. Z. Toledo1, E. Trevisol1, V. G. Santos1, R. V. Barletta2, G. M. Baez2, A. Garcia-Guerra1, J. N. Guenther1, A. H. Sousa1, D. Luchini1, P. M. Fricke2, R. D. Shaver3 and M. C. Wiltham1, 1University of Wisconsin, Madison, 2Department of Dairy Science, University of Wisconsin-Madison, Madison, 4Adisseo, Alpharetta, GA

M253

Y. Miyazawa1, M. Miura2, T. Fujieda1, I. Shinzato1, S. W. Fessenden4 and M. D. Stern6, 1Ajinomoto Co., Inc., Kawasaki, Japan, 2Ajinomoto Heartland Inc., Chicago, IL, 3University of Minnesota, St. Paul

M254

Histidine requirement of dairy cows determined by the indicator amino acid oxidation (AAO) technique.
D. R. Ouellet1, G. E. Lobley2 and H. Lapierre3, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2Rowett Institute of Nutrition and Health, University of Aberdeen, Aberdeen, United Kingdom, 3Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada

M255

Estimation of histidine requirement in lactating dairy cows.
H. Lapierre1,2, D. R. Ouellet1 and G. E. Lobley3, 1Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 2Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Rowett Institute of Nutrition and Health, University of Aberdeen, Aberdeen, United Kingdom

M256

Effects of different protein sources on milk performance and amino acid profile in early lactating dairy cows.
X. Q. Zhou1,2, D. P. Bu2, Y. D. Zhang1, M. Zhao2, P. Sun1 and J. Q. Wang1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2Northeast Agricultural University, Harbin, China

M257

Lipogenic gene network expression in bovine mammary epithelial cells in response to the “ideal” profile of Lys, Met, Thr, Phe, His, and Val.
S. Li1,2, W. Zhao1, A. Hosseini4, J. X. Liu5 and J. J. Loo7, 1University of Illinois, Urbana, 2Zhejiang University, Hangzhou, China, 3Northwest A & F University, Yangling, China, 4University of Bonn, Bonn, Germany

M258

Rumen-protected methionine and choline supplementation during the transition period enhance the proinflammatory cytokine response of whole blood.
M. Vailati Riboni1,2, Z. Zhoa1, D. N. Luchini1, A. Minuti1, E. Trevisol2 and J. J. Loo2, 1Università Cattolica del Sacro Cuore, Piacenza, Italy, 2University of Illinois, Urbana, 3Adisseo S.A.S., Alpharetta, GA

M259

Amino Acid Analysis in Dairy Cow Plasma by Chloroformate Derivatization and Gas Chromatography.
N. E. Lobos1, G. A. Broderick1, P. D. Carvalho1, D. N. Luchini1, R. D. Shaver1, A. H. Sousa1 and M. C. Wiltham1, 1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2Broderick Nutrition & Research, LLC, Madison, WI, 3University of Wisconsin, Madison, 4Adisseo S.A.S., Alpharetta, GA, 5University of California, Cooperative Extension, Tulare, CA

M260
1547 M261 Effects of Supplementing Limiting Amino Acids in Diets with Reduced CP on Nitrogen Excretion.
M. A. C. Danes1, G. A. Broderick2 and C. Parys3, 1University of Wisconsin-Madison, Madison, 2Broderick Nutrition & Research, LLC, Madison, WI, 3Ewont Industries AG, Hanau, Germany

1548 M262 Effects of rumen-protected α-aminobutyric acid on immune function and antioxidant status in heat-stressed dairy cows.
J. Cheng1,2,3, N. Zheng1,3,4, X. Sun1,2,3, D. P. Bu1, L. Pan1 and J. Wang1,3,4, 1Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2College of Animal Science and Technology, Anhui Agricultural University, Hefei, China, 3State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 4Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

1549 M263 Effects of supplemental rumen-protected methionine and histidine on performance of lactating dairy cows.
W. D. Weich1, K. F. Kaischeu2, K. J. Herrick2 and K. E. Grisswold3, 1South Dakota State University, Brookings, 2Kemin Organ Mass., Inc., Des Moines, IA, 3Kemin Animal Nutrition & Health, Des Moines, IA

1550 M264 Canola meals from different plants over two production years differ in rumen-undegraded protein.
G. A. Broderick3, S. Colombini2, A. Faciola4 and M. A. Carstil4, 3Broderick Nutrition & Research, LLC, Madison, WI, 2University of Milan, Milan, Italy, 3University of Nevada, Reno, 4Kirikkale University, Kirikkale, Turkey

1551 M265 Rumen-undegradable protein of blood meal, canola meal, low-fat distillers dried grain with solubles, soybean meal, and expeller soybean meal determined using in situ and in vitro ammonia release procedures.
H. A. Faz Manzano1, T. J. Klupfenstein2 and P. J. Kononoff3, 1University of Nebraska-Lincoln, Lincoln, 2University of Nebraska, Lincoln

1552 M266 Sources of protein and protected methionine on in situ ruminal degradability of crude protein of feed ingredients.
F. D. O. Scarpino van Cleef1,2, J. M. Bertocco Ezequiel1, E. Neves Muniz1, R. L. Galati2 and E. H. C. B. Van Cleef1,2, 1UNESP, Jaboticabal, Brazil, 2CNPq, Brasilia, Brazil, 3Embrapa Tabuleiros Costeirios, Aracaju, Brazil, 4Federal University of Mato Grosso, Cuiaba, Brazil, 5FAPESP, Sao Paulo, Brazil

1553 M267 Supplementation of lysine and methionine in the starter concentrate or milk replacer of dairy calves.
J. T. Silva1, M. R. De Paula, G. Santos, G. Slanzen and C. M. M. Bittar, University of Sao Paulo, Piracicaba, Brazil

1554 M268 Evaluating the Plasma Free Amino Acid Dose-Response Method to Determine the Content of Metabolizable Methionine in a Rumen-Protected Methionine Supplement.
N. L. Whitehouse1, C. G. Schwab1, M. C. Blais1, A. F. Brito1 and B. K. Sloan1, 1University of New Hampshire, Durham, NH, 2Schwab Consulting, LLC, Boscobel, WI, 3Adisseo, Alpharetta, GA

1555 M269 Amino acids supplementation in the milk replacer for dairy calves.
J. T. Silva1, N. B. Rocha, E. Miqueio, T. Manzoni, G. Santos, S. Baldassin and C. M. M. Bittar, University of Sao Paulo, Piracicaba, Brazil

1556 M270 Effects of Maternal Nutrition and Arginine Supplementation on Characteristics of Wool Quality in Offspring.
J. L. Peine1, P. P. Borowicz, J. S. Caton and R. R. Redden, North Dakota State University, Fargo

J. L. Peine1, G. Jia, S. T. O'Rourke, L. P. Reynolds and J. S. Caton, North Dakota State University, Fargo

1558 M272 Ultrasonography for investigating the effect of supplementing whole milk with plant-derived complex carbohydrates on curd clearance through the abomasum of dairy calves.
K. Singh1, S. R. Leath1, H. V. Henderson1, T. J. Watson1, D. Pacheco1 and C. D. McMahon4, 1AgResearch Ltd, Ruakura Research Centre, Hamilton, New Zealand, 2AgResearch Ltd, Ruakura Research Centre, Hamilton, New Zealand, 3AgResearch Ltd, Grasslands, Palmerston North, New Zealand, 4AgResearch Limited, Ruakura Research Centre, Hamilton, New Zealand

1559 M273 Relationship between non-protein nitrogen and true protein in supplements during the post-weaning phase of Nellore steers in the dry-wet season transition.
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1560 M274 Sulfur sources in protein supplements and their influence upon amino acid profiles.
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1561 M275 Slow-release urea in diets of crossbred lactating cows.
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1562 M276 Passage rate and efficiency of microbial protein synthesis in buffaloes fed increasing levels of crude protein.
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1563 M277 Effects of test weight and processing method on in vitro intestinal digestibility of barley grain.
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1564 M278 Using a fibrolytic enzyme to barley-based finishing diets containing wheat dried distillers grains with solubles: ruminal fermentation, digestibility, and growth performance in feedlot steers.
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1565 M279 Effects of forage intake to minimize the risk of subscale ruminal acidosis on performance of feedlot finishing cattle.
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1566 M280 Saliva Production and Short-chain Fatty Acid Absorption in Beef Cattle Fed a Low- or High-forage Diet.
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1567 M281 Interactions between levels and source of energy supplementation in beef cattle.
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1568 M282 Digestibility and nitrogen efficiency of growing beef cattle fed diets containing different proportions of Stylosanthes Campo Grande and corn silages.
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1569 M283 Influence of Macleaya cordata preparation on feedlot performance and carcass characteristics of finishing bulls.
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1570 M284 Supply levels of multiple supplements for beef heifers on pasture during the dry season: ruminal pH and ammonia nitrogen.

1571 M285 Comparison of commercially available lick tubs to daily by-product supplementation of calves grazing corn residue.
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1572 M286 Dry matter intake of supplemented cattle under grazing during the dry season.
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1573 M287 Interaction between grazing management and energy supplementation on behavior of grazing beef cattle.
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1574 M288 Supply levels of multiple supplements for beef heifers on pasture during the dry season: Intake and digestibility of nutrients.
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1576 M290 Effect of pregnancy and feeding level on voluntary intake, digestion and microbial N production in Nellore cows*.
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1577 M291 Growth and feed intake of Nellore steers fed whole corn diets containing feed antibiotics.
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1578 M292 Effects of volume weight, precision processing and processing index on in vitro ruminal fermentation of dry-rolled barley grain.
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1579 M293 Total tract NDF digestion predicted using rumen in vitro measures is related to commercial dairy in vivo total tract nutrient digestion.
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1580 M294 Influence of Fibrolytic Enzyme Supplements on production performance of Lactating Buffaloes in Early Lactation.
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1581 M295 Effect of Two Exogenous Fibrolytic Enzyme Preparations on Rumen Fermentation and In Situ Degradability Kinetics in Dairy Cattle.
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1582 M296 Proteomic Analysis of Compositional Differences between Exogenous Fibrolytic Enzyme Preparations that were Effective or Ineffective at Improving Forage Digestibility.
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1583 M297 Effects of ensiling, exogenous protease addition and inoculation on ruminal in vitro starch digestibility in rehydrated corn.
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1584 M298 Forage Type and Exogenous Fibrolytic Enzyme Application Rate Effects on the Digestibility of Dairy Cattle Forages.
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1585 M299 A meta-analysis on the effect of fibrolytic enzyme treatment of dairy cow diets.
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1586 M300 Effects of forage particle size and corn oil supplementation related to milk fat depression in dairy cows consuming reduced-fat corn dried distillers grains with solubles.
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1587 M301 Impact of Forage Inclusion Rate in a Dry Total Mixed Ration on the Behavior and Growth of Growing Dairy Cattle.
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1588 M302 Assessment of feeding high moisture corn grain with different qualities of alfalfa hay in high-forage lactation dairy diets.
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1589 M303 Replacing corn with soyhulls for late-lactation cows fed high-forage diets.
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1590 M304 Effects of different dietary forage sources on milk performance and amino acid profile in early lactating dairy cows.
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1591 M305 The partial replacement of corn silage by sugarcane silage plus crude glycerin and the effect of sensory feed additives for dairy cows.
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1592 M306 Relative excretion of nitrogen from alfalfa silage, corn silage, corn grain and soybean meal in urine and feces by lactating dairy cows.
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1594 M308 Performance and health of calves pre- and post weaning fed milk replacers with supplements for heat abatement in the summer months.
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1595 M309 Performance and health of calves pre- and post weaning fed milk replacers with supplements for heat abatement in the summer months.
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1596 M310 Effect of Supplementing Heat Stressed Dairy Cows with Electrolytes on Milk Yield, Composition, and Blood Metabolites.
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1597 M311 Average daily gain among calves fed a high plane of milk replacer during the pre-weaning period is not associated with improved reproductive efficiency or lactational performance in Holstein heifers.
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1598 M312 Ruminal in situ DM and starch digestion descriptive statistics of corn silage and high moisture corn.
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1599 M313 Response of rumen fermentation to urease inhibitor using dual-flow rumen simulation system.
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1600 M314 Effects of four ruminal feed additives on in vitro ruminal fermentation kinetic gas production and degradability.
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1601 M315 Comparison of omasal and reticular sampling methods on ruminal nutrient outflow and digestion in lactating dairy cows.
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1602 M316 Validation of a new approach to estimate total tract fiber digestibility from in vitro NDFD values.
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1603 M317 Validation of a new approach to estimate total tract fiber digestibility from in vitro NDFD values.
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1604 M318 Stochastic analysis of the effects of variation in corn silage composition on the supply of metabolizable energy and protein in lactating dairy cows.
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Extruded Soybean Meal Increases Feed Intake and Milk Production in Dairy Cows.
T. Frederick, F. Giallongo, J. Oh, H. Weeks, A. N. Hristov, D. M. Kniffen and R. A. Fabin, 1Department of Animal Science, The Pennsylvania State University, University Park, 2Department of Animal Science, The Pennsylvania State University, University Park, 3Fabin Bros. Farms, Indiana, PA

Effect of inclusion of canola meal or wheat dried distillers grains with solubles on ruminal fermentation, omasal nutrient flow, and production performance in lactating Holstein dairy cows fed two levels of forage: concentrate.
M. E. Walpole, G. E. Chibisa and T. Mutsangwa, University of Saskatchewan, Saskatoon, SK, Canada

Analysis of dipeptidyl peptidase IV from microbial metagenomic library in the rumen of dairy cow.
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Modification of the Feeding Behavior of Dairy Cows through Live Yeast Supplementation.
T. J. DeVries and E. Chevaux, 1University of Guelph, Kemptville, ON, Canada, 2Lallemand Animal Nutrition, Milwaukee, WI

The effect of supplementing dairy cows with a hydrolyzed yeast product (Progut™Rumen) on milk production and somatic cell scores.
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Effect of live yeast vs. sodium sesquicarbonate supplementation on milk yield and milk components in dairy cows.
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Milk production of dairy cows fed sugar cane silage based diets.
L. L. Cardoso, M. I. Marcondes, K. G. Ribeiro, O. G. Pereira, G. F. Bayao and M. M. D. Castro, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

Fecal sample starch content deteriorates over time after sampling.
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Effects of pH and incubation duration on the stability of the endoglucanase activity of seventeen exogenous fibrolytic enzyme preparations.
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Evaluation of a source of α-amylase and a protease in the diet of lambs on nutrient intake and digestibility and blood parameters.
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Evaluation of a source of α-amylase and a protease in the diet of lambs on nutrient intake and digestibility and blood parameters.
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Utilization of industrial enzymes in the evaluation of neutral detergent insoluble fiber content in high-starch samples.
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In situ degradation and fermentation of a diet with an exogenous phytase for lambs.
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Sources of sulfur in protein supplements and fiber degradability.
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1619 M333 Effect of weight gain rates in the post-weaning phase and forage allowance in the finishing phase with high supplementation on performance of Nellore cattle.
V. A. C. Mota, G. F. Bertó, J. A. Alves Neto, R. M. Fernandes, P. H. Gonçalves, B. C. Carvalho, M. A. P. Alves, I. M. de Oliveira, F. D. D. Resende and G. R. Siqueira, 1UNESP/FCAV, Jaboticabal, Brazil, 2Centro Universitário da Fundação Educacional de Barretos - Unifeb, Barretos, Brazil, 3Universidade Estadual Paulista, Jaboticabal, Brazil, 4UNESP-FCAV, Jaboticabal, Brazil, 5APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil

1620 M334 Nutritional Evaluation of Forage Kochia (Kochia Prostrata) as an Alternative Forage For Beef Cattle Using a Dual-Flow Continuous Culture System.
E. Marostegan de Paula, L. Galoro da Silva, T. Shenkors, Y. L. Yeh, J. Bunkers and A. Faciola, University of Nevada, Reno, NV

1621 M335 Effect of using either barley straw or alfalfa hay on intake and digestibility in growing Simmental heifers fed high-concentrate diets.
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1622 M336 Metabolism of nitrogenous compounds in beef cattle fed tropical forage supplemented with protein in the rumen, abomasum or both.
E. D. Batista, D. I. Gomes, L. M. A. Rufino, A. R. Lopes, S. C. Valadares Filho, M. F. Paulino and E. C. Tiggemeyer, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Universidade Federal Rural da Amazônia, Parauapebas, Pará, Brazil, 3Kansas State University, Manhattan

1623 M337 Effect of Amaferm® on Digestion of Diets Containing Forages with High or Low Neutral Detergent Fiber Digestibility.

1624 M338 Differences in forage utilization between Bos taurus and Bos indicus steers fed low-concentrate diets.
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1625 M339 Impact of supplementation during the dry season on performance of young Nellore bulls in the post-weaning phase on pasture in the wet season.
I. M. de Oliveira, M. H. Moretti, A. D. Moreira, J. A. Alves Neto, R. M. Fernandes, P. H. Gonçalves, M. A. P. Alves, G. F. Bertó, G. R. Siqueira and F. D. D. Resende, 1APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 2UNESP-FCAV, Jaboticabal, Brazil, 3Universidade Estadual Paulista, Jaboticabal, Brazil, 4Centro Universitário da Fundação Educacional de Barretos - Unifeb, Barretos, Brazil

1626 M340 Use of modulators additives in the ruminal fermentation in supplements high intake for finished bovines in pasture.
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1627 M341 Effects of heights of Marandu pastures and sources of energy supplements on the intake, digestibility of nutrients by young Nellore bulls during the rainy season.
A. A. Oliveira, M. V. Azenha, S. S. Santana, A. L. S. Valente, J. P. R. Costa, T. T. Berchielli, A. C. Ruggieri and R. A. Reis, 1Unesp, Jaboticabal, Brazil, 2University of Sao Paulo State, Jaboticabal, Brazil

1628 M342 Within Laboratory Repeatability of the In Situ Nylon Bag Method.
H. V. Laar and J. Doorenbos, Nutreco R&D, Boxmeer, Netherlands

1629 M343 Comparison of fermentation kinetics of four feedstuffs using an in vitro gas production system and the ANKOM Gas Production System.
J. G. L. Regadas Filho, L. O. Tedeschi, M. A. Fonseca and L. F. L. Cavalcanti, 1Universidade Federal de Viçosa, Viçosa, Brazil, 2Texas A&M University, College Station, 3Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

1630 M344 The influence of source and quality of water and a water treatment system on the ruminal fermentation and nutrient digestibility of a total mixed ration using an in vitro gas production measurement system.
D. Casper and I. P. Acharya, South Dakota State University, Brookings
1631 M345 Relationships between dry matter degradation, in vitro gas production and chemical composition of 15 feedstuffs.
Y. J. Xu, M. Zhao and D. P. Bu1, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1632 M346 In vitro gas production and dry matter degradability of a high concentrate diet: influence of exogenous enzymes level.
D. López2, J. F. Vázquez-Armijo1, A. F. Z. M. Salem1, J. Hernández3, R. Rojo3 and J. Cedillo1, 1Centro Universitario UABCS, Tampico, Mexico, 2Unidad de Investigación y Desarrollo, Campus Tampico, Tampico, Mexico, 3Universidad Autónoma de Tamaulipas, Ciudad Victoria, Mexico

1633 M347 In vitro ruminal fermentation with three sources of inoculum in diets containing Acrocomia aculeate.
S. L. S. Cabral Filho1, L. S. Murata1, R. A. Mandarino2, C. Efránsio de Souza1, D. Leornardi Migotto1, F. Lopes da Silva1, J. Artemio Marin Beltrame1 and J. H. Bernandes Pereira1, 1Universidade Federal de Minas Gerais, Brazil, 2Universidade de Brasilia, Brasilia, Brazil, 3Universidade Federal de Mato Grosso do Sul, Campo Grande, Brazil

1634 M348 Relationship of protein structural conformation to protein functional property, buffer and water solubility, rumen digestive behaviors, and intestinal availability of common feeds in ruminants.
Q. Peng1, N. A. Khan1, Z. Wang1, X. Huang2 and P. Yu1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Sichuan Agriculture University, Sichuan, China

1635 M349 Carbohydrate -Protein Matrix Structure Impacts Protein and Other Primary Nutrient Digestion in Common Prairie Feeds with Different Soluble and Insoluble Fractions.
Q. Peng1, X. Huang1, Z. Wang2 and P. Yu1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Sichuan Agriculture University, Sichuan, China

1636 M350 Performance and dry matter digestibility of finishing lambs fed diets with ground canola grains.
N. I. Ortega-Alvarez1, G. Buendia-Rodriguez1, J. A. Cuaron-Ibaranguaytia1, G. D. Mendoza-Martinez1 and S. S. Gonzalez-Muñoz2, 1Universidad Nacional Autónoma de Mexico, Mexico D.F., Mexico, 2CENIDFYMA INIFAP, Queretaro, Mexico

1637 M351 Ruminal pH and epithelial function as affected by increasing compound feed supply in growing Holstein heifers.
A. Navarro-Villa1, M. A. Steele2, J. A. Metcalf3 and J. Martin Tereso1, 1Nutreco Research and Development, Boxmeer, Netherlands, 2Nutreco Canada Agresearch, Guelph, ON, Canada

1638 M352 Metabolic characteristics of grazing Nellore bulls receiving concentrated supplementation with additives.
J. A. C. Lima1, H. J. Fernandes1, E. P. Rosa1, L. S. Caramalac2, K. A. Silveira1, G. C. Silva1, B. D. D’auria2 and A. Aguilar3, 1University of Viçosa, Viçosa, Brazil, 2State University of Mato Grosso do Sul, Aquidauana, Brazil, 3University of Florida, Gainesville

1639 M353 Productive parameters, metabolic and economic viability of dairy cows supplemented with different levels of urea in diets based on sugar cane.
R. C. D. Souza1, R. B. Reis2, F. C. F. Lopes3, J. M. Leão4 and M. H. F. Mourthé4, 1PUC Minas, Betim, Brazil, 2UFG, Belo Horizonte, Brazil, 3Embrapa Gado de Leite, Juiz de Fora, Brazil, 4Universidade Federal dos Vales do Jequitinhonha e Mucuri, Diamantina, Brazil

1640 M354 Chia Seed Supplementation Increases Ruminal Propionic Acid Concentration in Alfalfa Hay Based Diets Evaluated in a Dual-Flow Continuous Culture System.
J. Bunkers1, E. Marostegan de Paula, L. Galoro da Silva, T. Shenkour, Y. L. Yeh, B. Amorati, D. Holcombe and A. Faciola, University of Nevada, Reno, NV

1641 M355 Analysis of rumen motility patterns using a wireless telemetry system to characterize bovine reticuloruminar contractions.
A. M. Eger1, K. R. McLeod1, J. L. Klotz2 and D. L. Harmon1, 1University of Kentucky, Lexington, 2USDA-ARS, FAPRU, Lexington, KY

1642 M356 Use of grouped samples of orts does not compromise feed intake data in studies of confined cattle.
D. Sanetti1, S. C. Valadas Filho1, M. V. C. Pacheco1, L. F. Prados2, E. Detmann2, L. A. Godoi2, F. C. Rodrigues3, R. C. D. O. Ribeiro1, J. M. D. Silva Junior1 and S. A. Santos1, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Universidade Federal de Viçosa, Viçosa, Brazil, 3Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 4Universidade Federal de Viçosa, Viçosa, Brazil, 5Universidade Federal da Bahia, Salvador, Brazil

1643 M357 Three dimensional imaging of rumen tissue for morphometric analysis using micro-computed tomography.
M. A. Steele1, F. Garcia2, M. Lowerison3, K. Gordon4, J. A. Metcalf4 and M. Hurtig5, 1Nutreco Canada Agresearch, Guelph, ON, Canada, 2University of Guelph, Guelph, ON, Canada, 3University of Calgary, Calgary, AB, Canada
Kinetics of gas production of soybean meal, cotton seed meal and fish meal is affected using different zeolites. 
F. Kafizadeh, M. Karimi Zandi and G. Taasoli*, Razi University, Kermanshah, Iran

Effects of zilpaterol hydrochloride on feedlot performance and carcass characteristics of hair-breed ram lambs. 
A. Mendoza-Garcia1, R. Rojo-Rubio1,2, U. Macias-Cruz1, L. Avendaño-Reyes4, A. F. Z. M. Salem, M. A. Jaime1 and J. F. Vázquez-Armijo1,1, Universidad Autónoma del Estado de México, Temascaltepec, Mexico,2 Universidad Autónoma Del Estado De Mexico, Temascaltepec, Mexico,3 Universidad Autónoma de Baja California, Mexicali, Mexico,4 Universidad Autonoma De Baja California, Calexico, CA,5 Universidad Autónoma del Estado de México, El Cerrillo Piedras Blancas, Mexico

Effect of particle size upon dry matter intake and ruminal pH in goats fed with alfalfa hay and sorghum silage. 
D. Esparza2, R. Rodriguez, G. Velázquez1, C. Meza-Herrera1 and P. Robles-Trillo1,1, Universidad Autonoma Agraria Antonio Narro, Torreon, Mexico,2 Universidad Autonoma Chapingo, Unidad Regional Universitaria de Zonas Aridas, Bermejillo, Mexico

Milk composition of Murrah buffalo grazing on pasture in the Municipality of Taipu, Rio Grande do Norte, Brazil. 
J. M. D. Silva Júnior1, T. D. S. Martins1, R. M. D. Paula1, L. C. Alves1, D. Zanetti2, J. A. D. C. Lima1, L. F. Prados1, L. N. Rennó1, G. J. Melo1 and W. G. D. Nascimento1,1, Federal University of Viçosa, Viçosa, Brazil,2 Universidad Federal de Viçosa, Viçosa, Minas Gerais, Brazil,3 Rural Federal University of Pernambuco, Garanhuns, Brazil

Performance and morphometry of the gastrointestinal tract of goats kept on pasture during the dry period of the semi-arid Pernambuco. 
J. M. D. Silva Júnior1, K. P. Pereira2, A. S. C. Veras3, D. K. D. A. Silva2, J. S. Lima3, G. J. Mello3, D. Zanetti1, T. D. S. Martins1, R. M. D. Paula1, L. C. Alves1 and L. N. Rennó1,1, Federal University of Viçosa, Viçosa, Brazil,2 Rural Federal University of Pernambuco, Garanhuns, Brazil,3 Federal University of Pernambuco, Recife, Brazil,4 Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

Effects of replacing alfalfa hay and corn silage with corn straw in diets on milk production and composition of dairy cows. 
Y. Zhang1,2,3,1,2,3,1,2,3, D. P. Bu1, M. Zhao1, X. Q. Zhou1 and J. Wang1,2,3,1,2,3, Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China,2 Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China,3 State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

The use of favored or unfavored ingredients in starter feeds for preweaned calves. 
M. Terré1 and A. Bach2,1, IRITA, Caldes de Montbui, Spain,2 Department of Ruminant Production, IRITA, Caldes de Montbui, Spain

Small Ruminant Poster I

A simple method to estimate feed required for maintenance of small ruminants. 
A. L. Goetsch1, R. Puchala1, A. T. Dolebo1, T. A. Gipson1, Y. Tsukahara1 and L. J. Dawson1,2,1, American Institute for Goat Research, Langston University, Langston, OK,2 Center of Veterinary Health Sciences, Oklahoma State University, Stillwater

Dermal Application of PGF2a for Estrus Synchronization in Goats: Preliminary Feasibility. 
C. E. Ferguson1, D. J. Kester2, H. Nordberg1 and J. Veillon1,1, MeNeese State University, Lake Charles, LA,2 University of Illinois, Urbana-Champaign

Longissimus muscle fatty acid profile of crossbred Boer goat kids fed diets containing crude glycerin. 
M. O. M. Parente1, K. S. Rocha1, H. N. Parente1, E. M. Ferreira1, R. D. C. R. E. Queiroga1, A. S. M. Batista1,2, R. M. S. Gomes1,2, P. R. O. Silva1 and J. S. Araújo1,1, Universidad Federal do Maranhão, Chapadinhia, Brazil,2 Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil,3 Universidade Federal da Paraíba, João Pessoa, Brazil,4 Universidade do Vale do Açoaral, Sobral, Brazil

Performance and carcass characteristics of finishing goat kids fed diets containing crude glycerin. 
M. O. M. Parente1, K. S. Rocha1, H. N. Parente1, E. M. Ferreira1, I. G. R. Aritajo1, R. C. Rodrigues1, R. M. S. Gomes1 and P. R. O. Silva1,1, Universidad Federal do Maranhão, Chapadinhia, Brazil,2 Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil

Effect of Reducing Dietary Cation-Anion Difference on Acid-Base Balance, Plasma Minerals Level and Anti-Oxidative Stress of Female Goats. 
W. X. Wu1 and Y. Yang, College of Animal Science, Guizhou University, Guiyang, China

Effect of dietary linseed supplementation on milk fatty acid profile in dairy goats with different alphaS1-casein (CSN1S1) genotype. 
A. Nudda1, G. Battacone, N. P. P. Macciotta, A. Fenu and G. Pulina, Dipartimento di Agraria, University of Sassari, Sassari, Italy

GIS hot-spot analysis of pasture utilization of two separate herds of goats over time. 
T. A. Gipson1, S. P. Hart1 and R. Heinemann2,1, American Institute for Goat Research, Langston University, Langston, OK,2 Kiamichi Forestry Research Station, Oklahoma State University, Idaho, OK
1906 M372 Model evaluation of methane emission from goats.
M. H. M. R. F. Fernandes1, K. T. Resende2, A. R. C. Lima1, I. A. M. A. Teixeira2, B. Biagioli1 and T. F. V. Bompadre1, 1UNESP, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, Jaboticabal, Brazil, 2UNESP, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, SP, Brazil

1907 M373 The effect of some herbal plants on plasma metabolites of lactating goats.
K. Rezayazd1, F. Mirzaei2 and M. Hosseinabadi1, 1Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, 2Animal Science Research Institute, Karaj, Iran

1908 M374 Seasonal variation influences the semen characteristics and freezability in Xinong Saanen goat.
W. Wang1, J. Luo2 and S. Sun1, 1Northwest A&F University, Yangling, China, 2Northwest A & F University, Yangling, China

1909 M375 Mean retention time of particulate matter through gastrointestinal tract of growing goat.
R. F. Leite1, F. O. M. Figueiredo1, M. M. Freire1, V. B. Carvalho1 and I. A. M. A. Teixeira1, 1UNESP, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, SP, Brazil, 2UFV, Maceio, AL, Brazil

1910 M376 Goat kids of different genders change the proteic metabolism when subjected to feed restriction.
N. C. D. Silva1, K. T. Resende1, I. A. M. A. Teixeira1, H. C. Bonfa2, C. J. Harter1, F. O. M. Figueiredo1, R. F. Leite1 and M. M. Freire1, 1UNESP, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, SP, Brazil, 2UFV, Universidade Federal de Viçosa, Department of Animal Science, Viçosa, MG, Brazil, 3São Paulo State University, Jaboticabal/SP, Brazil, 4UFAL, Maceio, AL, Brazil

1911 M377 Effects of dietary chromium supplementation on performance, liver and blood metabolites of kids.
A. Emami1, M. Ganjkhanoosi2, A. Zali1, A. Akhari-Ajani1 and M. Dehghani-Banadaki1, 1University of Birjand, Birjand, Iran, 2University of Tehran, Tehran, Iran, 3University of Zanjan, Zanjan, Iran

N. C. Whiteley1, S. H. Oh1, K. Moulton1, R. Franco1, S. B. Routh2 and C. Kyle, North Carolina A&T State University, Greensboro

1913 M379 Pharmacokinetic processes of Lithium used for food aversion in sheep and goats.
C. L. Manuelian1, E. Albanell1, M. Roval1, A. Salama1,2, G. Caja1 and R. Guitart1, 1Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain, 2Animal Production Research Institute, Dokki, Giza, Egypt

1914 M380 Influence of partial replacement of corn by crude glycerin on water consumption, feed intake and nutrient apparent digestibility.
D. M. Polizel1, R. S. Gentili1, E. M. Ferreira1, R. A. Souza1, A. P. A. Freire1, J. A. Faleiro Neto1, A. V. Pires1 and I. Susin1, 1Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil, 2Faculdade de Medicina Veterinária e Zootecnia - FMVZ/USP, São Paulo, Brazil, 3University of São Paulo - ESALQ/USP, Piracicaba, Brazil

1915 M381 Post-Weaning Performance by Intact Male F1 Kiko × Boer Progeny from Does Selected Based on Parasite Resistance: 1-Year Summary.
L. S. Wilbers1, B. C. Shanks1, J. D. Caldwell1, K. L. Basinger1, W. M. Haslag1, J. D. Walker1, K. M. Jones1 and A. L. Bax, Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO

1916 M382 Effects of Thyme Oil (Thymus Vulgaris) on in vitro Ruminal Fermentation Kinetics.
A. D. B. Ribeiro1,2, A. V. Pires1, I. Susin1, M. V. Biehl2, V. N. Gouvea1, M. V. C. Ferraz Jr.1, M. L. Day4, L. H. Cruppe1, J. A. Faleiro Neto1 and J. P. C. Thieme2, 1University of São Paulo - FMVZ/USP, Pirassununga, Brazil, 2University of São Paulo - ESALQ/USP, Piracicaba, Brazil, 3Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil, 4The Ohio State University, Columbus

Swine Species: Reproduction and Management

1937 M383 Dietary supplementation with organic or inorganic selenium and pyridoxine in gilts on gene expression in the porcine expanded blastocysts in vivo.
D. Bueno Dalto1,2, S. Tsao1, I. Audet1, M. Dyck1 and J. J. Matte1, 1Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 2Department of Animal Science, Universidade Estadual de Londrina, Londrina, Brazil, 3Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

1938 M384 Comparing the growth curves of females and immuno castrated males in commercial conditions.
S. López-Vergé, G. Ibanez and J. Gasa, 1Animal Nutrition and Welfare Science, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Globosuinos Agropecuária S/A, Paraná, Brazil

1939 M385 Growth performance of Sarda purebreed suckling piglets reared in smallholder farms.
C. Sulas1, S. Fele2, G. G. Fruttero1, S. B. Gasai2 and G. Battacone1, 1Dipartimento di Agraria, University of Sassari, Sassari, Italy, 2Agenzia LAORE Sardegna, Cagliari, Italy
D. Solà-Oriol, S. López-Vergé and J. Gasa, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain

Comparison of fecal microbiota among healthy piglets during the weaning transition using barcoded 16S rDNA pyrosequencing.
J. P. Chae, E. A. Pajarillo and D. K. Kang*, Dept. of Animal Resources Science, Dankook University, Cheonan, South Korea

Piglets' early body weight and milk consumption partially explain post-weaning performance.
S. López-Vergé, D. Solà-Oriol and J. Gasa, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain

Effects of parity and selection for uterine capacity on sow litter performance traits.
B. A. Freking¹ and J. L. Valley², USDA ARS USMARC, Clay Center, NE, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

Gene expression profiles in muscle of black Iberian pigs supplemented with organic selenium compared with sodium selenite in finishing diets.

Neither photoperiod in the farrowing room nor time of weaning affect nursery performance.
L. Eastwood, J. Shea and D. Beaulieu*, Prairie Swine Centre, Inc., Saskatoon, SK, Canada

Behavior traits and growth characteristics of newly weaned piglets.
M. R. Zukle*, J. E. Naginis and L. A. Petley, California State Polytechnic University, Pomona, CA

Oxidative stress is higher in replacement gilts than in multiparous sows...
J. Lapointe*, C. Roy and M. Lavoie, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada

**SYMPOSIA AND ORAL SESSIONS**

**Animal Health Symposium I: Animal Health Research From the Perspective of Information Gaps**
Chair: Theodore H. Elsasser, USDA, Agricultural Research Service

9:30 AM Welcoming Remarks

9:35 AM 60 Animal Health – From systems biology to translational research.
C. Gay*, USDA-ARS Office of National Programs, Beltsville, MD

10:20 AM 61 Respiratory Disease Management in Livestock- New Challenges and Knowledge Gaps - What Is Critical on the Horizon?
A. W. Confer*, Oklahoma State University, Stillwater

11:05 AM Break

11:20 AM 62 Metabolic and health consequences of heat stress: Knowledge gaps and opportunities.
L. H. Baumgard¹, J. W. Ross¹, N. K. Gabler¹, S. M. Lonergan¹, A. F. Keating¹, J. T. Selsby¹ and R. P. Rhoads²,¹ Iowa State University, Ames, ²Virginia Tech, Blacksburg

12:05 PM 63 Ensuring Good Health and Well-Being in the Aging Equine Population.
K. Malinowski*, R. C. Avenatti and K. H. McKeever, Rutgers Equine Science Center, New Brunswick, NJ

**Beef Species Symposium: Making More, But Using Less: The Future of the U.S. Beef Industry with a Reduced Cowherd and the Challenge to Feed the U.S. and the World; Session I. The U.S. Stocker and Feedlot Industries**
Chair: Allison M. Meyer, Division of Animal Sciences, University of Missouri

M. S. Kerley*, W. J. Sexten and A. M. Meyer, University of Missouri, Columbia
10:00 AM  118  What Is the Future of Genetic Selection and Cattle Sorting Technologies in the Stocker and Feedlot Industries?  
R. L. Weaver*, Kansas State University, Manhattan

10:30 AM  119  Beef Quality vs. Quantity in Today’s Market.  
B. J. Johnson†, Texas Tech University, Lubbock

11:00 AM  120  Economic Considerations Related to Rebuilding the U.S. Cowherd.  
G. T. Tonsor‡ and L. L. Schulz*, 1Kansas State University, Manhattan, 2Iowa State University, Ames

**Breeding and Genetics: Applications and Methods in Animal Breeding - Dairy I**

Chair: Jennifer M. Borman, Kansas State University  
2505A

9:30 AM  152  Calculation and Delivery of US Genomic Evaluations for Dairy Cattle.  
G. R. Wiggans†, T. A. Cooper†, P. M. VanRaden‡, D. J. Niel§, J. L. Hutchison⊥, O. M. Meland∥, M. E. Tooker∥ and H. D. Norman∥∥, 1Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, 2USDA-ARS-AIPL, Beltsville, MD, 3Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture, Beltsville, MD, 4Council on Dairy Cattle Breeding, Columbus, OH, 5Council on Dairy Cattle Breeding, Columbus, OH

9:45 AM  153  An updated version of lifetime net merit incorporating additional fertility traits and new economic values.  
J. B. Cole† and P. M. VanRaden†, 1Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture, Beltsville, MD, 2USDA-ARS-AIPL, Beltsville, MD

10:00 AM  154  Gains in Reliability with Genomic Information in US Commercial Holstein Heifers.  
F. A. Di Croce*, J. B. Osterstock, D. J. Weigel and M. J. Lormore, Zoetis Inc., Kalamazoo, MI

10:15 AM  155  Genome-wide association analysis in Italian Simmental cows for lactation curve traits using a low density (7K) SNP panel.  
N. P. P. Macciotta†, D. Vicario†, C. Dimaro†, G. Gaspa†, M. Cellesi†, A. Pulidda†, S. Sorbolini† and P. Ajmone-Marsan†, 1Università di Sassari, Sassari, Italy, 2ANAPRI, Udine, Italy, 3Dipartimento di Agraria, Università di Sassari, Sassari, Italy, 4Università Cattolica del Sacro Cuore, Piacenza, Italy

10:30 AM  156  Genetic parameters for pre-calving feed intake.  
B. N. Shonka and D. M. Spurlock, Iowa State University, Ames

10:45 AM  157  Phenotypic and Genetic Correlations among Milk Energy Output, Body Weight, and Feed Intake, and their Effects on Feed Efficiency In Lactating Dairy Cattle.  
M. J. VandeHaar‡, Y. Lu, D. M. Spurlock‡, L. E. Armentano‡, K. A. Weigel‡, R. F. Veerkamp‡, M. Coffey‡, Y. de Haas‡, C. R. Staples‡, E. E. Connor‡, M. D. Hanigan‡ and R. J. Tempelman‡, 1Michigan State University, East Lansing, 2Iowa State University, Ames, 3University of Wisconsin, Madison, 4Animal Breeding and Genomics Centre, Wageningen UR Livestock Research, Wageningen, Netherlands, 5Scottish Agriculture College, Edinburgh, United Kingdom, 6Dept. of Animal Sciences, University of Florida, Gainesville, 7USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, 8Virginia Polytechnic Institute and State University, Blacksburg

11:00 AM  158  Benchmarking reproductive efficiency in commercial dairy herds in California.  
A. H. Sonza*, N. Silva-Del-Rio*, E. O. S. Batista*, W. VerBoort*, P. S. Bariselli* and P. J. Ross*, 1University of California Cooperative Extension, Tulare, CA, 2University of California, Davis, CA, 3University of Sao Paulo-VRA, Sao Paulo, Brazil, 4AgriTech Analytics, Visalia, CA

**Food Safety: Global Challenges to a Safe Food Supply**

Chair: Robert J Harmon, University of Kentucky  
2102A

9:30 AM  295  Introduction – Global challenges to a safe food supply.  
R. J. Harmon†, University of Kentucky, Lexington

9:45 AM  296  Raw Milk-is it Safe?  
B. Jayaraao* and E. Hovingh, Penn State University, University Park

10:45 AM  297  The Shift from Reaction to Prevention for Animal Feedstuffs.  
D. McChesney†, Food and Drug Administration, Washington, DC

11:30 AM  298  Retailer Perspective of Food Safety in International Markets.  
N. Dyenson*, Walmart Stores, Inc., Bentonville, AR
Forages and Pastures I: Silages

Chair: Kathy J. Soder, USDA-Agricultural Research Service

2104B

9:30 AM 304 Effect of corn silage hybrids differing in starch and NDF digestibility on lactation performance and total tract nutrient digestibility by dairy cows.
L. F. Ferrareto1, A. C. Fonseca2, C. J. Sniffen3, A. Formigoni4 and R. D. Shaver4, 1University of Wisconsin, Madison, 2Fencrest, LLC, Holderness, NH, 3Université di Bologna, Bologna, Italy

9:45 AM 305 The interaction of drought stress and heat stress as determinant of dry matter yield and nutritional composition of corn whole-plant for silage.
G. Ferreira1, H. D. Bohl2, E. Hokanson2, W. E. Thomason2 and C. D. Teutsch3, 1Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, 2Department of Crop and Soil Environmental Sciences, Virginia Polytechnic Institute and State University, Blacksburg, 3Department of Crop and Soil Environmental Sciences, Virginia Polytechnic Institute and State University, Blacksburg

10:00 AM 306 Effects of different levels of corn silage and alfalfa hay on rumen pH, VFA and milk production in dairy cows.
A. Akbari-Afjani1, A. Zali2, M. Ganjkhani3, M. Dehghan-Banadaky4 and A. Emami1, 1University of Zanjan, Zanjan, Iran, 2University of Tehran, Tehran, Iran, 3University of Birjand, Birjand, Iran

10:15 AM 307 Effects of adding an α-Amylase when ensiling corn shredlage on fermentation characteristics, DM recovery and aerobic stability.
L. L. Solórzano1, L. C. Solórzano2 and A. A. Rodriguez1, 1Lankin, Fitchburg, WI, 2DSM Nutritional Products, Parsippany, NJ, 3University of Puerto Rico, Mayaguez, PR

10:30 AM 308 Effects of Dairy Slurry on the Nutritive Value and Fermentation Characteristics of Alfalfa Silages.
W. K. Coble1, R. E. Muck2, M. A. Borchardt3, W. E. Jokela4, M. G. Bertram5 and K. P. Coffey6, 1US Dairy Forage Research Center, Marshfield, WI, 2U. S. Dairy Forage Research Center, USDA-ARS, Madison, WI, 3University of Wisconsin, Arlington, WI, 4University of Arkansas, Fayetteville

10:45 AM 309 The Effects of Combination of Lactic Acid-producing Bacteria and Hydrolytic Enzyme Inoculants on Ensiling Characteristics of Alfalfa and Corn.
J. M. Chilson1, P. Rezamand and M. E. Drewnoski, University of Idaho, Moscow

11:00 AM 310 In vitro digestibility and gas production kinetic characteristics of corn stover treated by calcium oxide and stored under anaerobic condition.
H. T. Shi1, Z. J. Cao, S. L. Li, W. N. Shi and Z. H. Wu, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China

11:15 AM 311 Effects of calcium oxide level and moisture content on the in situ degradability of the alkali treated and anaerobically stored corn stover.
H. T. Shi1, S. L. Li, Z. J. Cao, Y. He and Q. Zhou, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China

11:30 AM 312 Effects of different silage forages on cecal fermentation in rabbits: In vitro gas production.
M. Gonzalez Ronquillo1, A. Zetina Sanchez2, O. Castelan Ortega2 and J. Romero Bernal2, 1Universidad Autonoma del Estado de Mexico, Toluca, Mexico, 2Universidad Autonoma del Estado de Mexico, Toluca, Mexico

Graduate Student Competition: ADSA Dairy Foods Oral

Chair: Beth Briczinski, National Milk Producers Federation

3501C

9:30 AM Welcoming Remarks

9:35 AM 325 Improving properties of acid skim milk gels by adjusting non-micellar to micellar protein ratio and controlling protein interactions.
G. H. Meletharayil1, H. A. Patel2 and S. G. Sutariya1, 1South Dakota State University, Brookings, 2Dairy Science Department, South Dakota State University, Brookings

9:50 AM 326 Controlling the viscosity of milk concentrates through tailored casein-whey protein interactions.
S. G. Sutariya1, H. G. Patel1, T. Hupperez1 and G. H. Meletharayil1, 1South Dakota State University, Brookings, 2NIZO food research, Ede, The Netherlands, Ede, SD

10:05 AM 327 Partial Calcium Depletion during Membrane Filtration Impacts Gelation of Reconstituted Milk Protein Concentrates.
10:20 AM 328 Utilizing Whey Protein Isolate and Polysaccharide Complexes to Stabilize Aerated Dairy Gels.  
E. C. O’Chiu1 and B. Vardhanabhuti, University of Missouri, Columbia

S. Zhang and B. Vardhanabhuti, University of Missouri, Columbia

10:50 AM  Break

11:00 AM 330 Evaluation of an Adsorbent for the Removal of Aflatoxin M1 from Contaminated Milk.  
E. D. Womack1, D. L. Sparks1, A. Brown1 and S. H. Ward2, 1Mississippi State University, Mississippi, MS, 2Mississippi State University, Mississippi State

11:15 AM 331 Application of FT-IR and flow cytometry to evaluate the effect of sodium chloride on probiotic bacteria.  
N. Shah and A. Gandhi, The University of Hong Kong, Hong Kong, Hong Kong

11:30 AM 332 Genomic insights into high exopolysaccharide-producing dairy starter bacterium Streptococcus thermophilus ASCC 1275.  
N. Shah, Q. Wu and H. M. Tun, The University of Hong Kong, Hong Kong, Hong Kong

11:45 AM 333 Effectiveness of Pulsed Light Treatment on the Inactivation of Pathogenic and Spoilage Bacteria on Cheese Surface.  
J. Proulx1, L. Hsu1, B. Miller1, G. Sullivan1, K. Paradis2 and C. I. Moraru1, 1Cornell University, Ithaca, NY, 2McGill University, Montreal, QC, Canada

Graduate Student Competition: ADSA Production Oral, MS  
Chair: Peter S. Erickson, University of New Hampshire  
2505B

9:30 AM 334 Nutrient utilization and metabolism by lactating dairy cows fed high-forage diets with protein supplements.  
K. Neal1, J. S. Eun2, A. J. Young1 and K. Mjoun1, 1Utah State University, Logan, 2Alltech, Brookings, SD

9:45 AM 335 Individual and Additive Value of Conventional and Non-conventional Technologies in Beef Steers Housed in Small Research Pens.  
A. R. Harding, Oklahoma State University, Stillwater

10:00 AM 336 The Effects of Supplementing Two Pasteurized Milk Balancer Products to Pasteurized Whole Milk on the Health and Growth of Dairy Calves.  
K. M. Glosson1, B. A. Hopkins1, W. P. Weiss2, S. Davidson1, G. Smith1, T. Earleywine1 and C. Ma1, 1North Carolina State University, Raleigh, 2Land O’Lakes Animal Milk Products, Shoreview, MN, 3North Carolina State University, Raleigh, NC

10:15 AM 337 Relationship between fertility and postpartum changes in body condition and body weight in lactating dairy cows.  
P. D. Carvalho1, A. H. Sousa2,3, M. C. Amundson1, K. S. Hackbrett4, A. R. Dresch5, L. M. Vieira6, J. N. Guenther1, R. R. Grammer1, R. D. Shaver4, P. M. Fricke4 and M. C. Wiltbank4, 1University of Wisconsin, Madison, 2Department of Dairy Science, University of Wisconsin-Madison, Madison, 3University of California Cooperative Extension, Tulare, CA, 4Balchem Corporation, New Hampton, NY

10:30 AM 338 Effect of serum calcium status at calving on survival, health, and performance of post-partum dairy cows and calves.  
A. Hunter1, M. G. Maquivar2, S. Bas2, T. A. Brick1, W. P. Weiss3, J. S. Velez2, H. Bothe4 and G. M. Schuenemann1, 1Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, 2Department of Animal Sciences, Washington State University, Pullman, 3Department of Animal Sciences, The Ohio State University, Wooster, 4Aurora Organic Farms, Platteville, CO

S. R. Montgomery1, L. Mamedova, A. J. Carpenter and B. Bradford, Kansas State University, Manhattan

11:00 AM 340 Effects of elevated subcutaneous fat stores on serum nonesterified and milk fatty acid profile and peripheral blood mononuclear cells gene expression of pro-inflammatory markers and production measures in periparturient dairy cows.  
C. M. Scholte1, K. C. Ramsey, C. Y. Tsai, A. Hendrickson, Z. M-Amiri, B. Shaﬁi and P. Rezamand, University of Idaho, Moscow
Effect of prophylactic and therapeutic antibiotic administration on fecal excretion of antibiotic resistance genes by dairy cows.

Effects of oscillating the crude protein content in dairy cow rations.
A. N. Brown and W. P. Weiss, The Ohio State University, Wooster

Interaction among energy status, and retinoid status in periparturient dairy cows: production, milk retinoid, and metabolic response.
K. C. Ramsey, J. D. Blickenstaff, C. Y. Tsai, C. M. Scholte, W. Price, M. A. McGuire and P. Rezamand, University of Idaho, Moscow

Reproductive performance of timed artificial insemination and activity-based estrus detection.

Energy content of reduced-fat distillers grains for lactating dairy cows.
A. Foth, G. Garcia Gomez, T. Brown-Brandl, H. C. Freely and P. J. Kononoff, University of Nebraska, Lincoln

Relationship Between Digestibility and Residual Feed Intake in Lactating Holstein Cows Fed High and Low Starch Diets.
S. E. Burczynski, J. P. Boerman, A. L. Lock, M. S. Allen and M. J. VandeHaar, Michigan State University, East Lansing

Evaluation of the Effects of Vitamin D and Toll-Like Receptor Signaling Pathways on Expression of Antibacterial β-Defensin Genes in Bovine Neutrophils and Mammary Epithelial Cells.
K. E. Merriman and C. D. Nelson, Department of Animal Sciences, University of Florida, Gainesville

Horse Species Symposium: Advances in Equine Stem Cell Biology
Chair: Josie Coverdale, Texas A&M University

Developmental Progenitor Cells of Articular Chondrocytes.
J. N. MacLeod, University of Kentucky, Lexington

Understanding the Link Between Inflammation and Muscle Satellite Cells in the Horse.
S. A. Reed, Department of Animal Science, University of Connecticut, Storrs

Use of Mesenchymal Stem Cells in Bone Repair.
K. E. Govoni, Department of Animal Science, University of Connecticut, Storrs

Meat Science and Muscle Biology
Chair: TBA

Changes to the Muscle Proteome During Acute Heat Stress are Dependent on Predominant Fiber Type.

Relationship of Fat Quality to Meat Quality Traits of Pork.
E. D. Testroet, C. Yoder, C. Bustos, S. M. Lei, D. C. Beitz and T. J. Baas, Iowa State University, Ames

Effects of dietary level of dried citrus pulp on growth, feed efficiency, carcass merit, and lean quality of finishing pigs.

Effects of zilpaterol hydrochloride and implants in beef heifers I: feedlot performance, carcass characteristics, and intramyocellular lipid accumulation.
M. A. Vaughn, S. M. Ebarb, K. J. Phelps, D. D. Burnett, J. S. Drouillard and J. M. Gonzalez, Kansas State University, Manhattan

Effects of zilpaterol hydrochloride and implants in beef heifers II: aging effects on Warner-Bratzler shear force, collagen solubility, and fiber cross-sectional area.
S. M. Ebarb, K. J. Phelps, M. A. Vaughn, J. A. Noel, C. B. Paulk, J. S. Drouillard and J. M. Gonzalez, Kansas State University, Manhattan
10:45 AM 424  Effect of zilpaterol hydrochloride on carcass composition, subprimal yield, and meat quality of Nellore heifers.  
1University of Sao Paulo, Pirassununga, Brazil, 2MSD Saide Animal, Sao Paulo, Brazil, 3University of Sao Paulo, Sao Paulo, Brazil

11:00 AM 425  Effects of duration of vitamin C supplementation on growth performance, carcass traits, and protein degradation of the longissimus thoracis of steers fed a 0.31 or 0.59% sulfur diet.  
D. Pogge, S. M. Lonnergan and S. L. Hansen, Iowa State University, Ames

11:15 AM 426  Interaction of various inclusion levels of dietary vitamin D2 enriched yeast cell wall with zilpaterol hydrochloride on dry matter intake and post mortem tenderness in feedlot steers.  
1Texas Tech University, Lubbock, 2Lesaffre Feed Additives, Milwaukee, WI

11:30 AM 427  Zinc methionine alters muscle and adipose gene expression and protein concentration of calf-fed Holstein steers fed zilpaterol hydrochloride.  
J. E. Hergenreder, J. O. Baggerman, M. E. Branine and B. J. Johnson;  
1Texas Tech University, Lubbock, 2Zinpro Corporation, Eden Prairie, MN

11:45 AM 428  Muscle fiber and color characteristics of different locations within beef Longissimus lumborum steaks.  
Kansas State University, Manhattan

12:00 PM 429  In utero manipulation of muscle development in beef cattle fetuses.  
1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Instituto Nacional de Ciência e Tecnologia - Ciência Animal, Viçosa, Minas Gerais, Brazil, 3Universidade Federal De Vícosa, Vícosa - MG, Brazil, 4Iowa State University, Ames, 5Universidade Federal de Viçosa, Viçosa, Brazil, 6Washington State University, Pullman

Nonruminant Nutrition: Nutrient Requirements of Monogastrics and Amino Acid Digestibility of Feedstuffs

Chair: Joshua Jendza, Southern Research and Outreach Center, University of Minnesota  
2503

9:30 AM 435  Determination of additivity of apparent and standard ileal digestibility of amino acids in different ingredients for mixed diets fed to growing pigs.  
P. Xue, D. Ragland and L. Adeola;  
Purdue University, West Lafayette, IN

9:45 AM 436  Effects of dietary threonine:lysine ratio and sanitary conditions on performance and plasma urea nitrogen of weaned pigs fed antibiotic-free diets.  
B. Jayaraman, J. K. Htoo and C. M. Nyachoti;  
1University of Manitoba, Winnipeg, MB, Canada, 2Evonik Industries AG, Hanau-Wolfgang, Germany

10:00 AM 437  Estimated lysine requirement of 25 to 50 kg growing gilts.  
J. K. Mathai and H. H. Stein;  
The University of Illinois at Urbana-Champaign, Urbana, IL

10:15 AM 438  Homocysteineinemia, growth performance and immune responses in suckling and weaning piglets.  
I. Audet, C. L. Girard, M. Lessard, L. Lo Verso and J. J. Matte;  
Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada

10:30 AM 439  Leucine supplementation of a restricted protein diet improves lean growth in neonatal pigs.  
D. A. Columbus, J. Steinhoff-Wagner, A. Suryawan, M. Kao, A. Hernandez-Garcia, C. Boutry, H. V. Nguyen, M. L. Fiorotto and T. A. Davis;  
1Children’s Nutrition Research Center, Baylor College of Medicine, Houston, TX, 2USDA/ARS - Children’s Nutrition Research Center, Baylor College of Medicine, Houston, TX, 3Neonatology, Baylor College of Medicine, Houston, TX

10:45 AM 440  Optimal sulfur amino acid to lysine ratio for weaned pigs fed antibiotic-free diets and raised under clean and unclean conditions.  
R. K. Kahindi, M. C. Nyachoti and J. K. Htoo;  
1University of Manitoba, Winnipeg, MB, Canada, 2Evonik Industries AG, Hanau-Wolfgang, Germany

11:00 AM  Break

11:15 AM 441  Energy Concentration and Amino Acid Digestibility in two sources of Canola Meal fed to Growing Pigs.  
N. W. Jaworski, Y. Liu and H. H. Stein;  
The University of Illinois at Urbana-Champaign, Urbana, IL
Amino acid digestibility in processed soybean products and rapeseed products fed to weanling pigs.
D. M. D. L. Navarro, Y. Liu, T. S. Bruns and H. H. Steen, 1University of Illinois at Urbana-Champaign, Urbana, IL, 2Danish Pig Research Centre, Copenhagen, Denmark

Standardized ileal crude protein and amino acid digestibility of eight wheat genotypes fed to growing pigs.
P. Rosenfelder, H. K. Spindler, K. E. B. Knudsen, H. Jørgensen, N. Sauer, J. K. Htoo, M. Ekkund and R. Mosenthin, 1University of Hohenheim, Institute of Animal Nutrition, Stuttgart, Germany, 2Aarhus University, Department of Animal Science, Tjele, Denmark, 3Landwirtschaftliche Untersuchungs- und Forschungsanstalt Speyer, Speyer, Germany, 4Evonik Industries AG, Hanau-Wolfgang, Germany

Standardized ileal amino acid digestibility in eight genotypes of rye fed to growing pigs.
E. J. P. Strang, P. Rosenfelder, H. K. Spindler, N. Sauer, J. K. Htoo and R. Mosenthin, 1University of Hohenheim, Institute of Animal Nutrition, Stuttgart, Germany, 2Landwirtschaftliche Untersuchungs- und Forschungsanstalt Speyer, Speyer, Germany, 3Evonik Industries AG, Hanau-Wolfgang, Germany

Digestible phosphorus requirement of 20-kg pigs – A cooperative study.
O. Adeola, M. J. Azain, S. D. Carter, T. D. Crenshaw, M. J. Estienne, B. J. Kerr, M. D. Lindemann, C. V. Maxwell, P. S. Miller, M. C. Shannon, E. van Heugten and N. A. S-1061, 1Purdue University, West Lafayette, IN, 2University of Georgia, Athens, 3Oklahoma State University, Stillwater, 4University of Wisconsin, Madison, 5Virginia Tech Tidewater AREC, Suffolk, VA, 6USDA - ARS, Ames, IA, 7University of Kentucky, Lexington, 8Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, 9University of Nebraska, Lincoln, 10University of Missouri-Columbia, Columbia, MO, 11North Carolina State University, Raleigh, 12Swine Nutrition Committee and Nutritional Systems for Swine to Increase Reproductive Efficiency Committee, West Lafayette, IN

The flow of inositol phosphate esters and phytate phosphorus in the proximal and distal parts of the digestive tract of broilers receiving diets adequate in available phosphorus and supplemented with high levels of phytase.
L. A. Besson, C. L. Walk and O. Olukosi, 1SRUC, Ayr, United Kingdom, 2AB Vista Feed Ingredients, Marlborough, United Kingdom

Physiology and Endocrinology: Pregnancy, Placentation and Reproductive Health in Ruminants
Chair: Gregoy Bedecarrats, University of Guelph

Bioinformatics analysis of mammary gland and liver transcriptome in response to an intra-mammary E. coli lipopolysaccharide challenge in early-lactation dairy cattle.
A. Minuti, D. E. Graugnard, E. Trevisi and J. J. Loo, 1Università Cattolica del Sacro Cuore, Piacenza, Italy, 2University of Illinois, Urbana, 3University of Illinois, Urbana

The role of pH and progesterone on bovine uterine protein secretion in response to maternal recognition, interferon-tau.
J. A. Spencer, K. J. Austin, K. G. Carnahan and A. Ahmadzadeh, 1University of Idaho, Moscow, 2Department of Animal Science, University of Wyoming, Laramie, WY

Hepatic steroid inactivating enzymes, hepatic portal blood flow, and corpus luteum blood perfusion in lactating dairy cattle.
C. G. Hart, B. E. Voelz, K. E. Brockus and C. O. Lemley, Mississippi State University, Mississippi State

Effects of supplementing Holstein heifers with dietary melatonin during late gestation on growth and cardiovascular measurements of offspring.
K. E. Brockus, C. G. Hart, S. H. Ward and C. O. Lemley, Mississippi State University, Mississippi State

Uterine blood flow, calf, and placental weights from beef cows supplemented during late gestation.
V. C. Kennedy, B. R. Mordhorst, M. L. Bauer, K. C. Swanson and K. A. Vonnahme, North Dakota State University, Fargo

Possible markers of uterine and metabolic health in transition dairy cows.
G. Esposito, A. Chapwanya, E. C. Webb and P. C. Irons, 1Department of Animal Science, Faculty of Veterinary Sciences, University of Pretoria, Onderstepoort, South Africa, 2Institute of Food, Nutrition and Well-being University of Pretoria, Pretoria, South Africa, 3Department of Animal and Wildlife Sciences, Faculty of Natural and Agricultural Sciences, University of Pretoria, Pretoria, South Africa

Pregnancy-induced changes in metabolome and proteome in ovine uterine flushings.
T. R. Hansen, J. J. Romero, C. Broeckling and J. E. Prenni, Colorado State University, Fort Collins

Syncytin expression in uterine endometrium and fetal membranes during early pregnancy in sheep.
K. J. McLean, L. P. Reynolds, A. Grazul-Bilska, J. Haring and J. S. Caton, North Dakota State University, Fargo
MONDAY, JULY 21, 2014

11:30 AM 494  Effect of Postpartum Treatment with Non-Steroidal Anti-Inflammatory Drugs (NSAID) on Reproductive Performance and Removal from the Herd in Dairy Cattle through Mid-Lactation.
A. J. Carpenter1, C. M. Ylioja1, C. F. Vargas Rodriguez2, L. G. D. Mendonça1, L. Mamedova1, J. F. Coetze2, L. Hollis1, R. Gehring3 and B. Bradford4, 1Department of Animal Sciences and Industry, Kansas State University, Manhattan,
2Pharmacology Analytical Support Team, Iowa State University College of Veterinary Medicine, Ames, IA, 3Department of Clinical Sciences, Kansas State University, Manhattan

11:45 AM 495  Biology and molecular signatures of elongating preimplantation conceptuses in dairy cows.
E. S. Ribeiro1, L. F. Greco2, R. S. Bisinotto1, F. S. Lima3, W. W. Thatcher1 and J. E. P. Santos1, 1Department of Animal Sciences, University of Florida, Gainesville, 2University of Florida, Gainesville

12:00 PM 496  Modulation of the immune system during post-partum uterine infection.
C. G. Walker1, S. Meier2, J. R. Roche2, M. D. Mitchell1 and C. Burke2, 1DairyNZ, Auckland, New Zealand, 2DairyNZ, Hamilton, New Zealand, 3University of Queensland, Queensland, Australia, 4Dairy NZ Ltd, Hamilton, New Zealand

12:15 PM 497  Carryover effects of postpartum diseases on early conceptus development in dairy cows.
E. S. Ribeiro1, L. F. Greco, G. C. Gomes, R. Cerri, W. W. Thatcher and J. E. P. Santos, Department of Animal Sciences, University of Florida, Gainesville

Ruminant Nutrition I

Chair: TBA
2103A

9:30 AM 589  Feedlot performance and diet digestibility of feed efficiency-ranked beef steers fed corn or roughage-based diets and finished with corn or byproduct-based diets.
J. R. Russell1, X. O. Minton1, W. J. Sexten2, M. S. Kerley2 and S. L. Hansen1, 1Iowa State University, Ames, 2University of Missouri, Columbia

9:45 AM 590  Effects of processing of treated corn stover and distillers grains on intake and digestibility of feedlot diets.
J. L. Harding1, M. L. Jolly, J. C. MacDonald and G. E. Erickson, University of Nebraska-Lincoln, Lincoln

10:00 AM 591  Effects of Dietary Glycerin Inclusion at 0%, 5%, 10%, and 15% of Dry Matter on Energy Metabolism and Nutrient Balance in Finishing Beef Steers.
K. E. Hales1, A. P. Foote2, T. Brown-Brandl3 and H. C. Freethy4, 1USDA-ARS-MARC, Clay Center, NE, 2USDA. ARS, US Meat Animal Research Center, Clay Center, NE, 3ARS-USDA, Clay Center, NE, 4USDA, ARS, US MARC, Clay Center, NE

10:15 AM 592  Intake and digestibility of diets without forage in Nellore and Angus young bulls.
M. M. Ladeira1, J. R. R. Carvalho1, M. L. Chizzotti1, D. R. Casagrande1, P. D. Teixeira1, M. C. L. Alves1 and L. A. Silva1, 1Universidade Federal de Lavras, Lavras, Brazil, 2Universidade Federal de Viçosa, Viçosa, Brazil

10:30 AM 593  A survey of dry-rolled corn particle size and fecal starch in U.S. feedlots.
E. Schwandi1, Kansas State University, Manhattan

10:45 AM 594  Effects of feeding zip lateral hydrochloride on feedlot performance and carcass characteristics of Nellore bulls and steers.
A. L. Brich1, C. F. Costa1, A. Perdigao1, M. A. Factor1, I. C. Pereira1, D. D. Estevam1, R. S. Goulart2, C. L. Martins1, D. D. Millen2 and M. D. Arrigon1, 1São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil, 2MSD Saúde Animal, São Paulo, Brazil, 3Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil, 4São Paulo State University (UNESP), Dracena campus, Dracena, Brazil

11:00 AM 595  Effects of Next Enhance concentrations in finishing diets on performance and carcass characteristics of yearling feedlot cattle.
C. J. Bittner4, G. E. Erickson1, K. H. Jenkins2, M. K. Luebbe2, G. I. Zanton1 and M. A. Andersen1, 1University of Nebraska-Lincoln, Lincoln, 2University of Nebraska, Scottsbluff, NE, 3Novus International, Inc., St. Charles, MO

11:15 AM 596  Effects of plane of nutrition during late gestation and weaning age on transcriptome profiles of Longissimus muscle in Simmental x Angus offspring.
S. Moisa1, L. M. Shoup, D. W. Shike and J. J. Loor, University of Illinois, Urbana

11:30 AM 597  Post-natal nutritional management alters transcription regulator gene networks in Longissimus muscle of Angus x Simmental offspring.
S. Moisa1, L. M. Shoup, D. W. Shike and J. J. Loor, University of Illinois, Urbana

11:45 AM 598  Effect of Ractopamine hydrochloride and dietary protein content on performance and carcass traits of Nellore bulls.
N. R. B. Cônsolo1, F. Rodriguez1, M. O. Frasseto1, R. A. P. Maciel2, V. Rizzi1 and L. F. P. Silva7, 1University of Sao Paulo, Pirassununga, Brazil, 2University of Sao Paulo, Sao Paulo, Brazil, 3Ouro Fino, Cravinhos, Brazil
12:00 PM  599  Effect of 300 or 400 mg daily of ractopamine hydrochloride on growth performance and carcass characteristics of finishing steers during the last 14, 28, or 42 days. 
C. J. Bittner, D. B. Burken, G. E. Erickson and N. A. Pyatt, University of Nebraska-Lincoln, Lincoln, Elanco Animal Health, Greenfield, IN

12:15 PM  600  Comparison of the total tract digestibility in feedlot cattle fed barley grain treated with lactic and citric acid. 
M. Nematzoori, K. Rezayatdi and M. Dehghan-Bandady, University of Tehran, Karaj, Iran, Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, University of Tehran, Tehran, Iran

Ruminant Nutrition II

Chair: TBA
2103B

9:30 AM  601  Using a dynamic metabolic model to investigate differences in metabolic patterns among lactating animals. 
L. Oliveira, H. Kimball, J. P. McNamara and A. Fix, Sao Paulo State University, Sao Paulo, Brazil, Washington State University, Pullman

9:45 AM  602  A dynamic, mechanistic model of metabolism in adipose tissue of lactating dairy cattle. 
J. P. McNamara, K. Huber and A. Kenez, Washington State University, Pullman, University of Hannover, Hannover, Germany

10:00 AM  603  Total volatile fatty acid concentrations are unreliable estimates of treatment effects on in vivo ruminal fermentation. 
M. B. Hall, T. D. Nennich and P. H. Doane, U. S. Dairy Forage Research Center, USDA-ARS, Madison, WI, Purdue University, West Lafayette, IN, ADM Research, Decatur, IL

10:15 AM  604  Effects of diets differing in starch, fiber, and fatty acid concentrations on milk production and energy partitioning. 
J. P. Boerman, S. E. Burczynski, M. J. VandeHaar and A. L. Lock, Michigan State University, East Lansing

10:30 AM  605  Propionic Acid Decreased Meal Size and Feed Intake Compared with Glycerol when Infused Abomasally in Cows in the Postpartum Period. 
L. B. Gualdron-Duarte and M. S. Allen, Michigan State University, East Lansing

10:45 AM  606  Responses to starch infusion on milk synthesis in low yield lactating dairy cows. 
Y. Zou, Z. Yang, Y. Guo, S. Li and Z. J. Cao, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China

11:00 AM  607  The Effect of Starch Digestibility of Two Corn Silage Varieties on Lactation Performance in Dairy Cows. 
E. E. Klingensmith, L. Hartman and M. D. Hanigan, Virginia Tech, Blacksburg, Virginia Polytechnic Institute and State University, Blacksburg

11:15 AM  608  Effects of calcium oxide treated corn stover as a partial replacement for corn silage, Chinese wildrye or concentrate on milk yield and composition of dairy cows. 
H. T. Shi, S. L. Li, Z. J. Cao and Y. Q. Wu, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China

11:30 AM  609  Effects of dried sugar beet pulp as a replacement for corn silage on performance of dairy cows. 
G. R. Ghorbani, N. Naderi, A. Sadeghism and I. Sadrearehami, Isfahan University of Technology, Isfahan, Iran

11:45 AM  610  Effect of feeding different types of sugars on rumen fermentation and productivity of lactating dairy cows. 
X. Gao and M. Oba, University of Alberta, Edmonton, AB, Canada

12:00 PM  611  Effects of alfalfa and cereal straw as a forage source on nutrient digestibility, rumen microbial protein synthesis, and lactation performance in lactating dairy cows. 
B. Wang, S. Y. Mao, H. J. Yang, Y. M. Wu, J. K. Wang, S. L. Li, Z. M. Shen and J. X. Liu, Institute of Dairy Science, Zhejiang University, Hangzhou, China, Nanjing Agricultural University, Nanjing, China, China Agricultural University, Beijing, China, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China, Zhejiang University, Hangzhou, China

12:15 PM  612  Feeding Lactating Dairy Cattle Long Hay Separate from the TMR Can Maintain DMI During Incidents of Low Rumen pH. 
A. D. Kmickewycz and A. J. Heinrichs, The Pennsylvania State University, University Park

Swine Species Mini-Symposium: Opportunities and Challenges with the Use of Carbohydrase and Protease Enzymes in Swine Formulations
Chair: John F. Patience, Iowa State University
2504

9:30 AM 741 Opportunities and challenges with the use of carbohydrase and protease enzymes in swine formulations.
R. T. Zijlstra1, T. A. Woyengo1, Z. Nasir1 and E. Beltranena2, 1University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Rural Development, Edmonton, AB, Canada

10:10 AM Discussion

Swine Species: Reproduction and Management
Chair: John F. Patience, Iowa State University
2504

10:30 AM 742 Betaine supplementation in maternal diet modulates the epigenetic regulation of hepatic gluconeogenic genes in neonatal piglets.
D. Cai1, Y. Jia, H. Song, S. Sui, J. Lu, Z. Jiang and R. Zhao, Nanjing Agricultural University, Nanjing, China

10:45 AM 743 Rearing system affects the efficiency of oleic acid deposition in Duroc x Iberian pigs.
D. Solà-Oriol1, S. López-Vergé1, E. Varella1, A. C. Barroeta1 and J. Gasa1, 1Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Tecnología & Vitaminas, S.L., Alforja, Spain

11:00 AM 744 Effects of sugar beet pulp on reproductive performance of gestation sows.
Z. Cheng1, D. Hou, Y. Chen, H. Zhang, B. Wang, Y. Wang, S. Bai, H. Lei, S. Jiang and W. Jin, Animal Nutrition & Feed Center, COFCO Nutrition and Health Institute, Beijing, China

11:30 AM 746 The effects of copper source (copper sulfate or methionine hydroxy analogue chelate; Mintrex®) on growth performance, carcass characteristics, and barn cleaning time in finishing pigs.
K. F. Coble1, J. M. DeRouchey1, M. D. Tokach1, S. S. Dritz1, D. D. Burnett1, J. M. DeRouchey1, R. D. Goodband1, J. L. Nelssen1 and J. M. Gonzalez1, 1Kansas State University, Manhattan, 2DSM Nutritional Products, Inc., Parsippany, NJ

12:15 PM 748 New perspectives to the enterotoxigenic E. coli F4 infection model in weanling piglets in relation to the susceptibility genotypes and bacterial shedding.
P. J. Roubos1, R. H. G. M. Litjens, J. W. Resink and Y. M. Han, Nutreco Research & Development, Boxmeer, Netherlands

ADSA-SAD Undergraduate Student Paper Competition: Dairy Foods

Chair: Dale R Olver, Pennsylvania State University
2208

11:00 AM 14 Dairy Fats: The Good, The Bad, And The Ugly.
H. Potts1, B. A. Corl and D. R. Winston, Virginia Tech, Blacksburg

11:15 AM 15 Differences in bovine and caprine cheese production.
K. Wolf1 and J. M. Bewley, University of Kentucky, Lexington

11:30 AM 16 Do current regulations for raw milk cheeses ensure consumer safety?
C. T. Redding1, K. H. Ingawa and S. P. Washburn, North Carolina State University, Raleigh

11:45 AM 17 Applications for functional dairy starter cultures.
G. G. FitzPatrick1 and D. R. Olver, Pennsylvania State University, University Park
Graduate Student Competition: ADSA Southern Section Oral

Chair: Jeffrey M Bewley, University of Kentucky
2104B

12:00 PM 359 Changes in activity and milk components around onset of clinical mastitis.
A. S. Griffith1, M. L. McGilliard and C. S. Petersson-Wolfe, Virginia Tech University, Blacksburg

12:15 PM 360 Predicting impending calving using automatically collected measures of activity and rumination in dairy cattle.
M. R. Borchers1, A. E. Sterrett, B. A. Wadsworth and J. M. Bewley, University of Kentucky, Lexington

CSAS Graduate Student Oral Competition

Chair: Corneliis FM de Lange, University of Guelph
2505A

1:00 PM 212 Effects of Butyrate During Subacute Ruminal Acidosis on VFA Transport Capacity in the Rumen Epithelium of Holstein Dairy Cows.
A. H. Laarmann1,2, D. Dionissopoulos1, O. AlZahal1, S. L. Greenwood2, M. A. Steele2 and B. W. McBride1,1University of Guelph, Guelph, ON, Canada, 2Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada

1:15 PM 213 Nutrient composition and degradation characteristics of anthocyanin containing alfalfa transformed with Le, C1 and Le x C1 regulatory genes.
R. G. Heendeniya Vidanaral1, M. Y. Gruber2, Y. Wang3, D. A. Christensen1, J. J. McKinnon1, B. Coulman1 and P. Yu3,1University of Saskatchewan, Saskatoon, SK, Canada, 2Agriculture and Agri-Food Canada, Saskatoon, SK, Canada, 3Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1:30 PM 214 Comparative analyses of the bovine rumen microbiota using RNA and targeted DNA-based sequencing approaches.
F. Li1, X. Sun2, G. Henderson3, F. Cox2, P. H. Janssen4 and L. L. Guan1,1Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, 2University of Alberta, Edmonton, AB, Canada, 3AgResearch Limited, Grasslands Research Centre, Palmerston North, New Zealand

1:45 PM 215 Effect of pelleting at different conditions on ruminal degradation kinetics and intestinal digestion of canola meal in dairy cattle.
X. Huang1 and P. Yu, Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada

2:00 PM 216 Evaluation of corn and barley varieties in backgrounding grazing programs for beef calves.
S. A. McMillan1, F. Li2, J. J. McKinnon1, K. Larson2 and G. B. Penner1,1University of Saskatchewan, Saskatoon, SK, Canada, 2Western Beef Development Centre, Humboldt, SK, Canada

O. Wang1, G. Liang2, X. Sun3, B. Selinger2, K. Stanford4, G. S. Plastow1, T. A. McAllister1 and L. L. Guan1,1University of Alberta, Edmonton, AB, Canada, 2University of Lethbridge, Lethbridge, AB, Canada, 3Alberta Agriculture and Rural Development, Lethbridge, AB, Canada, 4Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

2:30 PM 218 Influence of steeping DDGS on growth performance and digestive function in liquid fed weaning pigs.
M. Wiseman1, J. Zhu, D. Wey and C. F. de Lange, University of Guelph, Guelph, ON, Canada

2:45 PM 219 Selection of hybrid bromegrass for increased NDF digestibility.
C. L. Rosser1,2, B. Coulman1 and G. B. Penner1,1University of Saskatchewan, Saskatoon, SK, Canada, 2Department of Animal and Poultry Science, University of Saskatchewan, Saskatoon, SK, Canada

3:00 PM 220 Effect of feeding different sources of nitrogen on performance of growing pigs fed diets deficient in non-essential amino acid nitrogen.
W. D. Mansilla1, J. K. Htoo2 and C. F. de Lange1,1University of Guelph, Guelph, ON, Canada, 2Evonik Industries AG, Hanau-Wolfgang, Germany

3:15 PM 221 Comparison of winter feeding systems for the evaluation of beef cow performance, reproductive efficiency and system costs.
D. Jose1, G. B. Penner1, J. J. McKinnon1, K. Larson2 and B. Lardner1,1University of Saskatchewan, Saskatoon, SK, Canada, 2Western Beef Development Centre, Humboldt, SK, Canada

3:30 PM 222 Dietary supplementation with excess leucine transiently improved whole body nitrogen retention in young pigs challenged with bacterial lipopolysaccharide.
M. Rudar1 and C. F. de Lange, University of Guelph, Guelph, ON, Canada
3:45 PM 223 The relationship between trailer motion and carcass bruising in market cows during transport.  
C. E. Kehler1**, K. H. Ominsksi1, L. L. Connor1, T. G. Crowe1 and K. S. Schwartzkopf-Genswein4, 1University of Manitoba, Winnipeg, MB, Canada, 2Agriculture and Agri-food Canada, Lethbridge, AB, Canada, 3University of Saskatchewan, Saskatoon, SK, Canada, 4Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

4:00 PM 224 Impact of reducing dietary crude protein concentration on serum lysine concentration and lysine utilization efficiency in lactating sows.  
L. A. Huber1, C. F. de Lange1, U. K. Larsen2, D. Chamberlin1 and N. L. Trotter1, 1University of Guelph, Guelph, ON, Canada, 2Aarhus University, Foulum, Denmark, 3Michigan State University, East Lansing

4:15 PM 225 Diurnal variations in enteric methane emissions from non-lactating dairy cows offered diets differing in forage to grain ratio.  
A. J. Kotz1, S. C. Li2, E. J. McGeough1, E. Khaipour3 and J. C. Plaizier2, 1University of Manitoba, Winnipeg, MB, Canada, 2Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 3Department of Medical Microbiology and Infectious Diseases, Winnipeg, MB, Canada

4:30 PM 226 Long-term supplementation of diets with 3-nitrooxypropanol resulted in a sustained reduction in methane production in beef cattle.  
A. Romero-Perez1,2*, E. K. Okine1, S. M. McGinn1, L. L. Guan1, M. Oba1, S. M. Duval1 and K. A. Beauchemin2, 1Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada, 3DSM Nutritional Products France, Research Centre for Animal Nutrition and Health, Saint Louis Cedex, France

4:45 PM 227 Measuring animal productivity and rumen efficiency from extensively overwintered beef cows on the Canadian Prairies.  
G. R. Donohoe*, K. M. Wittenberg, D. N. Flaten, B. D. Amiro and K. H. Ominsksi, University of Manitoba, Winnipeg, MB, Canada

5:00 PM 228 Adding sera enriched in PUFA with different n-6/n-3 ratio advanced bovine in vitro embryo development from both high- and inferior-quality oocytes.  
R. Salehi1, A. Ruiz-Sanchez2, M. G. Colazo3, M. Oba1, M. Dyck1 and D. J. Ambrose3, 1University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Rural Development, Edmonton, AB, Canada, 3University of Manitoba, Winnipeg, MB, Canada

ADSA Southern Section Symposium: Strategies for Housing Dairy Animals in the Southeast  
Chair: Jeffrey M Bewley, University of Kentucky  
2102A

2:00 PM 6 Photoperiod management of dairy cattle: considerations and applications.  
G. E. Dahl*, University of Florida, Gainesville

2:30 PM 7 Impacts of Heat Stress on Cow and Calf.  
S. Tao1*, G. E. Dahl1 and J. K. Bernard1, 1University of Georgia, Tifton, GA, 2University of Florida, Gainesville

3:00 PM 8 Implications of overstocking on the behavior, health, and productivity of dairy cows in the Southeast.  
P. D. Krawczel*, The University of Tennessee, Knoxville

3:30 PM 9 Managing Heat Stress in Dairy Calves and Heifers: Housing Considerations.  
S. H. Ward1*, Mississippi State University, Mississippi State

4:00 PM 10 Compost bedded pack barns as a lactating cow housing system for the Southeast.  
J. M. Bewley1*, R. A. Black2, F. A. Damasceno1, E. A. Eckelkamp1, G. B. Day1 and J. L. Taraba1, 1University of Kentucky, Lexington, 2University of Tennessee, Knoxville, 3Federal University of Mato Grosso, Campus Rondonópolis, Brazil

4:30 PM Discussion

4:45 PM Southern ADSA Business Meeting

ADSA-SAD Undergraduate Student Paper Competition: Dairy Production  
Chair: Kasim H Ingawa, North Carolina State University  
2208

2:00 PM 18 Dairy Cow Welfare: Bridging the Gap.  
E. A. Morabito1 and J. M. Bewley, University of Kentucky, Lexington
The effects of overcrowding on the behavior of lactating dairy cows in free-stall housing systems.
S. F. Templeton*, R. A. Black and P. D. Krawczel, University of Tennessee, Knoxville

A Polled Future.
M. Richard1 and C. C. Williams2; 1Louisiana State University, Baton Rouge, 2LSU AgCenter, Baton Rouge, LA

The future role of metabolomics in dairy science.
A. E. Kraus*, K. J. Harvatine and D. R. Olver, Pennsylvania State University, University Park

Polled Genetics: Benefits, Detriments and Identification of Polled Dairy Cattle.
A. L. Patch1, R. R. Cockrum2 and D. R. Winston1, 1Virginia Tech, Blacksburg, 2Virginia Polytechnic Institute and State University, Blacksburg

Crossbreeding- Is it a Good Option?
R. J. Yarbrough* and S. Washburn, North Carolina State University, Raleigh

ADSA-SAD Undergraduate Student Paper Competition: Original Research
Chair: Dale R Olver, Pennsylvania State University

Weaning age impacts growth, feed intake and behavioral indicators of stress in Holstein calves fed a high plane of nutrition.
H. E. Brown1, E. C. Eckert1, K. E. Leslie1, T. J. DeVries1 and M. A. Steele2; 1University of Guelph, Guelph, ON, Canada, 2Nutreco Canada, Guelph, ON, Canada

Effects of AICAR, Rapamycin, and Non-essential Amino Acids on Cell Signaling in Bovine Mammary Tissue.
A. Felock1, S. I. Arriola Apelo1, R. L. Garnett1 and M. D. Hanigan2; 1Virginia Tech, Blacksburg, 2Virginia Polytechnic Institute and State University, Blacksburg

Within-day Alteration of Ration Starch Fermentability had no Effect on Feed Intake, Total-tract Neutral Detergent Fiber Digestibility, and Milk Fat Concentration of Cows in Late Lactation.
B. C. Oglesby* and M. S. Allen, Michigan State University, East Lansing

E. M. Dudash*, T. T. Yohe, R. M. Townsley, Y. Roman Garcia, A. R. Gibson, K. M. O'Diam and K. M. Daniels, Department of Animal Sciences, The Ohio State University, Wooster

Animal Health I: Models of Disease and Stress
Chair: Stanislaw Kahl, USDA, Agricultural Research Service and Kasey M. Moyes, Department of Animal and Avian Sciences, University of Maryland

Heat stress as a model to study the effect of a gut health concept (Presan-Fx) on the intestinal barrier function of weanling piglets.
P. J. Roubos* and Y. M. Han, Nutreco Research & Development, Boxmeer, Netherlands

A dual challenge of corticotropin releasing hormone and vasopressin alters immune cell profiles in beef heifers.
J. A. Carroll1, N. C. Burdick Sanchez1, J. O. Buntyn1, S. E. Sieren3, S. J. Jones3 and T. B. Schmidt4; 1USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 2University of Nebraska, Department of Animal Science, Lincoln, NE, 3University of Nebraska, Lincoln
2:30 PM 66 Investigating innate immune response differences between Angus and Holstein cattle with the dermal fibroblast model.
1University of Minnesota, Saint Paul

2:45 PM 67 Predictive models of lameness in dairy cows achieve high sensitivity and specificity with force measurements in three dimensions.
J. T. Durnhorn*, R. M. Dyer, U. Tasch, N. Neerchal, P. Rajkondaivar and G. Steingraber, 1Step Analysis, Baltimore, MD, 2University of Delaware, Newark, 3University of Maryland, Baltimore County, Baltimore, MD, 4BouMatic, Madison, WI

3:00 PM 68 Performance Trends in Commercial Livestock Populations in the United States Before and Subsequent to the Inclusion of Genetically Modified Feed in Livestock Diets.
A. L. Van Eenennaam, University of California - Davis, Davis

3:15 PM 69 Evaluation of a Brix Refractometer to Estimate Serum Immunoglobulin G Concentration in Neonatal Dairy Calves.
S. M. Deelen*, T. L. Ollivett, D. M. Haines and K. E. Leslie*, 1University of Guelph, Guelph, ON, Canada, 2University of Saskatchewan, Saskatoon, SK, Canada

3:30 PM 70 Associations of Serum Haptoglobin in Newborn Dairy Calves with Future Health, Growth and Mortality up to 4 Months of Age.
C. F. Murray*, C. Windeyer*, T. F. Duffield*, K. M. Waalderbos* and K. E. Leslie*, 1University of Guelph, Guelph, ON, Canada; 2University of Calgary, Calgary, AB, Canada

3:45 PM 71 Dynamics of culling for Jersey, Holstein, and crossbred cows in large multi-breed herds.
P. J. Pinedo*, A. Daniels*, J. Shumaker and A. De Fries*, 1Texas A&M AgriLife Research, Amarillo, TX, 2Circle H Headquarters LLC, Dalhart, TX, 3Magnolia Veterinary Services, Amarillo, TX, 4University of Florida, Gainesville

4:00 PM 72 Relationship of ocular and rectal temperatures to indicators of stress in mature horses.
M. J. Anderson*, J. L. Lucia, K. J. Stuts, M. M. Beverly and S. F. Kelley, Sam Houston State University, Huntsville, TX

4:15 PM 73 Enhancement of the acute phase response to lipopolysaccharide in feedlot steers supplemented with OmniGen-AF.
N. C. Burdick Sanchez*, J. O. Buntyn*, J. A. Carroll*, T. Wisutaba*, K. DeHaan*, S. E. Sieren*, S. J. Jones* and T. B. Schmidt*, 1USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 2University of Nebraska, Department of Animal Science, Lincoln, NE, 3Prince AgriProducts Inc., Quincy, IL, 4University of Nebraska, Lincoln

4:30 PM 74 Age dependent changes in heifer fibroblast DNA methylation and LPS-induced gene expression.
B. B. Green*, S. D. McKay and D. E. Kerr, University of Vermont, Burlington

4:45 PM 75 Effect of trace mineral supplementation on clinical signs, immune response variables, and mineral balance of calves following exposure to bovine viral diarrhea virus and subsequent Mannheima haemolytica infection.

Beef Species Symposium: Making More, but Using Less: The Future of the U.S. Beef Industry with a Reduced Cowherd and the Challenge to Feed the U.S. and the World: Session II: The Cow-Calf Industry
Chair: Allison M. Meyer, University of Missouri

2:00 PM 121 Where Can We Support More Cows? Overview of the Beef Cowherd and Land Use.
J. A. Paterson*, National Cattlemen's Beef Association, Centennial, CO

2:30 PM 122 How Can We Improve Replacement Heifers as We Rebuild the Cowherd?
S. L. Lake*, University of Wyoming, Laramie, WY

3:00 PM 123 Can We Improve Cow Efficiency or Manipulate Feeding Strategies to Reduce Inputs?
H. C. Freetly*, USDA, ARS, US MARC, Clay Center, NE

3:30 PM 124 Can We Build the Cowherd by Increasing Longevity of Females?
A. Roberts*, M. Petersen* and R. N. Funston*, 1USDA, ARS Fort Keogh Livestock and Range Research Laboratory, Miles City, MT, 2University of Nebraska, West Central Research and Extension Center, North Platte, NE

4:00 PM 125 Can We Develop a Cow-less Cowherd? Beef Production without Mature Cows.
G. E. Seidel*, Colorado State University, Fort Collins
Dairy Foods Symposium: Advances in Delivery of Dairy Ingredients for Health and Functional Benefits

Chair: TBA
3501C

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tr>
<td>2:00 PM</td>
<td>233</td>
<td>Market opportunities for dairy proteins.</td>
<td>A. Bienvue*, U.S. Dairy Export Council, Arlington, VA</td>
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<td>2:30 PM</td>
<td>234</td>
<td>Using charged membranes to improve dairy protein ingredients.</td>
<td>M. Etzel†, University of Wisconsin, Madison</td>
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<td>3:00 PM</td>
<td>235</td>
<td>Emerging uses of new dairy ingredients in cheese, yogurt, beverages and other products.</td>
<td>L. Metzger†, Midwest Dairy Foods Research Center, South Dakota State University, Brookings</td>
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<td>3:30 PM</td>
<td>236</td>
<td>An Update on Carrier and Delivery Systems Using Casein Micelles from Bovine Milk.</td>
<td>F. Harte†, University of Tennessee, Knoxville</td>
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<td>4:00 PM</td>
<td>237</td>
<td>Protein modification for health benefits.</td>
<td>J. A. Lucey*, Department of Food Science, University of Wisconsin-Madison, Madison</td>
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Dairy Foods: Technical Oral Session: Cheese / Yogurt / Ice Cream

Chair: TBA
3501D

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<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
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<tr>
<td>2:00 PM</td>
<td>238</td>
<td>Microbial production of Conjugated Linoleic Acid (CLA): Development of functional dairy products- an overview of functional dairy products- an overview.</td>
<td>S. Abd El Ghani† and W. K. Bahgaat, National Research Centre, Giza, Cairo, Egypt</td>
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<td>2:15 PM</td>
<td>239</td>
<td>Chemical And Organoleptic Characteristics Of Cheese From Dairy Cows Supplemented With Soya And Partially Hydrogenated Vegetable Oils.</td>
<td>E. Vargas-Bello-Pérez, G. Iriñegui-González, K. Fehrmann-Cartes and P. C. Garnsworthy, Pontificia Universidad Católica de Chile, Santiago, Chile, The University of Nottingham, Loughborough, United Kingdom</td>
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<td>2:30 PM</td>
<td>240</td>
<td>Comparison Of The Effect Of Holstein-Friesian And Jersey Milk On Cheddar Cheese Production.</td>
<td>J. H. Bland†, C. C. Fagan and A. S. Grandison, University of Reading, Reading, United Kingdom</td>
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<tr>
<td>2:45 PM</td>
<td>241</td>
<td>Adding Citrate to Ice Cream Mix for Enhanced Protein Functionality.</td>
<td>A. Gilbert, J. Prost and H. D. Goff, University of Guelph, Guelph, ON, Canada</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>242</td>
<td>The nutritional value of kishk: dried wheat fermented milk egyptian native dairy food.</td>
<td>S. Abd El Ghani† and W. K. Bahgaat†, National Research Centre, Dairy Department, Giza, Cairo, Egypt, National Research Centre, Giza, Cairo, Egypt</td>
</tr>
<tr>
<td>3:15 PM</td>
<td>243</td>
<td>Bacterial community shifts in geriatric subjects in response to probiotic intervention revealed by high throughput DNA sequencing.</td>
<td>G. H. Meletharayil, S. Senan†, P. Jashbhai and C. G. Joshi†, South Dakota State University, Brookings, SMC College of Dairy Science, Anand Agricultural University, Anand, India, Faculty of Veterinary Science, Anand Agricultural University, Anand, India</td>
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<tr>
<td>3:30 PM</td>
<td>244</td>
<td>Microbial Population Dynamics during aging of Cheddar cheese.</td>
<td>B. Ganesan†, C. Brothersen and D. J. McMahon, Western Dairy Center, Utah State University, Logan</td>
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<tr>
<td>3:45 PM</td>
<td>245</td>
<td>The influence of Protein content of Milk Protein Concentrates on the rheological properties of Greek style acid skim milk gels.</td>
<td>G. H. Meletharayil†, H. A. Patel† and T. Huppertz†, South Dakota State University, Brookings, Dairy Science Department, South Dakota State University, Brookings</td>
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<tr>
<td>4:00 PM</td>
<td>246</td>
<td>Investigating the refrigerated performance shelf-life of high pressure treated, reduced sodium, low moisture part skim Mozzarella cheese.</td>
<td>M. Ozturk†, S. Govindasamy-Lucey†, Y. Lu†, J. J. Jaeggi†, M. E. Johnson† and J. A. Lucey†, University of Wisconsin-Madison, Madison, Wisconsin Center for Dairy Research, Madison, WI, Department of Microbiology, Weber State University, Ogden, UT, Western Dairy Center, Utah</td>
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<tr>
<td>4:15 PM</td>
<td>247</td>
<td>Impact of Potassium Substitution for Sodium on pH, Proteolysis, Organic Acids, and Microbial Populations During Storage of Cheddar Cheese.</td>
<td>D. J. McMahon†, C. J. Ober†, M. Drake†, N. Farkye†, L. V. Moyes† and M. R. Arnold†, Western Dairy Center, Utah State University, Logan, Department of Microbiology, Weber State University, Ogden, UT, Western Dairy Center, Utah</td>
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Graduate Student Competition: ADSA Production Oral, PhD

Chair: Peter S. Erickson, University of New Hampshire
2505B

2:00 PM 348 Antioxidant activity after in vitro gastrointestinal digestion of cheese containing catechins encapsulated within liposomes.
A. Rashidinejad\textsuperscript{1,2}, D. Everet\textsuperscript{1,2}, J. Birch\textsuperscript{1} and D. Sun-waterhouse\textsuperscript{3}, \textsuperscript{1}University of Otago, Dunedin, New Zealand, \textsuperscript{2}Rütted Institute, Palmerston North, New Zealand, \textsuperscript{3}Plant and Food Research, Auckland, New Zealand

2:15 PM 349 Effects of mineral salts and calcium chelating agents on the functionalities of milk protein concentrate prepared by ultrafiltration.
X. Luo\textsuperscript{1}, L. Ramchandran and T. Vasiljevic, Victoria University, Melbourne, Australia

F. Giallongo\textsuperscript{1,1}, T. Frederick\textsuperscript{1}, H. Weeks\textsuperscript{1}, A. N. Hristov\textsuperscript{1,1}, H. Lapierre\textsuperscript{2}, R. A. Patton\textsuperscript{1}, A. Gehman\textsuperscript{1} and C. Parvs\textsuperscript{1}, \textsuperscript{1}Department of Animal Science, The Pennsylvania State University, University Park, \textsuperscript{2}Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, \textsuperscript{3}Nittany Dairy Nutrition Inc., Mifflinburg, PA, \textsuperscript{4}Alltech Inc., Nicholasville, KY, \textsuperscript{5}Evonik Industries AG, Hanau, Germany

2:45 PM 351 Effect of phosphorus on intestinal P absorption in growing Holstein steers.
X. Feng\textsuperscript{1}, E. T. Rank\textsuperscript{1}, H. H. Schramm\textsuperscript{1}, M. D. Hanigan\textsuperscript{1}, M. A. McCann\textsuperscript{1} and K. F. Knowlton\textsuperscript{1}, \textsuperscript{1}Virginia Tech, Blacksburg, \textsuperscript{2}Virginia Polytechnic Institute and State University, Blacksburg

2:50 PM 352 A survey of calving and colostrum management practices on Irish dairy farms.
C. Cummins\textsuperscript{1,2}, R. Sayers\textsuperscript{1}, I. Lorenzo and E. Kennedy\textsuperscript{3}, \textsuperscript{1}Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, \textsuperscript{2}School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, \textsuperscript{3}Teagasc, Moorepark, Fermoy, Co. Cork, Ireland

3:00 PM 353 Effects of Supplementing Lipid-Encapsulated Echium Oil on Lactational Responses and Milk Fatty Acid Composition.
M. Bainbridge\textsuperscript{1,3}, A. L. Lock\textsuperscript{1} and J. Kraft\textsuperscript{1}, \textsuperscript{1}University of Vermont, Burlington, \textsuperscript{2}Michigan State University, East Lansing, \textsuperscript{3}Department of Animal Science, University of Vermont, Burlington

3:30 PM 354 Effects of Dietary Crude Protein Level on Nitrogen Use Efficiency and Urinary Nitrogen Excretion during a Twelve-week period in Late Lactation Dairy Cows.
T. Barros\textsuperscript{1,1}, M. A. Quaassdorff\textsuperscript{1}, J. J. Olmos Colmenero\textsuperscript{2}, M. J. Aguerre\textsuperscript{1}, S. J. Bertic\textsuperscript{1} and M. A. Wattiaux\textsuperscript{1}, \textsuperscript{1}University of Wisconsin-Madison, Madison, \textsuperscript{2}University of Guadalajara, Tepatilan, Mexico

3:45 PM 355 Evaluation of a Handheld Device for the Detection of β-hydroxybutyrate Pre-calving in Dairy Cattle.
E. H. Tatone\textsuperscript{1}, J. L. Gordon, S. J. LeBlanc and T. F. Duffield, University of Guelph, Guelph, ON, Canada

4:00 PM 356 Effects of dietary nitrate supplementation on enteric methane and nitrous oxide emissions from beef cattle.
C. J. Neumeier\textsuperscript{1}, Q. Wang\textsuperscript{1}, A. R. Castillo\textsuperscript{1}, Y. Zhao\textsuperscript{1}, Y. Pan\textsuperscript{1} and F. M. Mitloehner\textsuperscript{1}, \textsuperscript{1}University of California, Davis, Davis, CA, \textsuperscript{2}University of British Columbia, Vancouver, BC, Canada

4:15 PM 357 Early pair housing influences the feeding behavior and development of dairy calves.

4:30 PM 358 Epigenetic Differences of Cows Classified with Biased Antibody and Cell Mediated Immune Response Traits.
M. A. Paibomesai\textsuperscript{1,2} and B. Mallard\textsuperscript{1}, \textsuperscript{1}University of Guelph, Guelph, ON, Canada, \textsuperscript{2}Dept Pathobiology, University of Guelph, Guelph, ON, Canada

Graduate Student Competition: ADSA-ASAS Northeast Section Oral

Chair: Kristen E. Govoni, Department of Animal Science, University of Connecticut
2104B

2:00 PM 361 Glucose metabolism by bovine neutrophils characterized by mass spectrometry and [13C6]glucose.
Y. Qu\textsuperscript{1}, B. J. Bequette\textsuperscript{2}, T. H. Elsasser\textsuperscript{2} and K. M. Moyes\textsuperscript{1}, \textsuperscript{1}Department of Animal and Avian Sciences, University of Maryland, College Park, \textsuperscript{2}USDA/ARS Growth Biology Lab, Beltsville, MD
Exploring the Molecular Diversity and Density of the Rumen Microbiome within the Impala (*Aepyceros melampus melampus*) from Pongola, South Africa.

L. M. Cersosimo, B. St.-Pierre, W. van Hoven and A. D. G. Wright, University of Vermont, Burlington, The University of Pretoria, Pretoria, South Africa

Effects of ground flaxseed on milk production, milk composition, and methane emissions in organically-managed Jersey cows during the grazing season.


Farm-level evaluation of implementing feeding best management practices (BMP) on Pennsylvania dairy farms.

H. L. Weeks, T. W. Frederick, L. M. Hagan, K. S. Heyler and A. N. Hristov, Department of Animal Science, The Pennsylvania State University, University Park

The impact of dairy advisory teams on farm improvement in Pennsylvania dairies.

M. H. Buz, L. Holden and R. C. Goodling, The Pennsylvania State University, University Park

Plant-derived Compounds, Trans-cinnamaldehyde and Eugenol, Reduce Adhesion and Invasion of *Staphylococcus aureus* in Bovine Mammary Epithelial Cells in vitro.


Effect of Dietary Supplementation of *Capsicum* Extract on Feed Intake, Milk Production and Composition, Rumen Fermentation, and Rumen Microbial Populations in Dairy Cows.

J. Oh, F. Giallongo, H. L. Weeks, T. W. Frederick, A. N. Hristov and E. H. Wall, Department of Animal Science, The Pennsylvania State University, University Park, Pancosma, Geneva, Switzerland

The effects of CO2 and HEPES buffer on in-vitro chemotaxis assays of bovine neutrophils.

A. M. Barnard, R. Nebenhaus, R. M. Dyer and T. F. Gressley, University of Pennsylvania, University Park

The 2001 Dairy NRC Ration Evaluation Software effectively predicts dietary strong ion and DCAD concentrations in lactating dairy cow diets.

M. E. Iwaniuk and R. A. Erdman, University of Maryland, College Park

### Horse Species

**Chair: Josie Coverdale, Texas A&M University**

**3501F**

Effects of High Starch and Sugar Diets on Postprandial Inflammatory Proteins in Horses.


Evaluation of conjugated linoleic acid supplementation on markers of joint inflammation and metabolism in young horses challenged with lipopolysaccharide.

A. N. Bradbery, J. Coverdale, K. L. Vernon, J. L. Lucia, C. E. Arnold, R. A. Dabareiner, M. K. Kahn, A. A. Millican and T. H. Welsh, Jr, Texas A&M University, College Station, Clemson University, Clemson, SC, Sam Houston State University, Huntsville, TX, Texas A&M University Department of Animal Science, College Station

Age-related effects on markers of inflammation and cartilage metabolism in response to an intra-articular lipopolysaccharide challenge.

M. K. Kahn, J. Coverdale, J. L. Lucia, C. E. Arnold, R. A. Dabareiner, A. Bradbery, A. A. Millican and T. H. Welsh, Texas A&M University, College Station, Sam Houston State University, Huntsville, TX, Clemson University, Clemson, SC, Animal Science, Texas A&M University, College Station

The effect of restricted diet and slow-feed hay nets on body weight and morphometric measurements in adult horses.


J. L. Lucia, D. L. Parker, M. J. Anderson, K. J. Statts, M. M. Beverly, S. F. Kelley and E. D. Lamproch, Sam Houston State University, Huntsville, TX, Cargill Incorporated, Elk River, MN
2:00 PM 404 
Temporary alterations to milking frequency, immediately post-partum, modifies expression of milk synthesis and apoptosis genes in the mammary glands of grasing dairy cows.
T. M. Grala¹, J. K. Kay², J. R. Roche³, A. G. Rius⁴, and C. V. Phyn⁵, ¹DairyNZ, Auckland, New Zealand, ²DairyNZ, Hamilton, New Zealand, ³Present address: University of Tennessee, Knoxville

2:15 PM 405 
Dietary anion-cation difference and day length differently affect milk calcium secretion pathways.
M. Boutinaud¹, A. Bondon¹, A. Narcy², C. Hurtaud³, M. Johan⁴, J. Couedon⁴ and P. Lamberton⁵, ¹INRA, Saint Gilles, France, ²INRA, Nouzilly, France, ³INRA, Le Rheu, France

2:30 PM 406 
Infusion of a 5-hydroxy-L-tryptophan (5-HTP) to late-lactation cows impacts circulating calcium and glucose concentrations.
J. Laporta¹, S. A. E. Moore¹, A. P. Prichard¹, M. Olsen¹, B. P. Schnell¹, S. R. Weaver¹, C. R. Cronick¹, R. M. Bruckmaier² and L. L. Hernandez¹, ¹University of Wisconsin-Madison, Madison, ²Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland

2:45 PM 407 
The dopamine antagonist domperidone increases prolactin concentration and milk production in dairy cows.
P. Lacsasse¹ and S. Ollier¹, Dairy and Swine R&D Centre, Sherbrooke, QC, Canada

3:00 PM 408 
Compensatory feeding of gestating gilts does not affect mammary development of their offspring at puberty.
C. Farmer¹, M. F. Palín¹ and Y. Martel-Kennes2, ¹Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Sherbrooke, QC, Canada, ²La COOP Fédère, Animal Nutrition Division, St-Romuald, QC, Canada

3:15 PM 409 
Comparative 2D-DIGE Proteomic Analysis of Mammary Epithelial Cells during Lactation reveals Protein Signatures for Lactation Persistency and Milk Yield.
J. Janjanam¹, S. Singh¹, M. K. Jena¹, J. K. Kaushik¹, A. K. Dare¹ and A. K. Mohanty¹, National Dairy Research Institute, Karnal, India

3:30 PM 410 
Milk Protein Synthesis is regulated by Lysine and Branched Chain Amino Acid Deficiencies in Lactating Bovine Mammary Glands.
J. Doelman¹, R. V. Curtis¹, M. Carson¹, J. J. M. Kim¹, J. P. Cant¹ and J. A. Metcalf², ¹Nutreco Canada Agresearch, Guelph, ON, Canada, ²Department of Animal & Poultry Science, University of Guelph, Guelph, ON, Canada

3:45 PM 411 
Lysine and BCAA deficiencies decrease abundances of S6K and eIF2Bα in the mammary glands of lactating dairy cows.
J. Doelman¹, R. V. Curtis¹², M. Carson¹, J. J. M. Kim¹, J. A. Metcalf² and J. P. Cant¹, ¹Nutreco Canada Agresearch, Guelph, ON, Canada, ²Department of Animal & Poultry Science, University of Guelph, Guelph, ON, Canada

Nonruminant Nutrition: Nutrient Digestibility of Ingredients for Monogastric Diets

Chair: Cornelis FM de Lange, University of Guelph

2:00 PM 447 
Digestible, Metabolizable, and Net Energy in Diets Containing 0, 15, or 30% Wheat Bran Fed to Growing Pigs.
N. W. Jaworski¹, D. Liu², D. Li³ and H. H. Stein¹, ¹University of Illinois at Urbana-Champaign, Urbana, IL, ²State Key Lab of Animal Nutrition, China Agricultural University, Beijing, China, ³Ministry of Agriculture Feed Industry Centre, Beijing, China

2:15 PM 448 
Effects of feeding barley on growth performance and diet nutrient digestibility of weaned pigs.
Z. Nasir¹, M. G. Young², M. L. Swift³, E. Beltranena⁴ and R. T. Zijlstra¹, ¹University of Alberta, Edmonton, AB, Canada, ²University of Tennessee, Knoxville, TN, ³Instituto de Investigaciones del Cereal, INIA, Valdemorillo, Madrid, Spain, ⁴Department of Animal Science, University of Melbourne, Parkville, Victoria, Australia
Nutrient profile and in-vitro digestibility of tubers in swine.
U. P. Tiwari*, A. K. Singh, H. M. Zaleski and R. Jha, University of Hawaii at Manoa, Honolulu

Nutritional enhancement of dried distiller's grains with solubles via sporobolomyces roseus fermentation.
J. M. Wilson*, Kansas State University, Manhattan

Performance of pigs fed diets containing canola meal produced from high protein or conventional varieties of canola seeds.
Y. Liu*, T. Maison and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana

Physico-Chemical and Nutritional Composition of Sorghum (Sorghum bicolor) as Potential Food and Feed for Humans and Poultry.
M. Mabelebete* and P. Iji*, University of Limpopo, Polokwane, South Africa, University of New England, Armidale, Australia

Break

Comparative digestibility of energy and nutrients in feed ingredients fed to sows and growing pigs.
J. E. Lowell*, Y. Liu and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana

Performance and nutrient digestibility of weaned rabbits fed cooked albizia seed meal (Albizia sp) as replacement for full-fat soybean meal.
A. R. Asafa* and P. Aghaye, Lagos State Polytechnic, Ikorodu, Nigeria

Nutritional Evaluation of Raw Anthonotha Macrophylla Seed Meal as a Replacement For Soybean Meal In The Diet Of Broiler Chickens.
A. H. Akinmutimi*, Michael Okpara University of Agriculture, Umudike, Umuahia, Nigeria

Effect of graded levels of defatted green microalgal inclusion into broiler diets on growth performance and digestibility.
S. K. Gatrell*, T. J. Derksen, E. V. O'Neil and X. G. Lei, Cornell University, Ithaca, NY

Effects of duration of mixing diets with high inclusion of cereal grain co-products on growth performance and carcass measurements in finishing pigs.
M. E. Morts*, J. D. Hancock, K. L. Kohake and J. D. McAtee, Kansas State University, Manhattan

Ruminant Nutrition III

Chair: TBA

Performance of and Digestion in Calves fed Conventional, Moderate, and Aggressive Milk Replacer Programs.

Performance of and digestion in calves fed two levels of milk replacer and functional ingredients.

The effect of solid feed diet on the oral and cross-sucking behaviour of pre-weaned dairy calves.
J. K. Margerison* and C. Hansen, Massey University, Palmerston North, New Zealand

Development of a modified accelerated milk replacer feeding program through 8 weeks of age.

Amino Acid Supplementation of Calf Milk Replacers Containing Bovine Plasma Protein.

The use of highly digestible corn grain in calf starters when calves are fed an accelerated milk replacer.
D. Casper*, S. Srivastava*, M. Kirk*, S. Harris*, K. Koone* and B. M. Strayer*, South Dakota State University, Brookings, South Dakota University, Hyderabad, India

Intensive milk feeding in calves affects growth performance, metabolic and endocrine traits, but not rumen development.
H. M. Hammon*, J. Maciej*, J. Gruse*, E. Wirthgen*, R. Zitnan*, M. Piechotta* and A. Hoeflich*, Leibniz Institute for Farm
Animal Biology (FBN), Dummerstorf, Germany, 2Ligandis GbR, Gülzow, Germany, 3National Centre of Agriculture and Food Nitra, Kosice, Slovakia, 4University of Veterinary Medicine, Hannover, Germany

3:45 PM 620  
**Fish Oil Supplementation on Growth and Health of Pre-Weaning Dairy Calves.**  
R. Panivivat¹, P. Sopannarat¹ and S. Sriwichai²  
1Kasetsart University, Bangkok, Thailand, 2Dairy Promotion and Organization of Thailand, Saraburi, Thailand

4:00 PM 621  
**The Effects of Corn Silage Inclusion in Pre-Weaned Calf Diets.**  
S. I. Kehoe¹, S. L. Retz¹, T. J. Pogreba¹, K. Dill-McFarland² and G. Suen³  
1University of Wisconsin - River Falls, River Falls, WI, 2University of Wisconsin-Madison, Madison

4:15 PM 622  
**Growth Performance and Health of Dairy Calves Fed with Schizochytrium sp.**  
R. Panivivat¹ and K. Taboonpong, Kasetsart University, Bangkok, Thailand

4:30 PM 623  
**Growth Performance, Health, and Immunocompetence of Preweaning Dairy Calves Fed with Stevioside.**  
R. Panivivat², C. Boonkaewwan¹ and S. Sriwichai²  
1Kasetsart University, Bangkok, Thailand, 2Dairy Promotion and Organization of Thailand, Saraburi, Thailand

4:45 PM 624  
**An evaluation of a calf-side betahydroxybutyrate test in dairy calves fed a high plane of nutrition and weaned at six versus eight weeks of age.**  
H. E. Brown¹, E. C. Eckert¹, M. A. Steele² and K. E. Leslie¹  
1University of Guelph, Guelph, ON, Canada, 2Nutreco Canada Agresearch, Guelph, ON, Canada

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**Ruminant Nutrition Symposium: The Rumen Microbiome and Nutritional Health and Production**

**Chair: TBA**

2:00 PM 625  
**How to use data on the microbiome to improve our understanding of nutrition.**  
J. L. Firkins and Z. Yu, The Ohio State University, Columbus

2:45 PM 626  
**The microbiome and health.**  
G. B. Penner¹, E. Khaipour², J. C. Plaizier² and L. L. Guan³  
1University of Saskatchewan, Saskatoon, SK, Canada, 2Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 3Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

3:30 PM 627  
**Use of genomics and transcriptomics to identify strategies to lower ruminal methanogenesis.**  
T. A. McAllister¹, L. L. Guan³, G. Henderson¹, G. Attwood³ and P. H. Janssen¹  
1Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2University of Alberta, Edmonton, AB, Canada, 3AgResearch Limited, Grasslands Research Centre, Palmerston North, New Zealand

4:15 PM 628  
**Increasing condensed corn distillers solubles alters the rumen microbiome of beef cattle.**  
J. C. McCann¹, S. A. Alqarni¹, J. R. Segers¹, D. W. Shike² and J. J. Loor¹  
1University of Illinois, Urbana, 2University of Georgia, Tifton, GA

4:30 PM 629  
**The microbiome composition of the hindgut is altered following weaning in dairy calves: impact of different weaning strategies.**  
S. C. Li¹, M. A. Steele², P. Azevedo¹, M. Carson², J. C. Plaizier², H. Derakhshani¹ and E. Khaipour¹,²  
1Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 2Nutreco Canada Agresearch, Guelph, ON, Canada, 3Department of Medical Microbiology and Infectious Diseases, Winnipeg, MB, Canada

4:45 PM 630  
**Effects of different dry period managements on rumen microbiome composition.**  
H. Khazanehei¹, S. Li¹, J. C. Plaizier² and E. Khaipour²  
1Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 2Department of Medical Microbiology and Infectious Diseases, Winnipeg, MB, Canada
Tuesday, July 22, 2014

POSTER PRESENTATIONS
7:30 AM – 9:15 AM
Exhibit Hall AB

Animal Health: Calf Health

**T001** Immune status of dairy heifer calves in the northern plains of Costa Rica. Year III.
J. A. Elizondo-Salazar1, J. J. Arroyo-Arroyo2, J. Sanchez-Salas3 and J. Heinrichs4, 1Estación Experimental Alfredo Volio Mata. Facultad de Ciencias Agroalimentarias., Universidad de Costa Rica, Costa Rica, 2Universidad de Costa Rica, San José, Costa Rica, 3Cooperativa de Productores de Leche Dos Pinos R.L, San Jose, Costa Rica, 4The Pennsylvania State University, University Park

**T002** Passive transfer of immunity of dairy calves in the central northern region of Costa Rica.
J. A. Elizondo-Salazar1, O. A. Vargas-Villalobos1, L. Noguerol-Solera1 and J. Heinrichs4, 1Estación Experimental Alfredo Volio Mata. Facultad de Ciencias Agroalimentarias., Universidad de Costa Rica, Costa Rica, 2Cooperativa de Productores de Leche Dos Pinos R.L, Alajuela, Costa Rica, 3The Pennsylvania State University, University Park

**T003** Effects of added spray-dried whole colostrum and spray-dried plasma on veal calf health and performance.
D. Wood1, 1The Pennsylvania State University, University Park

**T004** Holstein calves fed non-saleable milk that was pasteurized or raw had decreased incidence of abnormal feces and hematology measures than calves fed accelerated milk replacer.
L. E. Hulbert1, J. A. Noel2, S. C. Trombetta1, S. R. Montgomery3, G. A. Hanzlicek4 and B. J. Bradford1, 1Department of Animal Sciences and Industry, Kansas State University, Manhattan, 2Kansas State University, Manhattan, 3Diagnostic Medicine Pathobiology, College of Veterinary Medicine, Kansas State University, Manhattan

**T005** Effects of Celmanax® Supplementation to Prepartum Dairy Cows on Colostrum Quality and the Subsequent Growth and Health of Their Calves.
C. Campos-Granados1, A. Rojas-Bourrillon1 and C. C. Elrod2, 1University of Costa Rica, San Jose, Costa Rica, 2Vi-COR, Inc., Mason City, IA

**T006** Maternal energy status during mid-gestation affects the immune response in the resultant beef offspring.
A. R. Taylor1, 1, D. A. Mohrhauser1, R. Neiger2, E. J. Blom3, K. R. Underwood1, R. H. Pritchard1, A. E. Wertz-Lutz2, B. P. Holland3 and A. D. Weaver4, 1South Dakota State University, Brookings, 2ADM Alliance Nutrition, Inc., Quincy, IL, 3Merck, Volga, SD, 4South Dakota State University, Rapid City, SD

**T007** Comparison of ivermectin and extended-release eprinomectin deworming treatment on stocker and subsequent feedlot performance and carcass characteristics of fall-born Angus heifers.
C. A. Clark1, 1, B. J. Dedrickson1, J. L. Sorensen1, J. L. Launey1 and P. J. Gunn1, 1Armstrong Memorial Research and Demonstration Farm, Iowa State University, Ames, 2Merical, Duluth, GA, 3Iowa State University, Ames

**T008** Effect of rumen and fecal inocula from calves fed either milk replacer or whole milk fed on intestinal cells and digestive tract microbiota.
M. Terré1, 1, S. Genis1, C. Yunta1, A. Bach2 and A. Arís1, 1IRTA, Caldes de Montbui, Spain, 2Department of Ruminant Production, IRTA, Caldes de Montbui, Spain

**T009** The effect of four antiseptic compounds on umbilical cord healing and infection rates in the first 24 hours in dairy calves from a commercial herd.
A. L. Robinson', L. L. Timms, K. Stalder and H. D. Tyler, Iowa State University, Ames

**T010** Relationship between birth weight and calving ease with passive transfer of immunoglobulins in neonatal beef calves.
J. J. Gaspers1, 1, G. Stokka2, 2, B. W. Neville1, 1 and C. R. Dahlen1, 1North Dakota State University, Fargo, 2North Dakota State University, Cooperstown, ND, 3North Dakota State University, Streeter, ND

ASAS Undergraduate Student Poster Competition

**T011** Effects of supplementing Holstein heifers with dietary melatonin during late gestation on serum antioxidant capacity and anti-Müllerian hormone of offspring.
B. O. Fleming1, K. E. Brockus, C. G. Hart and C. O. Lemley, Mississippi State University, Mississippi State

**T012** Effects of electrostatic particle ionization on hog barn air quality, emissions and pig growth performance.
K. N. Card1, J. A. De Jong1, J. M. DeRouchey1, P. J. Tomlinson1, M. J. Baumgartner2 and Z. Liu1, 1Kansas State University, Manhattan, 2BEI Ag Solutions, Olivia, MN
887 T013 Effects of different cooling interventions on stationary livestock trailers at a commercial packing plant.  
M. Heiller*, L. Edwards-Callaway, R. Bailey, N. Pudenz, M. Klassen, M. J. Ritter, A. Dezeveu and P. J. Rincker,  
Health, Bondurant, IA, *Elanco Animal Health, Dahinda, IL

888 T014 Effects of poor maternal nutrition during gestation on gene expression in liver of offspring.  
K. K. McFadden, M. L. Hoffman, K. N. Peck, S. A. Reed, S. A. Zinn and K. E. Govoni, Department of Animal Science,  
University of Connecticut, Storrs

889 T015 Interleukin-1 beta decreases myoblast fusion in vitro.  
B. E. Sullivan and S. A. Reed, University of Connecticut, Storrs, Department of Animal Science, University of  
Connecticut, Storrs

890 T016 Sperm Maturation (Capacitation) but not Progesterone Reduces the Abundance of a Receptor for Oviduct Glicans.  
R. A. Winters, E. Silva and D. J. Miller, University of Illinois at Urbana-Champaign, Urbana, IL, University of Illinois,  
Urbana

891 T017 Variations In The Expression Of Triglyceride Synthesis Genes In Pigs Provided Enterobacter Cloacae.  
S. J. White, J. A. Carroll, J. A. Thornton, P. R. Broadway, J. G. Wilson and J. R. Donaldson, Mississippi State  
University, Mississippi State, USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, Texas Tech University, Wolfforth,  
TX

892 T018 Gene Set Enrichment Analysis of Residual Feed Intake in Hereford Cattle.  
University, Pullman, University of Missouri, Columbia, Texas A&M University, College Station

893 T019 pH fluctuations in the hindgut of horses relative to meal feeding.  
K. M. DeLano, T. L. Douthit, A. Reeg, N. M. Bello, M. E. Gordon and K. Williamson, Kansas State University,  
Manhattan, Purina Animal Nutrition, LLC, Gray Summit, MO

894 T020 Oral supplementation with vitamin E and fertility in young bulls raised in Brazilian midwest.  
Zervoudakis, M. F. Duarte Junior, P. P. Tsuneda and T. B. Castaldeli, FEDERAL UNIVERSITY OF MATO GROSSO,  
CUIABA, Brazil

895 T021 Polymelia in Holstein Cattle.  
K. D. Moss, F. Avila, B. M. Marron, T. Raudsepp, J. Beever, M. Neupane, S. Parish, J. Kiser, B. Cantrell and H. L.  
Neibergs, Washington State University, Pullman, WA, Texas A&M University, College Station, University of Illinois,  
Urbana, Washington State University, Pullman

896 T022 Effect of supplementation of the middle and freezing with vitamin "E" about: the feasibility and quality of frozen  
bovine semen.  
R. D. Almeida, L. K. Hatamoto-Zervoudakis, M. F. C. Filho, J. T. Zervoudakis, P. P. Tsuneda and T. B. Castaldeli,  
FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil

897 T023 The effects of cutting height and plant maturity on yield and nutritional value of brome forage.  
M. A. Woolsoncroft, S. R. Duncan, A. J. Sexten and A. K. Sexten, Kansas State University, Manhattan

898 T024 Cattle requiring multiple treatments for bovine respiratory disease exhibit decreased capacity to protect against  
histone cytotoxicity.  
J. Matera, B. K. Wilson, J. Hernandez Gifford, C. R. Krehbiel and C. A. Gifford, Oklahoma State University, Stillwater

899 T025 Development of a non-invasive system for monitoring dairy cattle sleep.  
J. M. Klefot, J. L. Murphy, K. D. Donohue, B. F. O'Hara, M. E. Lhamon and J. M. Bewley, University of Kentucky,  
Lexington

900 T026 Associative effects of feeding varying levels of soyhulls to lambs consuming grass hay.  
Institute and State University, Blacksburg

901 T027 Adding Post-Extraction Algal Residue (PEAR) to Cattle Finishing Diets Reduces the Quantity of Fecal Volatile  
Chemicals Often Associated with Feedlot Malodors.  
Science Department, College Station, TX, Texas A&M University, College Station

902 T028 Treatment Response to Bovine Respiratory Disease in Beef Stocker Calves Was Not Positively Affected When Using  
Isoflupredone Acetate as Ancillary Therapy.
The effects of stage of production and implant exposure on feedlot performance, carcass characteristics, and relative mRNA gene expression.
K. E. Larrabee*, B. C. Bernhard, C. L. Maxwell, B. K. Wilson, S. Roberts and C. R. Krebsiel, Oklahoma State University, Stillwater

The effects of corn silage diets on intestinal morphology in dairy calves.

Beef Species: Feedlot and Stocker

The Effect of Good or Poor Residual Feed Intake Sires on Feedlot Heifer Performance and Carcass Characteristics.
K. M. Retallick*, D. B. Faulkner and D. W. Shike, CalPoly, San Luis Obispo, CA, University of Arizona, Oro Valley, AZ, University of Illinois, Urbana

Feed efficiency and carcass traits for Nellore young bulls fed processed soybean grains.
M. C. L. Alves, M. M. Ladeira, D. R. Casagrande, J. R. R. Carvalho, P. D. Teixeira, L. A. Silveira, A. C. Rodrigues and L. R. Santos, Universidade Federal de Lavras, Lavras, Brazil

Supplementing beef cattle finishing diets containing wheat distillers grain with feed enzymes to decrease the ratio of n-6/n-3 fatty acids in meat.
Z. He*, M. He, Y. Zhao*, N. D. Walker, K. A. Beauchemin, T. A. McAllister and W. Yang, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, Key Laboratory for Agro-Ecological Processes in Subtropical Region, Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, China, College of Animal Science, Inner Mongolia Agricultural University, Hohhot, China, AB Vista Feed Ingredients, Marlborough, United Kingdom, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Effects of fat level in distillers grain on finishing feedlot performance and carcass traits.
V. L. Anderson* and C. L. Engel, North Dakota State University, Carrington, ND, Carrington Research Extension Center, North Dakota State University, Carrington, ND

Effects of zilpaterol hydrochloride feeding time on Nellore bulls performance and carcass characteristics.
A. C. R. Dos Santos, Universidade Federal de Lavras, Lavras, Brazil

Influence of Calcium Depletion and Repletion on Beef Tenderness of Steers fed Zilpaterol Hydrochloride.
A. C. R. Dos Santos, Universidade Federal de Lavras, Lavras, Brazil, Sao Paulo / ESALQ, Pirassununga, Brazil, Sao Paulo / ESALQ, Pirassununga, Brazil,Uberlandia, Minas Gerais, Brazil

Influence of stage of production and implant exposure on feedlot performance, carcass characteristics, and relative mRNA gene expression.
S. Miller, M. D. Garcia, R. Walker, T. Page and K. W. Harshborth, Louisiana State University, Baton Rouge, LSU AgCenter, Homer, LA

Evaluation of growth and performance characteristics prior to entering the feedlot as an indicator for contracting Bovine Respiratory Disease.
S. Miller, M. D. Garcia, R. Walker, T. Page and K. W. Harshborth, Louisiana State University, Baton Rouge, LSU AgCenter, Homer, LA

Maximizing Profit in a Feedlot Enterprise Using Systems Analysis Thinking and Linear Programming.

Breeding and Genetics: Applications and Methods in Animal Breeding - Dairy II

Genome-wide association study on dairy cow mortality in three US regions.
S. Tsuruta*, J. Misztal and T. J. Lawlor, University of Georgia, Athens, Holstein Association USA Inc., Brattleboro, VT

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Maximizing Profit in a Feedlot Enterprise Using Systems Analysis Thinking and Linear Programming.
TUESDAY, JULY 22, 2014

Sassari, Sassari, Italy, 1Università Cattolica del Sacro Cuore, Piacenza, Italy, 2Associazione Nazionale Allevatori Raza Bruna, Bussolengo, Italy

945 T043 Determination of single nucleotide polymorphisms associated with subclinical ketosis in Jersey cattle.
R. T. Fugate1, L. H. Dauten2, G. R. Wiggans3 and H. M. White4, 1University of WI, Madison, WI, 2University of Connecticut, Storrs, 3Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD, 4Department of Dairy Science University of Wisconsin, Madison

946 T044 Multi-trait, multi-breed conception rate evaluations.
P. M. VanRaden1, J. R. Wright1, C. Sun2, J. L. Hutchison3 and M. E. Tooker4, 1Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD, 2National Association of Animal Breeders, Columbia, MO

947 T045 Genome-wide genotyping-by-sequencing (GBS) and association analysis of saturated and monounsaturated fatty acids in bovine milk identifies novel markers in Canadian Holstein cows.
E. M. Iheagha-Awemu1, S. O. Peters2, I. G. Imumorin3 and X. Zhao4, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2Berry College, Mount Berry, GA, 3Cornell University, Ithaca, NY, 4McGill University, St Ann De Bell, PQ, Canada

948 T046 Peroxisome proliferator-activated receptor gamma isoforms alter lipogenic gene networks in goat mammary epithelial cells.
H. Shi1, J. Luo2, D. Yao1 and J. Zhu1, 1Northwest A & F University, Yangling, China, 2Northwest A & F University, Yangling, China

949 T047 Association between polymorphisms in the IGF-I, GHR and STAT5A genes and the interval from calving to conception and milk production in Holstein cows.
L. Hax1, A. Schneider, C. Bespalhok Jacometo, P. Mattei, T. da Silva, G. Farina and M. Nunes Corrêa, Federal University of Pelotas, Pelotas, Brazil

950 T048 A polymorphism within the prolactin gene is associated with milk production in Holstein dairy cows managed under summer heat stress conditions in northwest Mexico.
P. Luna1, Instituto Tecnologico de Sonora, Ciudad Obregon, Mexico

Breeding and Genetics: Applications and Methods in Animal Breeding - Poultry

951 T049 Regulation of microRNAs in necrotic enteritis infected two genetically disparate chicken lines.
Y. H. Hong1, Chung-Ang University, Anseong-si, South Korea

952 T050 Changes in Variance of Top SNP Windows over Generations under Selection for Three Traits in Broiler Chicken.
B. D. Fragomeni1, I. Miszta1, D. Lourenço1, I. Aguilar2 and R. Hawken3, 1University of Georgia, Athens, 2Instituto Nacional de Investigación Agropecuaria, Las Brujas, Uruguay, 3Cobb-Vantress Inc., Siloam Springs, AR

953 T051 Relationship between Laying Frequency and Egg Sizes in Quail.
O. T. Abanikannda1, O. N. Ottun and A. O. Leigh, Lagos State University, Ojo-Lagos, Nigeria

954 T052 Phenetic Classification of Six Bird Species based on the Proximate and Mineral Composition of their Eggs.
O. T. Abanikannda1, O. N. Ottun and A. O. Leigh, Lagos State University, Ojo-Lagos, Nigeria

955 T053 Effect OF Shell Thickness on Quail Chick pip-out at Hatching.
O. T. Abanikannda1, A. O. Leigh and O. N. Ottun, Lagos State University, Ojo-Lagos, Nigeria

956 T054 Weight Changes in Quail Eggs During Incubation.
O. T. Abanikannda1, O. N. Ottun and A. O. Leigh, Lagos State University, Ojo-Lagos, Nigeria

Companion Animals: Companion Animal Nutrition

957 T055 Influence of velocity on Weimaraner trotting stride mechanics.
L. Carlisle1, M. C. Nicodemus2 and K. Slater2, 1Mississippi State University, Mississippi State, 2Banfield Pet Hospital, Houston, TX

958 T056 Effects of dietary resistant starch on the fasted plasma metabolome of healthy adult dogs.
A. N. Beloshapka1, K. L. Pappan2 and K. S. Swanson3, 1Department of Animal Sciences, University of Illinois, Urbana, 2Metabolon, Inc., Durham, NC

959 T057 In vitro effect of diets added with fructooligosaccharides and differing in their protein content and digestibility on dog fecal microbiota.
G. Biagi1, M. Grandi and C. Pinna, Department of Veterinary Medical Sciences, University of Bologna, Ozzano Emilia, Italy
972 T058 The modified Atwater equation does not accurately predict diet ME value of premium food in adult cats. K. D. Berendt1,*, A. K. Shovel2,*, M. Guevara1 and R. T. Zijlstra1,1 University of Alberta, Edmonton, AB, Canada,2 Procter & Gamble Pet Care, Mason, OH

973 T059 Association of Idiopathic Epilepsy with a Novel Locus in the Belgian Shepherd. A. M. Oberbauer1 and J. M. Belanger, University of California, Davis, Davis, CA

974 T060 Amino acid and mineral concentrations of whole grains and grain byproducts used in pet foods. A. N. Beloshapka1,*, P. R. Buff1 and K. S. Swanson1,1 Department of Animal Sciences, University of Illinois, Urbana,2 The Nutro Company, Franklin, TN

975 T061 Metabolic Phenotyping Using Mass Spectrometry-Based Metabolomics: A Cross-Sectional Pilot Study of Lean and Overweight Domestic Cats. R. E. Cokeley1, G. R. Seiler1 and J. W. McFadden1,2.1 West Virginia University, Morgantown, W.V, 2Johns Hopkins University, Baltimore, MD

976 T062 Effects of Dietary Energy Restriction on the Hunting Behavior and Home-Range Size of Free-Ranging Domestic Cats. A. N. DeGrave1*, S. K. Carignan and S. E. Kitts-Morgan, Berry College, Mount Berry, GA

977 T063 Differences in the cerebral cortex metabolome of young adult and geriatric dogs. M. R. C. de Godoy1,*, K. L. Pappant1 and K. S. Swanson1,1 Department of Animal Sciences, University of Illinois, Urbana,2 Metabolon, Inc., Research Triangle Park, NC,3 Department of Veterinary Clinical Medicine, Urbana, IL

978 T064 Use of Gelatin as a Strengthening Agent in Dry Extruded Pet Food. A. Simmons1,*, C. G. Aldrich1, T. Zhou1, M. Remund1, T. Putarot1, S. Alavi1, E. Maichelle1 and C. K. Jones1,1 Kansas State University, Manhattan,2 Sao Paulo State University, Sao Jose do Rio Preto, Brazil

Dairy Foods: Technical Poster Session II: Analytical / Processing

1007 T065 Incidence of Thermoduric Bacteria and Spores on Selected Midwest Dairy Farms. K. P. Buehner1,*, S. Anand2 and A. D. Garcia1,1 Dairy Science Department, South Dakota State University, Brookings,2 MidWest Dairy Foods Research Center, South Dakota State University, Brookings

1008 T066 Comparison of Stir Bar Sorptive Extraction and Solid Phase Microextraction for Recovery of Dairy Flavor Compounds. H. H. A. Chang1, R. E. Miracle and M. Drake, Southeast Dairy Foods Research Center, NCSU, Raleigh, NC

1009 T067 Mechanisms and ways for improving heat stability of Micellar Casein Concentrates. S. G. Sutariya1,*, H. G. Patel and G. H. Meletharayil, South Dakota State University, Brookings

1010 T068 Influence of carboxymethylcellulose molecular weight on physicochemical properties and stability of whey protein-stabilized emulsions. S. Zhang1 and B. Varadhanabhuti, University of Missouri, Columbia

1011 T069 Induction of Pitting on Stainless Steel 304 and 316 by Bacillus sporothermodurans. S. Gupta1,2 and S. Anand1,1 South Dakota State University, Brookings,2 MidWest Dairy Foods Research Center, South Dakota State University, Brookings

1012 T070 Protective effect of lactic acid bacteria against H2O2-induced oxidative stress in Caco-2 cells. S. Liu1, C. Man1,*, X. Peng1, W. Zhou1, M. Guo1,2,3 and Y. Jiang1,2,3,1 Department of Food Science, Northeast Agricultural University, Harbin, China,2 Synergetic Innovation Center of Food Safety and Nutrition, Harbin, China,3 National Dairy Engineering and Technology Research Center, Northeast Agricultural University, Harbin, China,4 University of Vermont, Burlington

1013 T071 Fatty Acid Composition of Cultured Butter with Probiotic Lb. Acidophilus La-5 Produced in Winter Time. O. Tsiasaryk1,*, L. Musiy1, O. Golubevs1 and S. Shkaruba1,1 Lviv National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine,2 Ukrmetristandart, Kyiv, Ukraine

1014 T072 Development of Dairy Products Enriched with Healthy Lipids. J. Moats1,2, M. Epp1 and D. Christensen1,1 O&T Farms Ltd., Regina, SK, Canada,2 University of Saskatchewan, Saskatoon, SK, Canada

1015 T073 Evaluation of Dulce de leche produced with different starches. F. Silva1, H. Ferreira1, M. Pinto1, R. Stephani1, A. Carvalhal1,2 and I. Perrone1,1 Federal University of Viçosa, Viçosa, Brazil,2 Gemacom Tech, Jut de Fora, Brazil,3 Federal University of Viçosa, Viçosa, Brazil

1016 T074 Rheological Behaviors of Edible Casein-Based Packaging Films Under Extreme Environmental Conditions, Using Humidity-Controlled Dynamic Mechanical Analysis.
S. Akkurt1, L. M. Bonnaillie2, H. Zhang1 and P. M. Tomasula2, 1Rutgers University, Dept. of Food Science, New Brunswick, NJ, 2Dairy & Functional Foods Research Unit, Eastern Regional Research Center, Agricultural Research Service, United States Department of Agriculture, Wyndmoor, PA

Evaluation of a laboratory-scale batch crystallizer for lactose isolation from deproteinized whey.
S. Beckman1, S. Anand and L. Metzger, Midwest Dairy Foods Research Center, South Dakota State University, Brookings

Dispersibility, Suspension Ability, Solubility, and Gelation Properties of Rehydrated Frozen Highly Concentrated Micellar Casein.
Y. Lu1, D. J. McMahon1 and L. Metzger2, 1Western Dairy Center, Utah State University, Logan, 2Midwest Dairy Foods Research Center, South Dakota State University, Brookings

Extension Education

Potential bull buyers perceive increased value to their operations when purchasing bulls from the Florida Bull Test.

300 D Grazing Discovery Farm.
T. R. Troxel1, M. S. Gadberry1, J. A. Jennings1, S. M. Jones1, K. J. Simon1, J. G. Powell1, D. S. Hubbell, III1 and J. D. Tucker1, 1Department of Animal Science, University of Arkansas, Little Rock, 2Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, 3University of Arkansas Livestock and Forestry Research Station, Batesville

Case study: Fermentation profile, physical form, and starch digestibility of whole-plant corn silage harvested with novel processing.
L. F. Ferrareto1, L. M. Vanderwerff2 and R. D. Shaver1, 1University of Wisconsin, Madison, 2University of Wisconsin, Madison

Initial assessment of producers’ experiences, perceptions and attitudes about mastitis and bulk tank somatic cell count management in the Southeast.
S. M. Schexnayder1, P. D. Krawcewz1, M. Fly1, L. E. Garkovich2, C. S. Petersson-Wolfe3, J. M. Bewley3, S. H. Ward4, G. M. Pighetti4, R. A. Almeida5, M. Arnold6, S. C. Nickerson6, A. DeVries6 and S. P. Oliver6, 1The University of Tennessee, Knoxville, 2University of Kentucky, Lexington, 3Virginia Tech University, Blacksburg, 4Mississippi State University, Mississippi State, 5UGA, Athens, GA, 6University of Florida, Gainesville

The status of milk quality at the start of the Southeast Quality Milk Initiative.
G. M. Pighetti1, C. S. Petersson-Wolfe2, J. M. Bewley3, S. C. Nickerson3, S. H. Ward4, A. DeVries6, P. D. Krawczel1, R. A. Almeida5, M. Fly1, S. M. Schexnayder1, L. E. Garkovich1, M. Arnold6 and S. P. Oliver6, 1The University of Tennessee, Knoxville, 2Virginia Tech University, Blacksburg, 3University of Kentucky, Lexington, 4UGA, Athens, GA, 5Mississippi State University, Mississippi State, 6University of Florida, Gainesville

Hedonic Pricing Models for Angus bulls Sold at Auction following Performance Testing at Oklahoma Panhandle State University.
D. L. Stephens1, P. K. Camfield1 and T. C. Schroeder2, 1Oklahoma Panhandle State University, Goodwell, OK, 2Kansas State University, Manhattan

S. K. Johnson1 and G. Dahlke2, 1Kansas State University, Colby, KS, 2Iowa State University, Ames

Effect of on-farm dairy Beef Quality Assurance (BQA) training on worker knowledge of BQA and welfare-related practices.
A. E. Adams1, J. K. Ahola1, M. Chahine2, A. L. Ohlheiser2 and I. N. Roman-Muniz2, 1Colorado State University, Fort Collins, 2University of Idaho, Twin Falls, ID

Monetary impact of heat stress on dairy and beef industries in the US.

Phosphorus status of grazing beef cattle in Virginia’s Chesapeake Bay watershed.
S. J. Neil1, K. J. Meze1, D. D. Harmon1, J. K. Smith1 and M. A. McCann1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia Tech, Blacksburg

Assessment of farm nutrient management and phosphorus supplementation practices of beef cattle producers in Virginia’s Chesapeake Bay watershed.
S. J. Neil1, K. J. Meze1, D. D. Harmon1, J. K. Smith1 and M. A. McCann1, 1Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia Tech, Blacksburg
1048  T088  An economic impact decision support tool for farm specific estimation of not covering horizontal silos storing corn silage.  
B. A. Wadsworth⁴, D. M. Amaral-Phillips and J. M. Bewley, University of Kentucky, Lexington

1049  T089  A producer assessment of precision dairy farming technology use, usefulness, and pre-purchase considerations.  
M. R. Borchers⁵ and J. M. Bewley, University of Kentucky, Lexington

1050  T090  Sustainable Year-Round Forage Production and Grazing/Browsing Management Education Program.  
U. Karki⁶, L. B. Karki⁷ and N. Gurung⁸, Tuskegee University, Tuskegee, AL, PadmaDal Memorial Foundation, Auburn, AL


1052  T092  Development and utilization of the AI Cowculator: A decision-aid application to determine whether to utilize fixed-time artificial insemination (TAI) or purchase herd sires for natural service.  
V. R. G. Mercadante⁹, D. D. Henry¹, F. M. Ciriaco¹, P. M. Mercadante¹, J. C. Rodgers¹, N. DiLorenzo¹ and G. C. Lamb¹,  
¹University of Florida, Marianna, FL, Zoetis, Florham Park, NJ

S. A. Benz*, R. Christensen⁷ and M. G. Alewynse*, Center for Veterinary Medicine, FDA, Woodbine, MD, Nutrition & Labeling Team, Center for Veterinary Medicine, FDA, Rockville, MD

1054  T094  Persistence of Escherichia coli O157:H7 in feces from cattle fed diets with or without wet distillers grains with solubles.  
E. D. Berry*, J. E. Wells and V. H. Varel, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

1055  T095  Characterization of Shiga toxin-producing Escherichia coli isolated from feces of cattle in commercial feedlots.  
T. W. Alexander⁹*, T. A. McAllister¹, K. Stanford³, T. Reuter² and E. Topp¹, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, Alberta Agriculture and Rural Development, Lethbridge, AB, Canada, Agriculture and Agri-Food Canada, London, ON, Canada

1056  T096  Development of an ultrasensitive aptasensor for the detection of aflatoxin B1.  
X. Guo¹,²,³, F. Wen⁴, N. Zheng¹,²,³, Q. Luo² and J. Wang¹,²,³,¹, Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), China, College of Animal Science and Technology, Xinjiang Agricultural University, Urumchi, China, Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), China, College of Animal Science and Technology, Xinjiang Agricultural University, Urumchi, China

1057  T097  Cytotoxicity induced by ochratoxin A, zearalenone and α-zearalenol: effects of individual and combined treatment.  
H. Wang¹,²,³, N. Zheng¹,²,³, S. Li¹,²,³, F. Li¹ and J. Wang¹,²,³,¹, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), China, College of Animal Science and Technology, Xinjiang Agricultural University, Urumchi, China

1058  T098  Efficacy of various levels of mycotoxin adsorbent to reduce aflatoxin M1 levels in milk of lactation cows fed aflatoxin B1.  
M. Dehghan banadaky¹, R. Motamency² and S. Parhizkar², Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, Azad university, tehran, Iran, University of Tehran, Karaj, Iran

1059  T099  Inhibitory activity of Staphylococcus aureus against Lactococcus spp. isolated from artisanal Minas cheese.  
F. F. Ângelo¹, L. M. Fonesca²,³ and M. A. V. P. Brito⁴, Universidade Federal da Paraíba/CTDAR, João Pessoa, Brazil, Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil, Federal University of Wisconsin-Madison/CAPES Est.Senior 18183-12-3, Madison, WI, EMBRAPA Gado de Leite (CNPGL), Juiz de Fora, Brazil

1060  T100  Microbiological quality and safety of commercial local yogurt products in Giza Governorate- Egypt.  
M. M. Motawee¹ and S. A. Ibrahim¹, National Organization for Drug Control and Research, Giza- Egypt, Egypt, North Carolina A&T State University, Greensboro

1061  T101  Stability of 10 β-lactam antibiotics in raw milk under different storage conditions.  
H. Wang¹,²,³, N. Zheng¹,²,³, F. Wen¹,²,³, H. Wang² and J. Wang¹,²,³,¹, Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, College of Animal Science and Technology, Yangzhou University, Yangzhou, China, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China
1062 T102 Risk Warning of Veterinary Drug Residues in Raw Milk Based on Shewhart Control Chart. 
R. Han1,2,4, N. Zheng1,4, Z. Yu, X. Qu1,2,4, S. Li1,2,4, Y. Zhang1,2,4, X. Zhou1,2,4 and J. Wang1,2,4, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2College of Food Science and Engineering, Qingdao Agricultural University, Qingdao, China, 3Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 4Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

1063 T103 Stability of flavonoids in grape seed and grape marc meal extract (GSGME). M. Würzbach, E. Holl and B. Eckel, Dr. Eckel GmbH, Niederzissen, Germany

1064 T104 Effect of lysozyme or antibiotics on fecal zoonotic pathogens in nursery pigs. J. E. Wells3, E. D. Berry, N. Kalchayanand, L. A. Rempel and W. T. Oliver, USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE

1065 T105 Thermophilic spore forming bacilli: attachment and biofilm formation on stainless steel. M. C. Enes Ribeiro1, G. Theodore Walsh2, M. Lucia Gigante1 and R. Jimenez-Flores2, 1Faculty of Food Engineering, University of Campinas, Campinas, SP, Brazil, 2Dairies Technologies Laboratory Inc., Salinas, CA

1066 T106 The consumer profile of certified beef in the XXI century. M. E. A. Canozzi1, J. Magero1, R. C. T. Mesquita1, J. O. Barcellos2, D. Streit Júnior1 and L. Kindlein1, 1Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, 2Universidade Federal Do Rio Grande Do Sul, Porto Alegre, Brazil

1067 T107 Identification of horsemeat presence in beef commercial butcheries using the Polymerase Chain Reaction (PCR) technique. G. Aranda-Osorio*, Universidad Autonoma Chapingo, Chapingo, Mexico

Forages and Pastures Posters II: Forages in Beef Production Systems

1095 T108 Reducing Winter Feeding Needs in Southern Arkansas Through the Use of Best Management Grazing Principles. B. Stewart1, P. Beck2, L. Sullivan1, M. Sims1 and J. Jennings3, 1University of Arkansas SWREC, Hope, AR, 2Department of Animal Science, University of Arkansas, Little Rock

1096 T109 Bale diameter and feeder design effects on hay waste. D. Tomczak2, University of Missouri, Columbia

1097 T110 Forage and shade type effects on stocker heifers’ performance. G. Scaglia*, LSU AgCenter, Jeanerette, LA

1098 T111 Monensin Supplementation Levels Effects on Rumen Fluid and Blood Parameters of Steers Receiving Warm-Season Grass. J. M. B. Vendramini1*, R. F. Cooke2, A. D. Aguilar1, O. F. R. Cunha1, A. C. J. Pereira2, P. D. S. Ferreira2 and C. B. Zactiti1, 1UF/IFAS Range Cattle Research and Education Center, Ona, FL, 2Oregon State University - EOARC Burns, Burns, OR, 3Elanco Animal Health, Greenfield, IN

1099 T112 Polymers molecularly imprinted with ergotamine: recognition properties to template and related alkaloids. M. B. Kuduspo1, E. S. Vanzant2, A. Yiannikouris1, K. A. Dawson3 and K. R. McLeod3, 1Elanco Animal Health, Greenfield, IN, 2Purdue University - College of Agriculture - Animal and Food Sciences, West Lafayette, IN, 3Alltech-University of Kentucky Nutrition Research Alliance, Lexington, KY

1100 T113 Silage and hay of Stylosanthes Campo Grande associated or not to corn silage: nutrient intake and performance of beef cattle. L. D. Rufino1, K. G. Ribeiro1, S. C. Valadares Filho1,2, R. M. Martins3, T. F. Bernardes4, J. A. G. Azevedo3 and O. G. Pereira2, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 3University of Florida, Department of Animal Sciences, Gainesville, FL, 4Universidade Federal de Lavras, Lavras, Minas Gerais, Brazil, 5Universidade Estadual de Santa Cruz, Ilheus, Bahia, Brazil

1101 T114 Evaluation of nutrient intake, in situ disappearance, and fermentation characteristics of fermented Chaffhaye with alfalfa hay and prairie grass hay in steers. K. K. Guatam1, B. S. Obeidat, S. J. Trojan and M. A. Ballou, Texas Tech University, Department of Animal and Food Sciences, Lubbock, TX

1102 T115 Ruminal fermentation characteristics of beef steers grazing grass monocultures versus low- and high-tannin grass-legume mixtures. C. T. Noviandi1,2, T. J. Bingham1, J. S. Eun1 and D. R. ZoBell1, B. L. Waldron2 and M. D. Peel3, 1Utah State University, Logan, 2Universitas Gadjah Mada, Yogyakarta, Indonesia, 3Forage and Range Research Laboratory, USDA-ARS, Logan, UT
Agronomic Assessment and Beef Cattle Nutrition Suitability of 31 Forage Type Annual Crops in the Peace Region of Alberta.
T. A. Omokanye, M. Hobin, I. A. Adeyinka and M. Benoit, 1Peace Country Beef & Forage Association, Grande Prairie Regional College, Fairview, AB, Canada, 2National Animal Production Research Institute, Shika-Zaria, Nigeria

Growth & Development Poster I

Body weight adjustments for feeding status and pregnant or non-pregnant condition in beef cows.
M. P. Gionbelli, 1 S. Duarte, 1 S. C. Valadares Filho, 1 E. Detmann, 1 M. L. Chizzotti, 1 T. R. Gionbelli, F. C. Rodrigues, D. Zanetti and M. G. Machado, 1 Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Instituto Nacional de Ciência e Tecnologia - Ciência Animal, Viçosa, Minas Gerais, Brazil

CHANGES IN PERFORMANCE AND IMMUNE RESPONSE IN DAIRY CALVES OFFERED MILK REPLACER OR RAW MILK.
C. Yunta, A. Bach and M. Terré, 1 IRTA, Caldes de Montbui, Spain, 2Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 3ICREA, Barcelona, Spain

Comparison of Albumin Depleted and Whole Serum Samples for Biomarker Identification.
J. K. Grubbs, C. K. Tuggle, J. C. M. Dekkers and S. M. Lonergan, Iowa State University, Ames

Comparison of radial immunodiffusion and enzyme-linked immunosorbant assay for quantification of bovine IgG in colostrum and plasma.
A. M. Smith, S. L. Gelsinger, C. M. Jones and A. J. Heinrichs, The Pennsylvania State University, University Park

Effect of fish oil and thyme on nutrient digestibility, chewing activity, and rumen metabolites of Mahabadi goat kids.
A. Hozhabri, M. Ganjkhaniou, A. Zali, A. Emami, A. Akbari-Afjani and M. Dehghan-Banadaky, 1 University of Tehran, Tehran, Iran, 2University of Birjand, Birjand, Iran, 3University of Zanjan, Zanjan, Iran

Effect of heat treatment and bacterial population of colostrum on passive transfer of IgG.
S. L. Gelsinger and A. J. Heinrichs, The Pennsylvania State University, University Park

Effect of omega-3 fatty acids and thyme essence on carcass traits of Mahabadi kids.
A. Hozhabri, A. Zali, M. Ganjkhaniou, A. Emami, A. Akbari-Afjani and M. Dehghan-Banadaky, 1 University of Tehran, Tehran, Iran, 2University of Birjand, Birjand, Iran, 3University of Zanjan, Zanjan, Iran

Effect of stage of pregnancy, maternal feeding level and fetal sex on fetal gut length in Holstein × Zebu cows.
T. R. Gionbelli, P. P. Rotta, C. M. Veloso, 2 M. P. Gionbelli, 2 S. de Campos Valadares Filho, 2 M. A. Novaes, J. V. Souza, J. S. Santos, L. C. Lacerda and C. S. Cunha, 1 Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Instituto Nacional de Ciência e Tecnologia - Ciência Animal, Viçosa, Minas Gerais, Brazil

Intrauterine position affects fetal weight and crown-rump length throughout gestation.
Y. D. Jung, Y. L. Ma and M. D. Lindemann, University of Kentucky, Lexington

Milk diet but not quecetin intake affects postprandial glucose metabolism in neonatal calves.
J. Gruse, S. Görs, W. Otten, J. M. Weitzel, S. Wolffram, C. C. Metges and H. M. Hammon, 1, 2Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 1Institute of Animal Nutrition and Physiology, University of Kiel, Kiel, Germany

Ontogenic gene expression profiles in pig hepatogenesis.
J. Kwinkiewicz, 1, 2 T. J. Caperna, 1 T. G. Ramsay, H. D. Guthrie, C. C. Talbot, L. L. Schreier and L. A. Blomberg, 1 USDA-ARS-BARC, Beltsville, MD, 2The Johns Hopkins School of Medicine, Baltimore, MD

Production of bioactive porcine mutant myostatin propeptide/Fc fusion protein in Escherichia Coli.
S. B. Lee, S. K. Park and Y. S. Kim, 1 University of Hawaii, Honolulu, HI, 2National Institute of Animal Science, RDA, Suwon, South Korea

Short- and medium-term changes in performance and metabolism of dairy calves offered different amounts of milk replacer.
C. Yunta, M. Terré and A. Bach, 1, 2, 3 IRTA, Caldes de Montbui, Spain, 3ICREA, Barcelona, Spain, 3Department of Ruminant Production, IRTA, Caldes de Montbui, Spain

Stabilization of intestinal mast cells at weaning improves performance of early-weaned pigs.
A. Merca, M. G. Teo, J. Chavé, A. J. Moeser and I. R. Ipharraguerre, 1 Lucta S.A., Montornès del Vallès, Spain, 2North Carolina State University, Raleigh

The Effect of Essential Oil/Botanical Product on Growth and Performance of Calves Fed Milk Replacer.
B. L. Miller, T. Earleywine, W. S. Bowen Yoho and T. E. Johnson, 1 Land O'Lakes - Purina Feed LLC, Gray Summit, MO, 2Land O'Lakes Animal Milk Products, Shoreview, MN, 3Land O'Lakes, Inc., Webster City, IA
The Effects of Feeding Strategy and Housing Management on Intake and Growth Performance of Holstein Calves from Birth through Weaning.
H. M. Gauthier1, S. E. Williams1, D. M. Shenk1, C. S. Ballard2, K. M. Morrill2 and H. M. Dann1, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Cornell University, Ithaca, NY

The impact of in utero heat stress and nutrient restriction on progeny body composition.
J. S. Johnson1,1, M. Abujamieh1,1, M. Sanz Fernandez2, J. T. Seiber1, S. K. Stoakes1, A. F. Keating1, J. W. Ross1, J. T. Selby1, R. P. Rhoads2 and L. H. Baumgard1, 1Iowa State University, Ames, 2Virginia Tech, Blacksburg

Weight, height and relative accuracy indicators as a management tool for reducing age at first breeding and calving of dairy heifers.
M. Duplessis1,2, R. Lacroix1, R. I. Cud3, D. E. Santschi2 and D. M. Lefebvre2, 1Université Laval, Département des sciences animales, Québec, QC, Canada, 2Valacta, Ste-Anne-de-Bellevue, QC, Canada, 3McGill University, Department of Animal Science, Ste-Anne-de-Bellevue, QC, Canada

Growth and health of pre-weaned Holstein dairy heifers fed PROTERNATIVE® SF in combination with LEVUCELL® S.
D. L. Gadeken1,1, A. D. Garcia2, F. Díaz-Royón3, T. Erickson1 and A. Aguilar1, 1South Dakota State University, Brookings, 2Dairy Science Department, South Dakota State University, Brookings, 3Lallemand, Martinsville, IN

**Horse Species I**

Glucose-Insulin homeostasis and characterization of proteins involved in glucose uptake signaling in equine skeletal muscle.
R. C. Avenatti1, K. Malinowski and K. H. McKeever, Rutgers Equine Science Center, New Brunswick, NJ

Splanchnic Extraction of Phenylalanine in Adult Thoroughbred Mares Fed Two Different Levels of Threonine.
S. Tanner, T. Barnes, K. Cybulak and K. L. Urschel1, University of Kentucky, Lexington

Effects of a docosahexaenoic acid -rich algae supplement on plasma amino acid levels in healthy, mature horses after prolonged treatment with dexamethasone.
R. A. Williams1, K. L. Urschel1, R. E. Schaeffer1 and K. M. Brennan1,1, 1Alltech Inc., Nicholasville, KY, 2University of Kentucky, Lexington

Evaluating the expression of microRNA miR-1 and miR-133 in the muscle of horses fed a docosahexaenoic acid -rich algae supplement after prolonged dexamethasone treatment.

The effects of abrupt dietary alterations on equine cecal pH.
A. Reeg3, T. Douthit1, K. M. DeLano3, M. E. Gordon2, M. M. Raghavendra Rao1 and K. Williamson3, 1Kansas State University, Manhattan, 2Purina Animal Nutrition, LLC, Gray Summit, MO

Utilizing fecal pH to predict cecal pH in the equine.
C. J. Douthit1, T. Douthit1, A. Reeg3, N. M. Bello1, M. E. Gordon2 and K. Williamson3, 1Kansas State University, Manhattan, 2Purina Animal Nutrition, LLC, Gray Summit, MO

Comparison of ultrasound transducers to determine rump fat thickness in mature horses at maintenance.
K. J. Stutts1, J. L. Lucia, M. J. Anderson, M. M. Beverly and S. F. Kelley, Sam Houston State University, Huntsville, TX

On-farm Tapeworm Testing in Horses.
N. C. Whitley1, R. Kaplan1, K. Moultoun1, S. B. Routh1, R. Franco1 and R. K. Splan1, 1North Carolina A&T State University, Greensboro, 2University of Georgia, Athens, 3Virginia Tech, Middleburg, VA

**International Animal Production**

Handbook for livestock research on smallholder farms in developing countries.
A. L. Goetsch1, American Institute for Goat Research, Langston University, Langston, OK

Reproductive Performance in United Kingdom Holstein Dairies by Geographic Region.
J. Hildon1, C. Vergara2 and H. Lopez1, 1Genus ABS, Stapeley, United Kingdom, 2ABS Global, DeForest, WI, 3ABS Global Inc., DeForest, WI

Crossbreeding effects for body weight and carcass characteristics in a 3-breed dialled cross.
D. Norris1, L. Tyasi1 and J. Ng’ambi1, 1University of Limpopo, Polokwane, South Africa, 2University of Limpopo, Sovenga, South Africa

Total Bacteria Counting Profile of Raw Milk in Minas Gerais State According to the Storage System.
A. G. Fernandes1, L. M. Fonseca2,2, M. P. Cerqueira2, M. O. Leite1, M. C. P. P. Oliveira2, R. M. Longo2, G. C. Ribeiro2, C. F. A. M. Penna2 and M. R. Souza2, 1Ministry of Agriculture, Belo Horizonte, Brazil, 2Universidade Federal de Minas Gerais
Meat Science & Muscle Biology Posters II

1220 T151 Characterization of Cattle Manure Value Chains in South-Central Vietnam.
K. C. McRoberts\textsuperscript{1}, D. Parsons\textsuperscript{2}, C. F. Nicholson\textsuperscript{1}, L. V. Nam\textsuperscript{3} and D. J. R. Cherney\textsuperscript{1}, \textsuperscript{1}Cornell University, Ithaca, NY, \textsuperscript{2}University of Tasmania, Hobart, Australia, \textsuperscript{3}The Pennsylvania State University, University Park, \textsuperscript{4}Hue University of Agriculture and Forestry, Hue, Vietnam

1221 T152 Selenium Concentration in Blood, Milk and Urine in Grazing Jersey Herds in Costa Rica.
A. Saborio-Montero\textsuperscript{1}, M. Alfaro-Cascante\textsuperscript{2}, F. Granados-Chinchilla\textsuperscript{2} and A. Molina-Alvarado\textsuperscript{1}, \textsuperscript{1}Centro de Investigaciones en Nutrición Animal y Escuela de Zootecnia, Universidad de Costa Rica, San José, Costa Rica, \textsuperscript{2}Centro de Investigaciones en Nutrición Animal, Universidad de Costa Rica, San José, Costa Rica

1222 T153 Effect of the inclusion of plant extracts, vitamins and their association on biological efficiency, carcass length, total beef cuts, tissue composition and carcass muscularity of Nellore cattle.
M. B. Silva\textsuperscript{1}, A. M. Jorge\textsuperscript{1}, F. D. Resende\textsuperscript{1}, G. R. Siqueira\textsuperscript{1}, G. F. Berti\textsuperscript{1}, J. M. B. Benatti\textsuperscript{1}, C. L. Francisco\textsuperscript{1} and D. C. M. Silva\textsuperscript{1}, \textsuperscript{1}Universidade Estadual Paulista - FMVZ, Botucatu, Brazil, 

1223 T154 Pearson's correlation between fatty acid profile and gene expression of transcription factors and lipogenic enzymes in the muscle of young bulls fed soybean or cottonseed, with or without vitamin E.
M. M. Ladeira\textsuperscript{1}, D. M. Oliveira\textsuperscript{1}, A. Chalfun Junior\textsuperscript{1}, M. L. Chizzotti\textsuperscript{1}, P. D. Teixeira\textsuperscript{1} and T. C. Coelho\textsuperscript{1}, \textsuperscript{1}Universidade Federal de Lavras, Lavras, Brazil, \textsuperscript{2}Universidade Federal de Viçosa, Viçosa, Brazil

1224 T155 Effect of functional oils and high levels of glycerine in the diet of Puruná bulls finished in a feedlot on fatty acid composition in the Longissimus muscle grilled.
F. Zawadzki\textsuperscript{1}, D. C. Rivaroli\textsuperscript{1}, A. Guerrero\textsuperscript{1}, J. A. Torrecillas\textsuperscript{1}, C. A. Fugita\textsuperscript{1}, J. Torrent\textsuperscript{1} and I. N. D. Prado\textsuperscript{1}, \textsuperscript{1}State University of Maringá, Maringá, Brazil, \textsuperscript{2}Universidade Estadual Paulista - FMVZ, Botucatu, Brazil, \textsuperscript{3}Oligo Basics USA LLC., Chanhassen, MN

1225 T156 Effects of dietary rolled barley grain processed by lactic and citric acid on meat quality in feedlot cattle.
M. Nematpoor\textsuperscript{1}, K. Rezayazdi\textsuperscript{1} and M. Dehghan-Banadaky\textsuperscript{1}, \textsuperscript{1}University of Tehran, Karaj, Iran, \textsuperscript{2}Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, \textsuperscript{3}University of Tehran, Tehran, Iran

1226 T157 Natural additives in the diet of bulls (Angus vs. Nellore) finished in feedlot: fatty acids composition.
C. A. Fugita\textsuperscript{1}, R. Prado, I. N. D. Prado, F. Zawadzki, C. Eiras, M. Valero and R. Passetti, State University of Maringá, Maringá, Brazil

1227 T158 Effects of tannins extract addition in to the diet on physicochemical characteristics of meat from finishing bulls.
B. O. Lopez\textsuperscript{1}, M. A. Mariezcurr\textsuperscript{1}, M. D. Mariezcurr\textsuperscript{1} and R. Barajas\textsuperscript{1}, \textsuperscript{1}Universidad Autónoma del Estado de México, Toluca, Mexico, \textsuperscript{2}Universidad Autónoma de Estado de México, Toluca, Mexico, \textsuperscript{3}FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico

1228 T159 Effect of polymorphisms in the DECR1 and LDHB genes on beef color stability.
J. D. Neal\textsuperscript{1}, J. W. Buchanan and R. G. Mateescu, Oklahoma State University, Stillwater

1229 T160 Meat Quality In Yearling Bulls Fattened In Three Production Systems From Mexican Dry Tropic.
G. Corral-Flores\textsuperscript{1}, C. Rodriguez-Muela\textsuperscript{1}, A. Flores-Marinellarena\textsuperscript{1}, J. A. Ramirez-Godinez\textsuperscript{1}, F. S. Solorio\textsuperscript{1} and C. R. Duran\textsuperscript{1}, \textsuperscript{1}Universidad Autónoma de Chihuahua, Chihuahua, Mexico, \textsuperscript{2}Universidad Autónoma de Yucatán, Mérida, Mexico, \textsuperscript{3}universidad Autónoma de Chihuahua, Chihuahua, Mexico
TUESDAY, JULY 22, 2014

1258 T161 Effect of diet without forage on beef quality in Bos Taurus and Bos Indicus young bulls.
M. L. Chizzotti1,2, P. D. Teixeira2, M. M. Ladeira2, J. R. R. Carvalho2, K. C. Busato2, R. A. Gomes2, A. C. Rodrigues2 and M. C. L. Alves2, 1Universidade Federal de Viçosa, Viçosa, Brazil, 2Universidade Federal de Lavras, Lavras, Brazil

1259 T162 Prediction of lamb carcass backfat thickness by skinfold measurement.
H. A. Ricardo1,2 and R. O. Roça2,1 Grande Dourados Federal University (UFGD), Dourados, Brazil, 2São Paulo State University (FCA/UNESP), Botucatu, Brazil

1260 T163 Carcass traits and meat quality of goat kids supplemented with chromium-methionine.
A. Emami1, M. Ganjkhanlou1, A. Zali1 and M. Dehghan-Banadak2, 1University of Birjand, Birjand, Iran, 2University of Tehran, Tehran, Iran

1261 T164 Effect of high level of copper on meat quality in Iranian Mahabadi goat kids.
M. Ganjkhanlou1, A. Zali1, A. Hatefi1, A. Emami2, A. Akbari-Afjani1 and M. Dehghan-Banadak2, 1University of Tehran, Tehran, Iran, 2University of Birjand, Birjand, Iran, 3University of Zanjan, Zanjan, Iran

1262 T165 Effect of fish oil and thyme on meat quality and meat oxidative stability of Mahabadi kids.
A. Hozhabri1, M. Ganjkhanlou1, A. Zali1, A. Emami2, A. Akbari-Afjani1 and M. Dehghan-Banadak2, 1University of Tehran, Tehran, Iran, 2University of Birjand, Birjand, Iran, 3University of Zanjan, Zanjan, Iran

1263 T166 Effect of fish oil and thyme on performance, blood metabolites, meat sensory of Mahabadi kids.
A. Hozhabri1, A. Zali1, M. Ganjkhanlou1, A. Emami2, A. Akbari-Afjani1 and M. Dehghan-Banadak2, 1University of Tehran, Tehran, Iran, 2University of Birjand, Birjand, Iran, 3University of Zanjan, Zanjan, Iran

Milk Protein and Enzymes

1278 T167 Separation and quantification of major milk proteins in different species by reversed phase high performance liquid chromatography.
L. Ma, D. P. Bu1, J. Q. Wang and J. T. Chen, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1279 T168 Size distribution of casein micelles in milk from dairy cows with different crossbreeding levels of Holstein-Zebu cattle.
D. R. Freitas1, M. M. Santoro1, F. N. Souza2, C. V. Ladeira1, M. O. Leite2, C. F. A. M. Penna2, S. A. Diniz1, M. X. Silva1, J. P. Haddad1, L. M. Fonseca1 and M. P. Cerqueira2, 1Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 2Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil

1280 T169 Comparative analysis of immunoglobulin and lactoferrin in bovine milk from different species.
J. T. Chen1,2, L. Ma1, J. Q. Wang1, Y. X. Yang1 and D. P. Bu1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2College of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China

1281 T170 Effect of thermal conditions on the concentration of biological active whey protein in cow milk.
J. T. Chen1,2, L. Ma1, D. P. Bu1, Y. X. Yang1 and J. Q. Wang1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2College of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China

1282 T171 Effect of extraction methods on the 2-DE map of whey proteome in cow milk.
J. T. Chen1,2, L. Ma1, D. P. Bu1, Y. X. Yang1 and J. Q. Wang1, 1Heilongjiang Bayi Agricultural University, Daqing, China, 2State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1283 T172 Effect of metabolic acidosis in lactating dairy cows on concentration of milk proteins.
C. M. de Magalhães Rodrigues Martins, K. C. Welter, M. A. Arcari, C. A. Fernandes de Oliveira, J. L. Golçalves, V. L. Schwartzwald, A. Saran Neto and M. Veiga dos Santos, University of São Paulo, Pirassununga, Brazil

1284 T173 Process Optimization For Production Of Whey Protein Hydrolysate From Cheese Whey Having Antioxidant Property.
A. S., B. Mann, R. Sharma and R. Bajaj, National Dairy Research Institute, Karnal, India

1285 T174 The Effect of Heat and Extraction Technique on beta-Lactoglobulin Hydrolysis.
C. Kembel1 and R. Jimenez-Flores2, 1California Polytechnic State University, San Luis Obispo, CA, 2Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, CA

1286 T175 Evaluation of the viscosity profile during simulated conditions of thermal processing.
A. Souza1, L. C. Junior2, R. Stephens1, M. Pinto2, A. Carvalho3, I. Perrone4 and R. Costa2, 1Gemacom Tech, Juiz de Fora, Brazil, 2EPAMIG, Juiz de Fora, Brazil, 3Fedarl University of Viçosa, Viçosa, Brazil, 4Federal University of Viçosa, Viçosa, Brazil
Viscosity Measurement of Solutions Composed by Whey Protein Using a Rapid Viscosity Analyser (RVA).
M. Alves¹, M. Martins¹, P. H. Junior², R. Moreira¹, G. Mendes¹, M. Pinto¹, I. Perrone¹ and A. Carvalho¹,², ¹Federal University of Viçosa, Viçosa, Brazil, ²Federi University of Viçosa, Viçosa, Brazil

Nonruminant Nutrition: The Impact of Feed Additives on the Health and Performance of Swine and Poultry

Evaluating the toxicity of metabolites derived from the trichothecene biotransformation using Biomin® BBSH 797 in vitro.
S. Schaumberger³ and U. Hofstetter³, ²BIOMIN Holding GmbH, Herzogenburg, Austria, ²Biomin Holding GmbH, Herzogenburg, Austria

Effects of dietary supplementation of ß-mannanase on ileal digestibility of fiber and viscosity of jejunal digesta in nursery pigs fed corn and soybean meal-based diets.
I. Park¹, T. J. Pasquetti¹,² and S. W. Kim¹, ¹North Carolina State University, Raleigh, ²Bolsista do, CNPq, Brazil

Effects of dietary supplementation of selenium-enriched probiotics on productive performance and intestinal microflora of weanling pigs raised under high ambient temperature.
C. Lv¹, T. Wang², S. F. Liao² and K. Huang¹, ¹Nanjing Agricultural University, Nanjing, Jiangsu, China, ²Mississippi State University, Mississippi State

Growth performance and carcass characteristics of pigs fed high-fiber diets supplemented with Bacillus spp. expressing multi-enzyme activities.
A. Owusu-Asiedu¹, R. Lizardo¹, J. Brufau¹ and A. Awati¹, ¹DuPont Industrial Biosciences - Danisco Animal Nutrition, Marlborough, Wiltshire, United Kingdom, ²IRTA-Mas de Bover, Constanti, Tarragona, Spain

Effects of star anise (illycium verum) on growing performance and antioxidant status of sows and nursing piglets.
G. Y. Wang¹, C. Yang², Y. X. Guo¹, Z. Yang³ and Y. Wang⁴, ¹College of Animal science, Shandong Agricultural University, Tai-an, China, ²College of Life science, Shandong Agricultural University, taian, China, ³College of Animal science, Shandong Agricultural University, taian, China, ⁴Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

The effects of Calibrin®-Z or a Calibrin-Z-based blended product on post-weaning performance of nursery pigs.
S. L. Johnston¹, F. Chi¹, S. Ching¹, R. Cravens¹ and O. Adeola¹, ¹Amlan International, Chicago, IL, ²Purdue University, West Lafayette, IN

Nutrient digestibility of rice bran, with or without exogen enzymes, for weaned piglets.
J. C. Dadalt¹, G. D. V. Polycarpo, C. Gallardo, P. D. A. P. Ribeiro, B. Alves and M. A. D. T. Neto, University of São Paulo - USP, Pirassununga, Brazil

The improvements in growth, bone mineral status and nutrient digestibility in pigs following the addition of phytase is accompanied by modifications in ileal nutrient transporters.
S. Vigors¹, T. Sweeney¹, D. N. Doyle¹, C. J. O'Shea¹ and J. V. O'Doherty¹, ¹School of Agriculture and Food Science, University of College Dublin, Dublin, Ireland, ²College of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland

Effects of bromelain supplementation on growth performance, nutrient digestibility, blood profiles, fecal score, fecal microbial shedding, feed score, and fecal noxious gas emission in weaning pigs.
M. M. Hossain¹, H. L. Li and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

Effect of Nutriifen Supplementation with Different Levels of Metabolic Energy on Growth Performance, Nutrient Digestibility, Meat Quality, Blood Profile, Excreta Microflora, and Excreta Gas Emission of Broiler Chickens.
H. Shin, A. Hosseinoud and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

Effect of fermented organic rare earth (ORE) on growth performance, nutrient digestibility, blood profiles, meat quality, relative organ weight, excreta microflora, and noxious gas emission in broiler chickens.
Y. Liu, S. D. Upadhyaya and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

Apparent total tract digestibility and ileal digestibility of dry matter, nitrogen, energy and amino acids in conventional, Bacillus subtilis fermented and enzyme treated soybean meal fed to weanling pigs.
H. Yun, E. Balolong Jr. and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

Effect of bromelain supplementation on growth performance, nutrient digestibility, blood profiles, fecal score, fecal microflora and noxious gas emission in sows and piglets.
M. Jung, Y. Lei and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

Effect of CALSPORIN® on growth performance, nutrients digestibility, organ weight, meat quality and excreta and intestinal microflora and slurry noxious gas emission in broiler chickens.
H. Beak, H. L. Li and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea
Evaluation of Korean aged garlic extract (AGE) by Leuconostoc citreum SK2556 on production achievement, meat quality, relative organ weight, targeted Escherichia coli colony, slurry gas emission and hematological profiles in broilers.
J. W. Park, S. D. Upadhyay and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

The effect of vitality mineral liquid complex on production performance, nutrient digestibility, egg quality and excreta microflora in laying hens.
M. Mohammadi Gheisar, J. P. Lee and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

Effects of Nutrifen on Growth Performance, Nutrient Digestibility, Blood Profiles, Fecal Microflora, Fecal Gas Emission, and Fecal Score in Weanling Pigs.
D. Jung*, H. L. Li and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

Effect of rare earth element-yeast on egg production, nutrient digestibility, egg quality, blood profiles, excreta gas emission, and excreta microbiota in laying hens.
J. H. Cho1, L. Cai and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

Effects of Bacillus subtilis on growth performance, relative organ weight, meat quality, salmonella population, and blood profiles in broilers.
J. H. Cho1, M. Begum and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

The effect of salicornia herbaeacea and dendoropanaxmorfibera on the growth performance, meat quality, fecal microbial population and fecal noxious gas emission in broilers.
J. P. Lee, M. M. Hossain and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

The effect of salmonella inhibitors supplementation on egg production, egg quality, blood profiles, and excreta salmonella in laying hens.
J. H. Cho*, H. Shin and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

Feed additives affects RNA expression in the brush border membrane in broilers.
M. F. Fernandez-Alarcon1,2, J. P. Steibel2,3, L. S. Antonio1, R. L. Furlan4 and L. R. Furlan4,1,3,4,1
1Department of Animal Morphology and Physiology, Sao Paulo State University, Jaboticabal, SP, Brazil, 2Michigan State University, East Lansing, 3Department of Fishery and Wildlife, Michigan State University, East Lansing, 4Department of Biological Sciences – Biochemistry, University of Sao Paulo, Bauru, SP, Brazil, 4Aquaculture Center, Sao Paulo State University, Jaboticabal, SP, Brazil

Apparent digestibility of wheat bran nutrients with or without exogen enzymes addition in weaned piglets.
J. C. Dadalt1, P. D. A. P. Ribeiro, G. D. V. Polycarpo, C. Gallardo, G. D. Ricci and M. A. D. T. Neto, University of Sao Paulo - USP, Pirassununga, Brazil

Evaluating the effects of Salicornia extract on performance, egg quality and blood profile of laying hens.
I. H. Kim*, H. L. Li and M. M. Hossain, Department of Animal Science, Dankook University, Cheonan, South Korea

Effect of material bioconversion natural complex on the growth performance, nutrient digestibility, fecal microbiota, fecal score, fecal moisture and pH in weanling pigs.
M. Jung, Y. Lei and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

Effects of microencapsulated Enterococcus fæcalis and enzyme supplementation on piglet response to an Escherichia coli (K88) challenge.
H. S. Chen1,2, D. E. Velayudhan12, A. K. Li3, Y. Z. Feng1, D. Lia1, Y. L. Yin4 and C. M. Nyachoti1, 1University of Manitoba, Winnipeg, MB, Canada, 2Institute of Animal Husbandry, Harbin, China, 3Academy of State Administration of Grain, Beijing, China, 4Institute of Subtropical Agriculture, Chinese Academy of Sciences, Changsha, China

Sodium Alginate Addition Improves Water Stability and Utilization of Extrudated Feed for Farmed Saltwater Crocodiles (C. porosus).
M. Francis1, T. J. Wester2, P. C. H. Morel1 and B. H. P. Wilkinson2, 1Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Palmerston North, New Zealand, 2Institute of Food, Nutrition and Human Health, Massey University, Palmerston North, New Zealand

Impact of allicin on enzyme activity, cytokine secretion, and gene expression dynamics in oxidative- and endotoxin-stressed porcine intestinal epithelial cells.
N. L. Horn2, G. Miller2, K. M. Ajiwoun2 and O. Adeola1, 1Department of Animal Sciences, Purdue University, West Lafayette, IN, 2Biomatrix, Princeton, MN

Evaluation of a new probiotic strain of Bifidobacterium longum subsp. infantis CECT 7210 to improve health status of weaning piglets orally inoculated with Salmonella Typhimurium.
E. Barba-Vidal1, L. Castillejos2, V. F. Butow Roll7, M. Rivero4, J. A. Moreno Mañoz2 and S. Martin-Oráez1, 1Animal
A standardized blend of capsicum oleoresin, cinnamaldehyde and carvacrol improves performance of lactating sows. C. Oguey\textsuperscript{1} and C. Bruneau\textsuperscript{2}, \textsuperscript{1}Pancosma, Geneva, Switzerland, \textsuperscript{2}Pancosma, Saint-Hyacinthe, QC, Canada

Zilpaterol hydrochloride improves growth performance of meat producer Japanese quails. H. Dávila-Ramos and J. C. Robles-Estrada\textsuperscript{1}, Universidad Autónoma de Sinaloa, Culiacán, Mexico

Effects of increasing levels of curcumin on growth performance and immune response of nursery pigs. M. R. Bible\textsuperscript{1}, S. D. Carter, H. Kim and K. F. Coble, Oklahoma State University, Stillwater

Mannan oligosaccharides and β-glucan in diets for weaned piglets. U. V. Luna\textsuperscript{1}, J. G. Caramori Junior\textsuperscript{1}, G. S. S. Corrêa\textsuperscript{1}, S. D. Assis\textsuperscript{1}, E. Brusamarelo\textsuperscript{1}, J. C. R. Ribas\textsuperscript{1}, M. A. Souza\textsuperscript{1}, A. B. Corrêa\textsuperscript{1}, B. S. Vieira\textsuperscript{1}, E. Rovaris\textsuperscript{2} and S. A. P. V. Barbosa\textsuperscript{1}, \textsuperscript{1}Federal University of Mato Grosso, Cuiabá, Brazil, \textsuperscript{2}Federal University of Mato Grosso, cuiabá, Brazil

**Physiology and Endocrinology II**

Fertility of Lactating Dairy Cows Treated with Gonadotropin-Releasing Hormone at Estrus, 5 d after AI, or Both, during Summer Heat Stress. L. G. D. Mendonça\textsuperscript{1}, F. M. Mantelo\textsuperscript{1} and J. S. Stevenson\textsuperscript{2}, \textsuperscript{1}Department of Animal Sciences and Industry, Kansas State University, Manhattan, \textsuperscript{2}Kansas State University, Manhattan

Luteolysis and pregnancy outcome in 5-day Resynch dairy cows after 1 or 2 injections of prostaglandin F\textsubscript{2α}. J. S. Stevenson\textsuperscript{1}, S. L. Pulley and S. L. Hill, Kansas State University, Manhattan

Physiological characteristics of cows with divergent genetic merit for fertility traits during the transition period. S. Moore\textsuperscript{1}, T. A. Brick\textsuperscript{2}, T. Fair\textsuperscript{2} and S. Butler\textsuperscript{2}, \textsuperscript{1}Teagasc Moorepark, Fermoy, Ireland, \textsuperscript{2}University College Dublin, Dublin, Ireland, \textsuperscript{3}Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland

Characterization of luteal dynamics in lactating cows for 32 days after synchronization of ovulation and timed artificial insemination. A. Ricci\textsuperscript{2}, P. D. Carvalho\textsuperscript{2}, M. C. Amundson\textsuperscript{1} and P. M. Fricke\textsuperscript{1}, \textsuperscript{1}Department of Dairy Science, University of Wisconsin-Madison, Madison, \textsuperscript{2}University of Wisconsin, Madison

Influence of fat supplementation on LH pulses and FSH concentration in Nellore heifers. R. S. Cipriano\textsuperscript{1}, M. C. V. Miguel\textsuperscript{1}, H. F. Costa\textsuperscript{1}, J. S. Souza\textsuperscript{2}, L. M. Pavanello\textsuperscript{2}, M. A. Maioli\textsuperscript{2}, D. Giraldo-Arana\textsuperscript{2}, D. M. Pinheiro\textsuperscript{2}, F. M. Abreu\textsuperscript{2}, L. H. Crucípe\textsuperscript{2}, M. L. Day\textsuperscript{2} and G. Nogueira\textsuperscript{1}, \textsuperscript{1}UniSalesiano, Araçatuba, Brazil, \textsuperscript{2}Unesp, Araçatuba, Brazil, \textsuperscript{3}The Ohio State University, Columbus

Pregnancy outcomes based on pregnancy-associated glycoproteins in milk and serum during the first trimester of gestation in Holstein dairy cows. A. Ricci\textsuperscript{1}, P. D. Carvalho\textsuperscript{1}, M. C. Amundson\textsuperscript{1}, S. Koller\textsuperscript{1}, R. H. Fourdraine\textsuperscript{1}, L. Vincenti\textsuperscript{2} and P. M. Fricke\textsuperscript{1}, \textsuperscript{1}Department of Dairy Science, University of Wisconsin-Madison, Madison, \textsuperscript{2}University of Turino, Turino, Italy, \textsuperscript{3}University of Wisconsin, Madison

Comparison of two gonadorelin formulations and two luteolytic agents on pregnancy rates in beef cattle synchronized with a 5-d CO-Synch + CIDR program. S. Bus\textsuperscript{2}, T. A. Brick\textsuperscript{3}, G. Starkey\textsuperscript{3}, G. Messerschmidt\textsuperscript{1}, A. A. Barragan\textsuperscript{1}, G. M. Schuenemann\textsuperscript{1} and M. L. Day\textsuperscript{2}, \textsuperscript{1}Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, \textsuperscript{2}The Ohio State University, Columbus

Rams treated with testosterone induce sexual activity in anovulatory Dorper adult sheep. L. M. Tejada\textsuperscript{1}, Universidad Autónoma Agraria Antonio Narro, Torreón, Mexico

Regulation in vivo and in vitro of G Protein-Coupled Receptor 34 (GPR34) mRNA in Ovarian Granulosa Cells of Cattle and its Role in Steroidogenesis. L. J. Spicer\textsuperscript{1}, J. A. Williams\textsuperscript{1}, L. F. Schütz\textsuperscript{1}, M. L. Totty\textsuperscript{1}, N. B. Schreiber\textsuperscript{1} and J. Gilliam\textsuperscript{1}, \textsuperscript{1}Oklahoma State University, Stillwater, \textsuperscript{2}Oklahoma State University Center for Veterinary Health Sciences, Stillwater, OK

Interaction Between a Mammary Immune Response to Lipopolysaccharide and Luteal Function in Lactating Dairy Cows. J. Luettgenau\textsuperscript{1}, O. Wellnitz\textsuperscript{1,2}, R. M. Bruckmaier\textsuperscript{2} and H. Bollwein\textsuperscript{1}, \textsuperscript{1}Clinic of Reproductive Medicine, Vetsuisse Faculty University of Zurich, Zurich, Switzerland, \textsuperscript{2}Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland
Influence of Maternal Nutrient Restriction and Realimentation on Vascularity of Bovine Placentomes.
1North Dakota State University, Fargo, 2University of Arizona, Tucson, 3Mississippi State University, Mississippi State

Lysophosphatidic Acid (LPA) Activates ERK1/2-P90RSK Signaling in Porcine Trophoblast Cells.
J. Kim, J. Lee, S. Jung, H. Bang, Y. Sung, Y. Choi and J. Kim. Dankook University, Cheonan, South Korea

Relationship between dry-matter intake and subclinical endometritis in healthy postpartum dairy cows.
University of California Cooperative Extension, Tulare, CA, 2University of Wisconsin, Madison. 3Department of Dairy Science, University of Wisconsin-Madison, Madison, 4University of Sao Paulo-FRA, Sao Paulo, Brazil

The Effect of the Initial GnRH and Dose of PGF2α on Pregnancy Rate to TAI in Beef Heifers Submitted to the 5-d CO-Synch + CIDR Program.
1The Ohio State University, Columbus, 2University of Wyoming, Laramie, WY, 3University of Minnesota, Grand Rapids, MN, 4Utah State University, Logan

Use of a CIDR in the 5-day CO-Synch estrous synchronization protocol improves pregnancy rates to timed artificial insemination.
G. A. Bridges, R. P. Lemenager, E. Taylor and P. J. Gunn. 1University of Minnesota, Grand Rapids, MN, 2Purdue University, West Lafayette, IN, 3Purdue University, Lafayette, IN, 4Iowa State University, Ames

Incidence of ovulation to GnRH at onset of 5-d CO-Synch + CIDR and impact on reproductive responses.
1Aluno do programa de pós graduação em Zootecnia, FMVZ-UNESP-Botucatu, Botucatu, Brazil, 2University of Minnesota, Grand Rapids, MN, 3Iowa State University, Ames

The Use of 5-d CO-Synch+CIDR and 7-d EB+CIDR Synchronization Programs in Nellore Females.
1University of São Paulo - FMVZ/USP, Pirassununga, Brazil, 2University of São Paulo - ESALQ/USP, Piracicaba, Brazil, 3Experimental Station Hildegard Georgina Von Pritzelwitz, Londrina, Brazil, 4The Ohio State University, Columbus

The efficacy of different PGF2α treatments to promote luteolysis on D 7 or D 9 of the estrous cycle in nonlactating Nellore cows.
1University of São Paulo - ESALQ/USP, Piracicaba, Brazil, 2University of São Paulo - FMVZ/USP, Pirassununga, Brazil, 3Experimental Station Hildegard Georgina Von Pritzelwitz, Londrina, Brazil

Effect of timing of artificial insemination and estrus expression using sexed semen on pregnancy rates in Holstein dairy cows.
S. E. Crego, E. L. Larimore and G. A. Perry. South Dakota State University, Brookings

Evaluation of the hypothalamic kisspeptin system throughout the estrous cycle in gilts.
E. S. Jolitz and J. A. Clapper. South Dakota State University, Brookings

Levels of IGF-1, thyroxine, triiodothyronine and cortisol in yearling bulls in feedlot or silvopastoral system.
1Universidad Autónoma de Chihuahua, Chihuahua, Mexico, 2Universidad Autónoma de Yucatán, Mérida, Mexico

Meta-analysis of the effect of estrus expression before fixed-time AI on conception rates in beef cattle.
B. N. Richardson, S. L. Hill, J. S. Stevenson, G. D. Djird and G. A. Perry. 1South Dakota State University, Brookings, 2Kansas State University, Manhattan

Comparison of Estrus Parameters in Nulliparous Heifers by Two Automated Activity Monitoring Systems.
University of British Columbia, Vancouver, BC, Canada

Cryopreserved Sperm quality in young Brangus bulls raised on pasture and supplemented with vitamin E.
FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil

Addition of vitamin c extender and post-cryopreservation semen quality in bulls.
Concentrations of Progesterone during Early Follicular Development and Pregnancy Rate to AI in Beef Cows.
F. M. Abreu1, M. L. Day1, M. A. Coutinho da Silva1, C. A. Madsen2, T. Martins2, L. H. Cruppe1, B. R. Harstine1, G. A. Bridges3 and T. W. Geary2. 1The Ohio State University, Columbus, 2USDA ARS Fort Keogh, Miles City, MT, 3University of Minnesota, Grand Rapids, MN

Tocopherol in bovine semen cryopreservation extender: fertility and oxidative stress.

Embryonic growth between d 33 and 45 of pregnancy in lactating dairy cows differing in hormone and metabolite concentrations.
T. J. Stratman1, S. E. Poock2, S. L. Murphy1, A. Thomas1, D. Bouhan1, D. H. Keisler2 and M. C. Lucy3. 1University of Missouri-Division of Animal Sciences, Columbia, MO, 2University of Missouri-College of Veterinary Medicine, Columbia, MO

Altered ovarian dynamics in lactating dairy cows undergoing embryonic mortality.
R. Wijma1, M. L. Stangaferro1, J. R. Bransen2, J. M. Howard2 and J. O. Giordano1. 1Department of Animal Science, Cornell University, Ithaca, NY, 2Biotracking LLC, Moscow; ID

Production, Management, and the Environment: Management and Heat Stress

Concentrations of heavy metals in the whole raw milk of dairy cows under different management systems and country of origin: A meta-analytical study.
G. Zwierzchowski and B. N. Ametaj1, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

Macro- and microminerals in the whole raw milk of dairy cows from conventional and organic farms: A meta-analytical study.
G. Zwierzchowski and B. N. Ametaj1, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

Evaluating the accuracy of using reinforcing bar and an infrared thermometer versus long-stemmed thermometers in monitoring mortality compost pile temperature.
E. Pacheco1,2, A. Reyes1, M. Negron1,2, T. A. Gibson2 and R. Merkel1. 1University of Puerto Rico - Mayaguez, Mayaguez, Puerto Rico, 2American Institute for Goat Research, Langston University, Langston, OK

Milk production, dry matter intake and body condition score evaluated in cross-bred commercial cows supplemented with OmniGen-AF™ during and following heat stress.
A. E. Holland1, J. D. Chapman2 and L. O. Ely3. 1Prince Agri Products, Inc., Quincy, IL, 2UGA, Athens, GA

Factors Affecting Transition Success in Tie stall Herds.
D. E. Santschi1, M. S. Perveraud1, S. Adam1, R. Lacroix1 and D. M. Lefebvre1. 1Valacta, Ste-Anne-de-Bellevue, QC, Canada, 2Université Laval, Québec, QC, Canada

Effect of spatial orientation and shade on internal environment of a wooden 3-calf hutch.
J. D. Allen1 and L. W. Hall1. 1Northwest Missouri State, Maryville, MO, 2The University of Arizona, Tucson

Effect of deterred and undeterred bird predation on nutrient composition of a cattle diet and growth performance in cattle at a Southwestern feedlot facility.
J. D. Allen1, L. W. Hall2, S. Garcia2 and J. Marchello3. 1Northwest Missouri State, Maryville, MO, 2The University of Arizona, Tucson

Predicting Holstein Heifer Growth by Genomic Traits.
D. E. Cook1, D. K. Combs1, R. W. Bender1, P. M. Krump1 and K. A. Weigel2. 1Department of Dairy Science University of Wisconsin, Madison, 2Department of Dairy Science University of Wisconsin, Madison

Blood parameters in transition dairy cattle and their effects on milk production.
C. H. Ramires1, R. B. Navarro2, R. M. Silva3, G. T. Santos4, R. Locatelli-Ditrich1 and R. D. Almeida1. 1Universidade Federal do Paraná, Curitiba - Paraná, Brazil, 2Capal Cooperativa Agroindustrial, Arapotí - Paraná, Brazil, 3Kemin do Brasil, Indaiatuba - São Paulo, Brazil, 4Universidade Estadual de Maringá, Maringá - Paraná, Brazil

A comparison of two implant protocols; Synovex-Choice and Synovex-Plus vs. Synovex-S and Revalor-S on steer feedlot performance and carcass characteristics.
H. R. Nielsen1, A. F. Summers2 and R. N. Funston1. 1University of Nebraska, West Central Research and Extension Center, North Platte, NE, 2University of Nebraska, Lincoln
Mitigating heat stress in dairy cattle via conductive cooling.
K. M. Perano¹, K. G. Gebremedhin, J. G. Usack, T. J. Shelford, C. A. Gooch and L. T. Angenent, Cornell University, Ithaca, NY

Changes in behavioral and physiological parameters around estrus in partially synchronized cows.

Effect of maternal heat stress during the dry period on development of immune system of offspring.
B. M. Ahmed¹, A. P. A. Monteiro¹, T. Tao², K. E. Merriman², J. P. Driver², B. L. Artiaga¹, J. Hayen¹, I. M. Thompson¹, C. D. Nelson³ and G. E. Dahl³, ¹University of Florida, Gainesville, ²Department of Animal Sciences, University of Florida, Gainesville

Impact of dry period heat stress on milk yield, reproductive performance and health of dairy cows.

Extending the Interval from Presynch to Initiation of Ovsynch in a Presynch-Ovsynch Protocol did not Reduce Fertility of Lactating Dairy Cows Not Detected in Estrus that Received Timed Artificial Insemination.
J. O. Giordano¹, M. J. Thomas¹, G. K. Cucuama¹a and M. D. Curier², ¹Department of Animal Science, Cornell University, Ithaca, NY, ²Dairy Health and Management Services, LLC, Lovville, NY

Mortality and herd turnover rates in large dairy herds in the Upper Midwest USA.
T. Evink and M. I. Endres, University of Minnesota, Saint Paul

Biased Milk Production Programmed by Fetal Sex Affects Sexed SEMEN Economics.
A. De Vries¹, K. Hinde, A. J. Carpenter², J. Clay² and B. Bradford³, ¹University of Florida, Gainesville, ²Harvard University, Cambridge, MA, ³Kansas State University, Manhattan, ⁴Dairy Records Management Systems, Raleigh, NC

Study the Temperature- Humidity Index and Its Effect on Performance of Dairy Cows in Isfahan.
G. Ghorbani¹ and A. Ahangaran¹, ¹Isfahan University of Technology, Isfahan, Iran, ²Isfahan University of Technology, Isfahan, Iran

The Influence of Body Weight on the Efficiency of Dairy Cows.
P. L. Kunz¹ and A. Reinhard, Bern University of Applied Sciences, Zollikofen, Switzerland

Effects of supplementation with propylene glycol in heat-stressed dairy goats.
S. Hamzaoui¹, A. Salama¹, G. Caja² and X. Such³, ¹Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain, ²Animal Production Research Institute, Dokki, Giza, Egypt

The effects of technology use in feedlot production systems on the heat stress and blood metabolites of finishing steers.
B. C. Bernhard¹, C. L. Maxwell¹, C. F. O’Neill¹, B. K. Wilson¹, C. G. Hixon¹, C. Haviland¹, A. Grimes¹, M. S. Calvo-Lorenzo¹, C. J. Richards¹, D. L. Step¹, B. P. Holland¹ and C. R. Krehbiel¹, ¹Oklahoma State University, Stillwater, ²Merck Animal Health, DeSoto, KS

The effects of technology use in feedlot production systems on feedlot performance, carcass characteristics, and feeding behaviors of crossbred beef steers.
C. L. Maxwell¹, B. C. Bernhard¹, C. F. O’Neill¹, B. K. Wilson¹, C. Hixon¹, C. Haviland¹, A. Grimes¹, M. S. Calvo-Lorenzo¹, D. L. VanOverbeke¹, G. G. Mafi¹, C. J. Richards¹, D. L. Step¹, B. P. Holland¹ and C. R. Krehbiel¹, ¹Oklahoma State University, Stillwater, ²Merck Animal Health, DeSoto, KS

Survey of fatty acid profile of milk fat in Italian Water buffalo.
M. G. Manca¹, G. Cosenza², E. Apicella², A. Pauciullo², A. Coletta¹, A. Nudda¹, N. P. P. Macciotto², L. Zicarelli² and L. Ramunno², ¹Dipartimento di Agraria, University of Sassari, Sassari, Italy, ²Department of Agriculture, University of Naples Federico II, Naples, Italy

Comparative study between 5% copper sulfate and a beta-ionone and limonene solution in a split footbath.
A. C. Thompson¹ and J. M. Bewley, University of Kentucky, Lexington

Comparison of milk components before and after passing through a novel inline milk filter.
D. T. Nolan¹, M. J. Bakke² and J. M. Bewley², ¹University of Kentucky, Lexington, ²Custom Dairy Performance, Clovis, CA
In vitro assessment of Saccharomyces cerevisiae cell fractions (YCF) using bovine epithelial cells and macrophages. Z. Li, Q. You, F. Ossa, P. Mead and N. A. Karrow, University of Guelph, Guelph, ON, Canada, Lallemand Inc., Montreal, QC, Canada, Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada

Digestibility of the diet of Nellore bulls receiving concentrated supplementation with additives. J. A. C. Lima, H. J. Fernandes, M. F. Paulino, E. P. Rosa, L. S. Caramalac, K. A. Silveira, B. D. D'Auria and A. Aguiar, Federal University of Viçosa, Viçosa, Brazil, State University of Mato Grosso do Sul, Aquidauana, Brazil, University of Florida, Gainesville

Pre- and post-weaning performance and health of calves fed 24% crude protein and 20% fat milk replacer at different feeding rates. B. M. Strayer, D. Ziegler, D. Schimek, B. Ziegler, M. Raeth-Knight, H. Chester-Jones and D. Casper, South Dakota State University, Brookings, University of Minnesota Southern Research and Outreach Center, Waseca, Hubbard Feeds Inc., Mankato, MN, University of Minnesota, St. Paul

Pre- and post-weaning performance and health of calves fed milk replacers with two protein concentrations and two feeding rates. B. M. Strayer, D. Ziegler, D. Schimek, B. Ziegler, M. Raeth-Knight, H. Chester-Jones and D. Casper, South Dakota State University, Brookings, University of Minnesota Southern Research and Outreach Center, Waseca, MN, Hubbard Feeds Inc., Mankato, MN, University of Minnesota, St. Paul


Effect of Radix Bupleuri herbal supplementation on diversity of the bacterial community and cellulosytic bacteria in the rumen of lactating dairy cows analyzed by DGGE and RT-PCR. L. Pan, D. P. Bu, J. Q. Wang, J. B. Cheng, X. Z. Sun and W. Liu, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

The effect of soluble propolis in milk on the performance of Holstein suckling calves. P. Fervian, K. Rezayazdi and G. Nehzati, University of Tehran, Tehran, Iran, Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, University of Tehran, Karaj, Iran

Supplementation of Lysine and Methionine for Dairy Calves on a Step Down Milk-Replacer Feeding Program. J. T. Silva, G. Santos, N. B. Rocha, E. Miqueo, T. Manzoni and C. M. M. Bittar, University of Sao Paulo, Piracicaba, Brazil

Response of newborn calves to injectable vitamins A, D and E. D. B. Snider, J. Gaska, D. E. Gockowski and R. L. Stuart, Iowa State University, Ames, Gaska Dairy Health Services, Columbus, WI, North Ridge Veterinary Svc, Sturgeon Lake, MN, Stuart Products Inc, Bedford, TX

Fecal Scores, Hemogasometry and Blood Metabolites of Diarrheic Calves Fed Concentrate Containing Sugar Cane Molasses or Glucose Syrup as a Replacement For Corn. M. C. Soares, G. G. O. Nápoles, C. E. Oltramari, J. T. Silva, M. R. De Paula and C. M. M. Bittar, University of Sao Paulo, Piracicaba, Brazil, University of Santa Catarina State, Chapecó, Brazil

Fecal Scores, Hemogasometry and Blood Parameters of Diarrheic Calves Fed Concentrate Containing Citrus Pulp as a Replacement For Corn. M. C. Soares, C. E. Oltramari, J. T. Silva, M. R. De Paula, M. P. Gallo and C. M. M. Bittar, University of Sao Paulo, Piracicaba, Brazil, University of Santa Catarina State, Chapecó, Brazil
Effect of Diet Particle Size on Sorting, Eating Rate, Rumen pH and Digestibility in Dairy Heifers.
F. H. Pino, A. J. Heinrichs and C. Castro, The Pennsylvania State University, University Park

Fatty acid profiles of longissimus dorsi from Nelore cattle on pasture supplemented with crude glycerin and whole cottonseed.
J. T. Zervoudakis, A. J. Possamaï, L. K. Hatamoto-Zervoudakis, A. S. Oliveira, L. B. D. Freiria, R. P. D. Silva, A. C. Barboza and J. W. Koscheck, 1FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil, 2UFMT, Cuiabá, Brazil, 3UFMT, Sinop, Brazil, 4UNESP, Jaboticabal, Brazil

Performance and carcass attributes of Nelore heifers fed with zilpaterox hydrochloride.
N. R. B. Cónsolo, R. S. Goulart, F. Rodriguez, M. O. Frasseto, J. M. Soza, L. F. P. Silva and V. B. Ferrari, 1University of Sao Paulo, Pirassununga, Brazil, 2MSD Saúde Animal, Sao Paulo, Brazil

Carcass characteristics of Nelore steers fed whole corn diets containing feed antibiotics.

Fatty acids ratio of loin from lambs fed with increasing levels of crude glycerin in feedlot.
C. M. Cunha, A. R. M. Fernandes, H. A. Ricardo, L. V. C. Girão, R. O. Roça, L. O. Seno, M. A. P. Orrocco Junior, J. C. S. Osório and F. M. Vargas Junior, 1Grande Dourados Federal University (UFGD), Dourados, Brazil, 2Uberlândia Federal University (UFU), Uberlândia, Brazil, 3São Paulo State University (FCA/UNESP), Botucatu, Brazil

Performance and carcass yield of finishing lambs fed diets with safflower meal.
P. A. Meneses-Tapia, G. Buendía-Rodríguez, F. E. Martínez-Castañeda, C. G. Peñuelas-Rivas and S. S. González-Muñoz, 1Universidad Autonoma del Estado de Mexico, Toluca, Mexico, 2CENIDIFyMA INIFAP, Queretaro, Mexico, 3Colegio de Postgraduados, Montecillo Estado de Mexico, Mexico

Quality traits of Longissimus muscle of two genetic groups fed with crude glycerin.
I. M. de Oliveira, J. P. I. S. Monnerat, N. V. L. Serafim, M. S. Duarte, V. R. M. Couto, S. C. Valadares Filho, M. L. Chizziotti and P. V. R. Paulino, 1APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 2Universidade Federal de Viçosa, Viçosa, Brazil, 3Iowa State University, Urbana, IA, 4Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 5Universidade Federal de Goiás, Goiânia, Brazil, 6Nutron Alimentos Ltda, Campinas, Brazil

Effects of corn processing method and dietary starch level on finishing performance of Nelore bulls.
M. Caetano, R. S. Goulart, S. Luz e Silva, J. S. Drouillard, P. R. Leme and D. P. D. Lamna, 1University of Sao Paulo / ESALQ, Piracicaba, Brazil, 2current address University of Adelaide, Roseworthy, Australia, 3MSD Saúde Animal, Sao Paulo, Brazil, 4University of Sao Paulo / FZEA, Pirassununga, Brazil, 5Kansas State University, Manhattan

Effect of wheat dried distillers grains with soubles inclusion and fibrolytic enzyme supplementation on ruminal fermentation and digestibility in beef heifers fed backgrounding diet.
Z. He, N. D. Walker, T. A. McAllister and W. Yang, 1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Key Laboratory for Agro-Ecological Processes in Subtropical Region, Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, China, 3AB Vista Feed Ingredients, Marlborough, United Kingdom, 4Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Increasing condensed corn distillers solubles affects gene expression in rumen epithelial tissue.
J. C. McCann, S. Alqarni, J. R. Segers, D. W. Shike and J. J. Loo, 1University of Illinois, Urbana, 2University of Georgia, Tifton, GA

Crude Glycerin as an Energy Source in Finishing Beef Diets.
P. Del Bianco Benedetti, P. V. R. Paulino, M. I. Marcondes, A. Faciola, I. França Smith Maciel and M. Custódio da Silva, 1Federal University of Viçosa, Viçosa, Brazil, 2University of Nevada, Reno, NV, 3Nutron Alimentos Ltda, Campinas, Brazil

Ruminal fermentation of steers fed crude glycerin replacing starch- vs. fiber-based energy ingredients at low or high concentrate diets.
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Supplements containing different crude glycerin concentration does not affect the intake and digestibility of Nelore grass-fed beef.
Whole cottonseed and crude glycerin for Holstein cattle: Intake and digestibility of nutrients.

Crude Glycerin in multiple supplements for beef cattle in grazing: pH and ammoniacal nitrogen.
R. G. D. P. Junior, A. J. Passamani, J. T. Zervoudakis, L. D. S. Cabral, L. K. Hatamoto-Zervoudakis, A. C. Barboza, L. B. D. Freiria, J. B. Azevedo and A. S. Oliveira, FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil, UFMT, Cuiabá, Brazil, Federal University of Mato Grosso, Cuiabá, Brazil, UFMT, Sinop, Brazil, UNESP, Jaboticabal, Brazil

Grain processing methods and concentration of corn silage NDF in the finishing diet of Nellore bulls.

Effect of corn processing methods and dietary concentrations of sugarcane bagasse fiber on finishing Nellore bulls performance.
A. H. F. Melo, D. F. A. Costa, C. A. B. Delveaux, J. D. Souza, F. Batistel, D. C. Basto, P. R. Gabarra, A. C. Aoki and F. A. P. Santos, University of São Paulo, Piracicaba, Brazil, University of São Paulo, Piracicaba, Brazil

Predicting ruminal and total tract starch digestion as influence by changes in density of steam-flaked corn: flake thickness, enzymatic reactivity, fecal starch.
M. A. Franco, J. F. Calderon-Cortés, L. Corona, A. Plassencia and R. A. Zinn, UNAM, Mexico City, Mexico, UABC, Mexicali, Mexico

Intake and performance of crossbred dairy calves fed spineless cactus in transition.
R. Gomes, M. F. S. Queiroz, S. Gonzaga Neto, R. G. Costa, J. S. Oliveira, G. O. Mendes, R. L. Galati and G. R. Beltrão da Cruz, University of Paraiba, CCA/UFPB, Areia, Brazil, University of Mato Grosso - DZER/UFMT, Cuiabá, Brazil, Institute of Applied Science - UPA/UFMT, Cuiabá, Brazil, University of Paraiba - CCA/UFPB, Areia, Brazil, University of Paraiba - CCA/UFPB, Areia, Brazil

Intake and performance of crossbred dairy calves fed spineless cactus in transition.
R. Gomes, M. F. S. Queiroz, R. G. Costa, S. Gonzaga Neto, J. S. Oliveira, G. O. Mendes, G. R. Beltrão da Cruz and J. Jordão Filho, University of Paraiba, CCA/UFPB, Areia, Brazil, University of Mato Grosso - DZER/UFMT, Cuiabá, Brazil, University of Paraiba - CCA/UFPB, Areia, Brazil

Effect Of Chitosan And Soybean Oil Combination On Ruminal Fermentation And Milk Yield And Composition Of Dairy Cows.
T. A. Del Valle, F. C. R. D. Santos, P. G. D. Paiva, E. F. Jesus, F. Zanferari, M. K. Kametani, A. G. B. V. B. Costa and F. P. Remô, School of Veterinary Medicine and Animal Science, University of São Paulo, Pirassununga, Brazil, School of Agricultural and Veterinary Sciences of UNESP, Jaboticabal, Brazil

Growth performance and total tract nutrient digestion for Holstein heifers precision-fed diets high in distillers grains with different forage particle size.
R. D. Lawrence, J. L. Anderson, T. J. Vanderwerf, A. K. Manthey, K. F. Kalscheur and D. P. Casper, South Dakota State University, Brookings

Comparison of efficiency of energy use in Holstein and Jersey dairy cows offered diets containing reduce fat distillers grains RFDGDS.
G. Garcia Gomez, A. Foth, P. J. Kononoff, T. Brown-Brandt and H. C. Freety, University of Nebraska, Lincoln, ARS-USDA, Clay Center, NE

Effects of feeding canola meal (CM) and wheat dried distillers grains with solubles (W-DDGS) as the major protein source in low or high crude protein diets on ruminal nitrogen utilization, omasal nutrient flow, and milk production in dairy cows.
T. Mutsvangwa and K. Doranalli, University of Saskatchewan, Saskatoon, SK, Canada, Evonik (SEA) Pte. Ltd., Singapore, Singapore

Performance, digestibility, and blood acid-base balance of dairy cows in response to the replacement of corn by crude glycerin.
O. F. Zacaromi, F. F. Cardoso, R. A. N. Pereira and M. N. Pereira, Universidade Federal de Lavras, Lavras, Brazil, Empresa de Pesquisa Agropecuaria de Minas Gerais, Lavras, Brazil, Better Nature Research Center, Ijaci, Brazil

Effects of crude glycerin supplementation on fatty acids composition of milk fat from primiparous lactating cows on irrigated tropical pasture.

Grain processing methods and concentration of corn silage NDF in the finishing diet of Nellore bulls.
Effect of grain processing and fat supplementation on ruminal pH dynamics of cows grazing a tropical pasture.
J. D. Souza, F. Batistel, E. Miqueo, P. D. Andrade, M. M. V. Silva, C. Sitta and F. A. P. Santos, University of Sao Paulo, Piracicaba, Brazil.

Grain processing and fat supplementation on milk yield and milk composition of dairy cows grazing a tropical pasture.
F. Batistel, J. D. Souza, M. R. R. Soares, C. S. M. Motta, E. Miqueo and F. A. P. Santos, University of Sao Paulo, Piracicaba, Brazil.

Effect of Grain Type (Corn versus Milo), Particle Size (600 versus 1000 microns) and Steam-flaked Corn on Productive and Metabolite Responses of Early Lactating Holstein Cows.
E. Mahjoubi, J. R. Johnson, B. J. Bradford and M. J. Brouk, Department of Animal Science, University of Zanjan, Zanjan, Iran.

Effect of concentrate source (cottonseed vs. barley) on milk performance and fatty acids profile of spring calving Holstein-Friesian cows feeding an indoors silage regime.
A. I. Roa-Fernández and A. González-Rodríguez, Agrarian Research Centre of Mabegondo, La Coruña, Spain.

Ruminal Starch Degradation of Maize Silage affected by Ensiling Time and Dry Matter Content.
J. Doorenbos and H. V. Laar, Nutreco R&D, Boxmeer, Netherlands.

Relationship of in vitro starch digestion to corn kernel measurements from farms in Michigan.
D. Bolinger, L. N扎baek and F. N. Owens, DuPont Pioneer, Perrinton, MI.

Effect of particle size and time of rumen fluid collection on in-vitro starch digestibility of corn and sorghum.

Effect of reducing dietary starch on intake, lactation performance, and ruminal parameters of dairy cows: A meta-analysis.
S. M. Fredin, L. F. Ferrareto and R. D. Shaver, University of Wisconsin, Madison.

Effect of rehydration and silage storage period of corn with medium vitreous endosperm on chemical composition and dry matter in situ degradability.
M. A. Arcari, C. Martins, J. Gonçalves, D. Sousa, T. Tomazi, L. F. P. Silva and M. Veiga dos Santos, University of São Paulo, Pirassununga, Brazil.

Factors affecting 7 hour starch digestibility on conventional corn silage, BMR corn silage, and high moisture corn grain.

Glycerol exacerbates effects of sorghum-based tannins extract on in vitro fermentative activity of mixed ruminal microorganisms.
E. San Vito, T. J. Herald, P. Gadgil and J. S. Drouillard, Universidade Estadual Paulista Júlio de Mesquita Filho - UNESP, Jaboticabal, Brazil.

Use of byproducts from corn industry and citric acid on dairy heifers diet.

Monensin increases endotoxin concentration in an in vitro rumen fermentation model.
N. Reisinger, S. Schaubberger, I. Dohnal, C. Emsenhuber, C. Stieber and G. Schatzmayr, BIOMIN Research Center, Tulln, Austria.

Effect of a calcareous algae and monensin on feed intake and rumen parameters of cattle fed abruptly high concentrate diets.
R. Ferreira Carvalho, A. P. S. Silva, M. Rezende Mazon, C. A. Zotti, L. Silva Oliveira, S. Luz e Silva and P. R. Leme, University of Sao Paulo / FZEA, Pirassununga, Brazil.

Effect of Post-extraction Algal Residue Supplementation on the Rumen Microbiome of Steers Consuming Low-quality Forage.
Effect of Concentrate Diets Contrasting in Fatty Acid Profiles on Lamb Performance, Carcass Characteristics, Fatty Acid Composition and Wool Production.
S. J. Meade1, 2, A. V. Chaves3, M. He2 and T. A. McAllister2, 4 The University of Sydney, Sydney NSW, Australia, 2 Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Feed value for ruminants of newly developed black and yellow type of canola seeds.
K. Theodoridou1, 3, P. Yi1, 4, H. Xin5 and X. Huang1, 6 UNIVERSITY OF SASKATCHEWAN, DEPARTMENT ANIMAL AND POULTRY SCIENCE, SASKATOON, SK, Canada, 3 Department of Animal Science, Tianjin Agricultural University, Tianjin, SK, China, 4 University of Saskatchewan, Saskatoon, SK, Canada

Could lactic acid treatment decrease in-vitro gas production of barley grain.
M. Dehghan Banadaky1, 2, A. Zali3, M. Ganjkhanlou3, K. Rezayazdi4, M. Nematpoor5 and A. Laki6, 1 Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, 2 University of Tehran, Karaj, Iran, 3 Department of Animal Science, University of Tehran, Karaj, Tehran, Iran

Microwave irradiation induced changes in protein inherent structure, protein chemical profile, protein subfractions and digestive behavior of different types of new hullless barley in the rumen and intestine of dairy cows.
X. Yan1, 2, N. Khan3, X. Huang4 and P. Yu5, 1 University of Saskatchewan, Saskatoon, SK, Canada, 2 Jilin Academy of Agricultural Sciences, Jilin, China

Protein and energy availability of sorghum wet distiller grains without solubles in comparison to the parental grain.
M. D. L. A. Brun1, 2 and A. I. Trujillo2, 3 Facultad de Agronomía Universidad de la Republica, Paysandu, Uruguay, 2 Facultad de Agronomía, Universidad de la Republica, Montevideo, Uruguay

Effect of crude glycerin on dry matter and nutrient digestibility of feed ingredients in dairy cows.
F. D. O. Scarpino van Cleef1, 2, J. M. Bertocco Ezequiel1, 2 J. Borsari Dourado Sancanari2, 3 and E. H. C. B. Van Cleef4, 5, 1 UNESP, Jaboticabal, Brazil, 2 CNPq, Brasilia, Brazil, 3 UCB, Jaboricaba, Brazil, 4 FAPESP, Sao Paulo, Brazil

Positive effect of fat supplementation in the early postpartum period can continue throughout lactation after fat supplementation ceases.
M. Garcia1, 4, L. F. Greco5, W. W. Thatcher2, 6, J. E. P. Santos7 and C. R. Staples3, 1 Department of Animal and Avian Sciences, University of Maryland, College Park, 2 Department of Animal Sciences, University of Florida, Gainesville, 3 Dept. of Animal Sciences, University of Florida, Gainesville

Sources and levels of rumen protected fat on energy balance of dairy cows grazing a tropical pasture.
F. Batistel1, J. D. Souza2 and F. A. P. Santos1, 1 University of São Paulo, Piracicaba, Brazil, 2 University of Sao Paulo, Piracicaba, Brazil

Saturated Fat Supplementation Interacts with Dietary Forage NDF Concentration during the Postpartum Period in Holstein Cows: Energy Balance, Nutrient Digestibility, and Metabolism.
P. Piantoni1, A. L. Lock and M. S. Allen, Michigan State University, East Lansing

Production performance parameters of early lactation Iranian Holstein cows fed diets containing high levels of palmitic acid or ca-salt of unsaturated fatty acids.
H. Khalilvand-Behroozvand1, M. Dehghan Banadaky2, K. Rezayazdi2 and M. Ghaffarzadeh4, 1 Department of Animal Science, Urmia University, Urmia, Iran, 2 Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, 3 Chemistry and Chemical Engineering Research Center of Iran, Tehran, Iran

Characterization of the role of long-chain fatty acids in the regulation of lipogenic gene expression via LXRα in goat mammary epithelial cells.
W. Zhao1, 2, J. Luo1, P. Dove3 and J. J. Loo4, 1 Northwest A & F University, Yangling, China, 2 University of Illinois, Urbana, 3 University of Ljubljana, Domzale, Slovenia

Effects of feeding protected unsaturated fatty acids (Persia Fat®) on milk fatty acid profile of Iranian Holstein dairy cows.
H. Khalilvand-Behroozvand1, M. Dehghan Banadaky2 and M. Ghaffarzadeh4, 1 Department of Animal Science, Urmia University, Urmia, Iran, 2 Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, 3 Chemistry and Chemical Engineering Research Center of Iran, Tehran, Iran

Milk yield and milk fat responses to increasing levels of stearic acid supplementation of dairy cows.
J. P. Boerma1 and A. L. Lock, Michigan State University, East Lansing

Effect of Different Dietary Fatty Acid Profiles on Individual Milk Fatty Acid Yields by Dairy Cattle Fed Diets with Less than 3% Total Fatty Acids.
C. M. Stoffel1 and L. E. Armentano2, 1 University of Wisconsin-Madison, Madison, 2 University of Wisconsin, Madison
Effect of specific essential oil blend on performance of Nellore young bulls in feedlot.
A. L. D. S. Valent*1, J. M. Serra, E. Romanzi, R. A. Reis, R. Barbero, T. Araujo, S. Santos, L. Delevatti and F. Souza, Unesp, Jaboticabal, Brazil

Effect of Coconut Oil and Lauric Acid on Omasal Nutrient Flow and Microbial Protein Synthesis in Dairy Cows.
A. Faciola*1 and G. A. Broderick*2, 1University of Nevada, Reno, NV, 2Broderick Nutrition & Research, LLC, Madison, WI

Supplementation of lemongrass oil and a mixture of garlic and ginger oil improved in vitro feed digestion.
A. Nanon*1, W. Sukombat*1 and W. Yang*1, 1Suranaree University of Technology, Muang, Thailand, 2Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Use of lemongrass oil for manipulation of ruminal fermentation using Rusitec technique.
A. Nanon*1, W. Sukombat*1 and W. Yang*1, 1Suranaree University of Technology, Muang, Thailand, 2Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Effect of tea oil and sunflower oil on rumen microbial population, milk composition and rumen microbial population in water buffaloes fed elephant grass-based diets.
C. Yang*1, X. Liang*1, S. Wei*1, X. Liang*1, S. Li1, C. Zou1, B. Yang1 and L. Li1, 1Buffalo Research Institute, Chinese Academy of Agricultural Sciences, Nanning, China, 2Buffalo Research Institute, The Chinese Academy of Agricultural Sciences, Nanning, China

Effects of echium and flaxseed oil on ruminal fatty acid metabolism in vitro.
L. Jin*1,2, C. Li1, M. He1, Y. Wang1, T. W. Alexander1 and T. A. McAllister1, 1Department of Animal Science and Technology, Northeast Agricultural University, Harbin, China, 2Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 3Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Effects of linseed oil and propolis additives on protozoa population in dairy cows.
E. H. Yoshimura1, L. M. Zouila1, R. Franzoliti1, N. W. Santos1, E. Machado1, B. C. Agustinho1, L. D. M. Pereira1 and F. Alves1, 1Universidade Estadual de Maringá, Maringá, Brazil, 2Universidade de São Paulo - Faculdade de Zootecnia e Engenharia de Alimentos, Pirassununga-SP, Brazil

Effect of linoleic and linolenic acid sources supplementation on in vitro rumen fermentation characteristics and microbial diversity.
S. M. Amamullah1, S. C. Kim1, D. Kim1, H. Lee1, Y. Joo1 and I. H. Choi1, 1Division of Applied Life Science (BK21Plus, Insti. of Agri. & Life Sci.), Gyeongsang National University, Jinju, South Korea, 2Department of Companion Animal and Animal Resources Science, Joongbu University, Geumsan-gun, South Korea

Intake and daily gain of grazing Nellore bulls receiving concentrated supplementation with additives.
J. A. C. Lima4, J. H. Fernandez1, M. F. Paulino1, E. P. Rosa1, L. S. Caramalac2, K. A. Silveira2, G. C. Silva2 and A. Aguiar1, 1Federal University of Viçosa, Viçosa, Brazil, 2State University of Mato Grosso do Sul, Aquidauana, Brazil, 3University of Florida, Gainesville

Effects of Concentrate Level and Combined Use of Virginiamycin and Salinomycin on Nutrient Intake and Digestibility of Nellore Steers.
A. J. C. Nuñe4, V. V. Almeida4, I. E. Borges4, F. Pines4, F. T. Mercado4, S. L. Silva4, P. R. Leme1 and J. C. M. Nogueira Filho4, 1Department of Animal Science - FZEA/USP, Pirassununga/SP, Brazil, 2Department of Animal Science - FCAV/UNESP, Jaboticabal/SP, Brazil

A meta-analysis of effects of feeding nitrate on toxicity, production, and enteric methane emissions in ruminants.
C. Lee1 and K. A. Beauchemin, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Methane production of Nellore young bulls on pasture in the rainy season supplemented with crude glycerin associated energy sources.
A. José Neto1, L. G. Rossi1, A. F. Ribeiro3, B. R. Vieira1, I. Pena Carvalho de Carvalho2, E. E. Dalanttonia3, A. S. Gómez4 and T. T. Berchielli1, 1Universidade Estadual Paulista “Julio de Mesquita Filho”, Jaboticabal, Brazil, 2Universidade Estadual Paulista, Brazil, 3Universidade Estadual Paulista “Julio de Mesquita Filho”/Unesp, Jaboticabal, Brazil, 4Universidade Estadual Paulista Julio de Mesquita Filho, Jaboticabal, Sao Paulo, Brazil, 5Universidade Estadual Paulista Julio de Mesquita Filho - UNESP, Jaboticabal, Brazil

Effects of encapsulated nitrate on toxicity, feed intake and feed consumption rates in beef cattle.
C. Lee1, R. C. Araujo3, K. M. Koening1 and K. A. Beauchemin1, 1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2GRASP Ind. & Com. LTDA, Curitiba, Brazil, 3EW|Nutrition GMBH, Visbek, Germany, 4Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada

Effects of the Combined Use of Virginiamycin and Salinomycin on Rumen Fluid Kinetics of Nellore Steers.
A. J. C. Nuñes1, V. V. Almeida2, F. Pines1, I. E. Borges1, F. T. Mercado1, S. L. Silva1, P. R. Leme1 and J. C. M. Nogueira Filho1, 1Department of Animal Science - FZEA/USP, Pirassununga/SP, Brazil, 2Department of Animal Science - FCAV/UNESP, Jaboticabal/SP, Brazil
Monensin, virginiamycin and functional oils on rumen health of Nellore cattle fed high concentrate diets with or without adaptation.
A. P. dos Santos Silva¹, R. Ferreira Carvalho², C. A. Zotti³, M. Rezende Mazón⁴, L. Silva Oliveira⁵, S. Luz e Silva⁶ and P. R. Leme⁷, ¹University of São Paulo, Pirassununga, Brazil, ²University of São Paulo / FZEA, Pirassununga, Brazil

Effects of grain source and monensin level on site and extent of digestion in feedlot heifers.
W. Yang¹, L. Xu¹, Y. Zhao¹,³ and T. A. McAllister¹, ¹Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, ²Bao Tou Light Industry Vocational Technical College, Bao Tou, China, ³College of Animal Science, Inner Mongolia Agricultural University, Hohhot, China, ⁴Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Effects of different doses of monensin on rumen tissue histology of feedlot cattle.
A. L. Rigueiro¹,², A. C. J. Pinto¹, M. C. Pereira¹, D. H. Watanabe¹, C. A. Oliveira¹, T. V. Carrara², D. D. Estevam², D. P. Silva¹, F. T. Pereira¹ and D. D. Millen¹,², ¹São Paulo State University (UNESP), Dracena campus, Dracena, Brazil, ²São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil, ³Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

Effects of different doses of soybean meal supplementation with tannins extracted from pistachio hulls on performance and feed efficiency of Holstein bulls.
D. H. Watanabe¹, M. C. Pereira¹, J. Silva¹, T. V. Carrara¹, A. L. Rigueiro¹, L. A. Tomaz¹, D. P. Silva¹, D. V. Vicari¹, A. C. J. Pinto¹, D. D. Estevam², M. D. Arrigonii² and D. D. Millen¹,², ¹São Paulo State University (UNESP), Dracena campus, Dracena, Brazil, ²São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil, ³Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

Feeding monensin or essential oils in high corn or byproduct finishing diets for nellore bulls.
L. J. Chagas¹,¹, M. G. DOS Santos², A. H. De Melo¹, J. R. R. Dória², D. F. A. Costa² and F. A. P. Santos², ¹University of São Paulo - ESALQ, Piracicaba, Brazil, ²University of São Paulo - ESALQ, Piracicaba, Brazil

The effect of a citrus extract rich in flavonoids (bioflavex®) and its main components on rumen fermentation and microbial population under in vitro system using steers fed high concentrate diet as rumen liquor donors.
A. R. Seradí³, J. Crespo³, M. Fondevila³ and J. Balcells³, ¹University of Lleida, Lleida, Spain, ²Interquim S. A. (Ferrer Health Tech), Barcelona, Spain, ³University of Zaragoza, Zaragoza, Spain

Use of a citrus flavonoids extract (Bioflavex®) to improve rumen fermentation efficiency and performance in steers consuming high concentrate diets.
A. R. Seradí³, B. A. Rejaf³, A. Jimeno³ and J. Balcells³, ¹University of Lleida, Lleida, Spain, ²University of Zaragoza, Zaragoza, Spain, ³Interquim S. A. (Ferrer Health Tech), Barcelona, Spain

Effect of blend Enterococcus faecium plus Saccharomyces cerevisiae in different doses on intake and digestibility of steers in feedlot.
A. A. Oliveira, J. Koscheck⁴, A. L. D. S. Valente, F. Basso, C. Rabelo, U. Carneiro and R. A. Reis, Unesp, Jaboticabal, Brazil

Effect of doses at Enterococcus faecium and Saccharomyces cerevisiae on ruminal parameters responses of feeder cattle.
A. A. Oliveira, J. Koscheck⁴, A. L. D. S. Valente, F. Basso, C. Rabelo, U. Carneiro and R. A. Reis, Unesp, Jaboticabal, Brazil

Influence of soybean meal supplementation with tannins extracted from pistachio hulls on performance and feed efficiency of Holstein bulls.
A. Jolazadeh¹, M. Dehghan banadaky² and K. Rezayazdi¹, ¹University of Tehran, Karaj, Iran, ²Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, karaj, Iran, ³Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran

Depression of rumen ammonia and protozoal population of Holstein bulls fed soybean meal treated with tannins extracted from pistachio hulls.
A. Jolazadeh¹, M. Dehghan banadaky² and K. Rezayazdi¹, ¹University of Tehran, Karaj, Iran, ²Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, karaj, Iran, ³Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran

Could soybean meal supplementation with crude extract of pistachio hulls change the blood metabolites of Holstein male bulls?
M. Dehghan banadaky¹, A. Jolazadeh², K. Rezayazdi² and N. Vahdani¹, ¹Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, karaj, Iran, ²University of Tehran, Karaj, Iran, ³Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran

Effect of Saikosaponin on rumen gas production, volatile fatty acid concentrations and microbial populations in vitro.
A. R. Seradí³, J. Crespo³, M. Fondevila³ and J. Balcells³, ¹University of Lleida, Lleida, Spain, ²Interquim S. A. (Ferrer Health Tech), Barcelona, Spain, ³University of Zaragoza, Zaragoza, Spain

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Methane production from dairy cows fed red clover- or corn silage-based diets supplemented with linseed oil.
C. Benchaar1, F. Hassanal1, R. Gervais2 and R. Martineau1, 1Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada, 2Université Laval, Québec, QC, Canada

Replacing Alfalfa with Paniced-Tick Clover or Sericea Lespedeza in a Dairy Diet Decreases Ruminal Methane but not Total Gas Production.
H. D. Naumann1, S. A. Armstrong2,3, M. A. Fonseca4, B. D. Lamber5,6 and L. O. Tedesch4, 1University of Missouri, Columbia, 2Prince Agri Products, Inc, Quincy, IL, 3Oregon State University, Corvallis, OR, 4Texas A&M University, College Station, 5Texas A&M AgriLife Research, Stephenville, TX, 6Tarleton State University, Stephenville, TX

Effects of Forage Source and NDF Concentration on Methane Emissions and Milk Production of Dairy Cows.
K. J. Hammond1, A. K. Jones, D. J. Humphries, L. A. Crompton and C. K. Reynolds, University of Reading, Reading, United Kingdom

Changes of rumen methanogen diversity associated with different types of forage and protein in diets.
X. W. Wang, J. Q. Wang, D. P. Bu and S. G. Zhao, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

Effect of Cashew Nut Shell Liquid on Lactation Performance and Rumen Methane Production in Dairy Cows.
A. F. Branco1, F. Gialloncono2, T. Frederick1, H. Weeks3, J. O’K3 and A. N. Hristov1, 1Universidade Estadual de Maringá, Paraná, Brazil, 2Department of Animal Science, The Pennsylvania State University, University Park

Metabolism of dairy cows as affected by dietary starch level and supplementation with monensin during early lactation.
M. M. McCarthy1, T. Yasui1, C. M. Ryan1, S. H. Pelton1, G. D. Mechord2 and T. R. Overton1, 1Cornell University, Department of Animal Science, Ithaca, NY, 2Elanco Animal Health, Greenfield, IN

Effect of dietary monensin supplementation and amino acid balancing on lactation performance by dairy cows.
A. L. Hagen1,2, L. F. Ferraretto1, R. D. Shaver1 and R. Martin1, 1University of Wisconsin, Madison, 2Vita Plus Corporation, Madison, WI

Effects of Beta-Extract of Humulus lupulus (hops) on Fermentation by Rumen Microbes in Continuous Culture.
S. W. Fessenden1, I. J. Salfer and M. D. Stern, University of Minnesota, Saint Paul

Evaluation of Celmanax® SCP on Lactational Performance and Ruminal Fermentation of Holstein Dairy Cows Fed Corn Silage Based Diets with a Moderate Starch Content.
H. M. Dann1, P. Ji1, K. W. Cotanch1, C. S. Ballard1, R. J. Grant1 and C. C. Elrod1, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Vi-COR, Inc., Mason City, IA

Effects of Bacillus subtilis and yeast cell wall on diarrhea incidence and immune function of dairy calves.
J. Freitas1, University of Parana, Palotina, Brazil

Effects of Bacillus subtilis and yeast cell wall on diarrhea incidence and immune function of dairy calves.
J. A. Freitas2, V. Souza2, J. C. De Souza2, C. Nozawa2 and P. Pinto1, 1University of Parana, Palotina, Brazil, 2University of Sao Paulo, Piracicaba, Brazil, 3University of South of Mato Grosso, Aquidauana, Brazil, 4University of Londrina, Londrina, Brazil, 5University Federal of Parana, Palotina, Brazil

Effects of different doses of Bacillus subtilis Natto on in vitro rumen fermentation parameters.
J. Li1,2,3, D. P. Bu2, J. Q. Wang1,2, P. Sun2 and F. D. Li3, 1Heilongjiang Bayi Agricultural University, Daqing, China, 2State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 3College of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China

An on-farm application of feed probiotics to increase total tract starch digestibility (TTSD) in high producing, lactating dairy cows.
W. L. Braman1, K. A. Bryan and J. E. Kurtz, Chr. Hansen Animal Health and Nutrition, Milwaukee, WI

Effect of feeding yeast culture (YC) on lactation performance of dairy cows fed diets differing in rumen fermentability.

Milk fatty acid profile in cows fed red clover or alfalfa based diets differing in rumen-degradable protein supply.
M. Leduc1, F. Y. Chouinard1, R. Gervais1, E. Baumann1, Y. Lebeuf1 and G. Tremblay1, 1Université Laval, Québec, QC, Canada, 1Agriculture and Agri-Food Canada, Soils and Crops Research and Development Centre, Quebec, QC, Canada
1762 T375 Use of virginiamycin and monensin sodium in diets of confined beef steers. 
F. R. Camilo	extsuperscript{1}, A. M. Mobiglia	extsuperscript{1}, R. K. Grizio	extsuperscript{2}, J. A. Alves Neto	extsuperscript{1}, M. Q. Manella	extsuperscript{2}, F. D. D. Resende	extsuperscript{1}, G. R. Siqueira	extsuperscript{2} and J. J. R. Fernandes	extsuperscript{3, 4}, 	extsuperscript{1}Escola de Veterinária e Zootecnia da UFG, Goiânia, Brazil, 	extsuperscript{2}APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 	extsuperscript{3}Universidade Estadual Paulista, Jaboticabal, Brazil, 	extsuperscript{4}Phibio Animal Health Corporation, Guarulhos, Brazil, 	extsuperscript{5}Universidade Federal de Goiâs, Goiânia, Brazil

1763 T376 GLOBAL NETWORK for the development of nutrition-related strategies for mitigation of methane and nitrous oxide emissions from ruminant livestock. 
A. N. Hristov	extsuperscript{1}, E. Kehbre	extsuperscript{1}, Z. T. Yu	extsuperscript{1}, C. Martin	extsuperscript{1}, M. Eugène	extsuperscript{1}, D. R. Yañez-Ruiz	extsuperscript{1}, K. J. Shingfield	extsuperscript{1}, S. Ahvenjärv	extsuperscript{1}, P. O’Kie	extsuperscript{1}, C. K. Reynolds	extsuperscript{1}, K. J. Hammond	extsuperscript{1}, J. Dijkstra	extsuperscript{2}, A. Bannink	extsuperscript{10}, A. Schwarm	extsuperscript{11} and M. Kreuzer	extsuperscript{12}, 	extsuperscript{1}Department of Animal Science, The Pennsylvania State University, University Park, 	extsuperscript{2}University of California, Davis, Davis, CA, 	extsuperscript{3}The Ohio State University, Columbus, 	extsuperscript{4}INRA, Clermont-Ferrand, France, 	extsuperscript{5}Estacion Experimental del Zaidín, CSIC, Granada, Spain, 	extsuperscript{6}MTT Agrofood Research, Animal Production Research, Jokioinen, Finland, 	extsuperscript{7}Animal and Grassland Research and Innovation Centre, Teagasc, Dunsany, Ireland, 	extsuperscript{8}University of Reading, Reading, United Kingdom, 	extsuperscript{9}Animal Nutrition Group, Wageningen University, Wageningen, Netherlands, 	extsuperscript{10}Animal Nutrition, Wageningen UR Livestock Research, Lelystad, Netherlands, 	extsuperscript{11}ETH Zurich, Institute of Agricultural Sciences, Zurich, Switzerland, 	extsuperscript{12}ETH Zurich, Zurich, Switzerland

1764 T377 Effect of oat grain variety on methane emissions from mature sheep. 
J. M. Moorby	extsuperscript{1, 2}, H. F. Fleming and S. A. Cowan, Aberystwyth University, Aberystwyth, United Kingdom

1765 T378 Effect of Acetate, Propionate and pH on Aqueous Concentration and Gaseous Methane and Hydrogen Production in Continuous Culture. 
S. Ghimire	extsuperscript{1}, B. A. Wenner	extsuperscript{2}, R. A. Kohn	extsuperscript{2}, J. L. Firkins	extsuperscript{2} and M. D. Hanigan	extsuperscript{1}, 	extsuperscript{1}Virginia Polytechnic Institute and State University, Blacksburg, 	extsuperscript{2}The Ohio State University, Columbus, 	extsuperscript{3}The University of Maryland, College Park

1766 T379 Ruminal parameters of confined steers fed with diets containing virginiamycin and monensin sodium. 
F. R. Camilo	extsuperscript{1}, A. M. Mobiglia	extsuperscript{1}, G. F. Berti	extsuperscript{1}, N. M. Jerônimo	extsuperscript{2}, R. K. Grizio	extsuperscript{2}, M. Q. Manella	extsuperscript{2}, F. D. D. Resende	extsuperscript{1}, G. R. Siqueira	extsuperscript{1} and J. J. R. Fernandes	extsuperscript{3}, 	extsuperscript{1}Escola de Veterinária e Zootecnia da UFG, Goiânia, Brazil, 	extsuperscript{2}Centro Universitário da Fundaçã, Barretos - Unifã, Barretos, Brazil, 	extsuperscript{3}APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 	extsuperscript{4}Phibio Animal Health Corporation, Guarulhos, Brazil, 	extsuperscript{5}Universidade Federal de Goiâs, Goiânia, Brazil

1767 T380 Ruminal parameters of young Nellore bulls in a feedlot fed Yea-Sacc8417 live yeast, monensin and their combination. 
J. M. B. Benatti	extsuperscript{1}, N. M. Geronimo	extsuperscript{1}, J. A. Alves Neto	extsuperscript{1}, I. M. de Oliveira	extsuperscript{2}, A. D. Moreira	extsuperscript{1}, C. L. Francisco	extsuperscript{2}, G. R. Siqueira	extsuperscript{1} and F. D. D. Resende	extsuperscript{1}, 	extsuperscript{1}Universidade Estadual Paulista, Jaboticabal, Brazil, 	extsuperscript{2}UNIFEB, Barretos, Brazil, 	extsuperscript{3}APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 	extsuperscript{4}Universidade Estadual Paulista - FMVZ, Botucatu, Brazil

1768 T381 Optimal ratio of combined organum essential oils to reduce methane emissions under in vitro ruminal fermentation. 
A. Castañeda-Corrêa	extsuperscript{1}, A. Corral-Luna	extsuperscript{2}, F. A. Rodriguez-Almeida	extsuperscript{1}, L. de la Torre-Saenz	extsuperscript{2}, R. Silva-Vázquez	extsuperscript{2}, L. Carlos-Valdez	extsuperscript{2}, H. Gutiérrez-Bañuelos	extsuperscript{3} and O. Ruiz-Barrera	extsuperscript{1}, 	extsuperscript{1}Universidad Autónoma de Chihuahua, Chihuahua, Mexico, 	extsuperscript{2}CIMAV, Chihuahua, Mexico, 	extsuperscript{3}CIRENA, Salalchi, Mexico, 	extsuperscript{4}Universidad Autonoma de Zacatecas, Zacatecas, Mexico

1769 T382 Effect of Phytogenic Feed Additives on Performance Parameters and Health of Bull Calves under Commercial Conditions. 
C. Schiedel	extsuperscript{1}, T. Steiner	extsuperscript{1} and M. Friedrichkeit	extsuperscript{1}, 	extsuperscript{1}BIOMIN Holding GmbH, Herzogenburg, Austria, 	extsuperscript{2}Commercial farm, Reisenberg, Austria

1770 T383 Efficacy of Propionibacterium strains in mitigating methane emissions from beef heifers fed a high forage diet. 
D. Vyas	extsuperscript{1}, A. Alazzeh	extsuperscript{1}, S. M. McGinn	extsuperscript{2}, O. M. Harstad	extsuperscript{1}, H. Ho	extsuperscript{1}, T. A. McAllister	extsuperscript{1} and K. A. Beauchemin	extsuperscript{1}, 	extsuperscript{1}Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 	extsuperscript{2}Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada, 	extsuperscript{3}Department of Animal and Aquacultural Sciences, Norwegian University of Life Sciences, Ås, Norway, 	extsuperscript{4}Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1771 T384 Effect of a commercially probiotic on in vitro gas production of alfalfa hay and barley grain. 
S. Payandeh	extsuperscript{1}, F. Kapilzadeh	extsuperscript{1}, E. Maleki	extsuperscript{1}, G. Taasoli	extsuperscript{1} and A. Kamyab	extsuperscript{1}, 	extsuperscript{1}Razi University, Kermanshah, Iran, 	extsuperscript{2}University of Columbia, Columbia, MO

1772 T385 Lactobacillus brevis YM 3-30, a γ-aminobutyric acid producing bacteria, decreases blood endotoxin level of Hanwoo Cattle. 
S. S. Lee	extsuperscript{1}, B. S. Ku	extsuperscript{1}, L. L. Manuad	extsuperscript{1}, S. H. Kim	extsuperscript{1}, C. D. Jeong	extsuperscript{1}, Y. J. Choi	extsuperscript{1}, A. P. Soriano	extsuperscript{1}, K. Lee	extsuperscript{1} and K. K. Park	extsuperscript{1}, 	extsuperscript{1}Sunchon National University, Suncheon, South Korea, 	extsuperscript{2}The Ohio State University, Columbus, 	extsuperscript{3}Konkuk University, Seoul, South Korea

1773 T386 Probiotic levels, chemical composition and fermentative characteristics in the solid state fermentation of paper sludge for ruminant feeding. 
O. Ruiz-Barrera	extsuperscript{1}, Y. Castillo-Castillo	extsuperscript{2}, C. Rodriguez-Muela	extsuperscript{2}, L. M. Carrillo-Chan	extsuperscript{1}, C. Arzola-Alvarez	extsuperscript{2}, J. Lopez-Morones	extsuperscript{3} and A. Corral-Luna	extsuperscript{1}, 	extsuperscript{1}Universidad Autónoma de Chihuahua, Chihuahua, Mexico, 	extsuperscript{2}University of Ciudad Juarez, Cd. Juarez, Mexico, 	extsuperscript{3}University of Chihuahua, Chihuahua, Mexico
Lactobacillus brevis YM 3-30, a γ-aminobutyric acid producing bacteria, increases antioxidant concentration and reduces biogenic amines.

S. S. Lee1, B. S. Ku1, L. L. Manuad1, S. H. Kim1, C. D. Jeong1, Y. J. Choi1, A. P. Soriano1, K. Lee2 and K. K. Park3,
1Sunchon National University, Sancheon, South Korea, 2The Ohio State University, Columbus, 3Konkuk University, Seoul, South Korea

Effects of lactobacilli and fibrolytic enzymes on chemical composition, fermentation traits, conservation characteristics and in situ digestibility of mixed cereal silage.

L. Jin1, L. Duniere1, Y. Wang2 and T. A. McAllister2,
1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Use of Ye-aSac® live yeast, monensin and their combination in diets for young Nellore bulls in a feedlot.

J. M. B. Benatti1, N. M. Geronimo1, J. A. Alves Neto1, R. C. Silva1, I. M. de Oliveira1, C. L. Francisco1, G. R. Siqueira1 and F. D. D. Resende1, 1Universidade Estadual Paulista, Jaboticabal, Brazil, 2UNIFEB, Barretos, Brazil, 3APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 4Universidade Estadual Paulista - FMVZ, Botucatu, Brazil

Effects of lactobacilli and fibrolytic enzymes on ensiling as well as in vitro and in situ digestibility of barley silage.

L. Jin1, L. Duniere1, Y. Wang2 and T. A. McAllister2,
1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Effect of direct-fed microbials and monensin on in vitro fermentation of a high-froage substrate.

S. Wingard2, E. S. Vanzant, D. L. Harmon and K. R. McLeod, University of Kentucky, Lexington

SYMPOSIA AND ORAL SESSIONS

Animal Health Symposium II: Optimizing disease response modeling

Chair: Thomas R Overton, Cornell University, Department of Animal Science

Welcoming Remarks

Understanding Animal-to-Animal Variation in Disease Management.

D. E. Kerr, University of Vermont, Burlington

Can the genetic selection for improved immune response be tailored to expand the efficacy of disease management interventions.

B. Mallard, Dept of Pathobiology, OVC, University of Guelph, Guelph, ON, Canada

Break

Selecting Pharmacological Interventions through Rapid Screening Motifs and Proper Cell Models.

E. Zudaire, NIH-NCI, Bethesda, MD

Managing animal health from an aquaculture perspective.

C. A. Shoemaker, B. R. LaFrentz, D. Xu and D. Zhang, USDA-ARS, Aquatic Animal Health Research Unit, Auburn, AL

ARPAS Symposium: Customer/Consumer Confidence in the Livestock Industry - Ethics

Chair: Jack E. Garrett, QualiTech, Inc.

Perspectives on Business Ethics in a New-age Feed Industry.

L. D. Bunting, ADM Alliance Nutrition, Lubbock, TX

Customer/Consumer Confidence in the Livestock Industry – Ethics: University perspective.

M. L. Galyean, Texas Tech University, Lubbock

Veterinary perspective.

C. D. Ashworth, Elanco Dairy Business, Fort Smith, AR

Regulatory Definitions, Processes, and Functionality Assessment for Animal Food.

M. G. Alewynse and S. A. Benz, 1Center for Veterinary Medicine, Olney, MD, 2Center for Veterinary Medicine, FDA, Woodbine, MD
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<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9:30 AM</td>
<td>126</td>
<td>Changes in body composition during winter gestation of mature beef cows grazing different herbage allowances of native pastures.</td>
<td>A. Casal¹, A. L. Astessiano Dickson¹, A. I. Trujillo¹, P. Socá¹, A. C. Espasandin² and M. Carriquiry¹, ¹Facultad de Agronomía, Universidad de la Republica, Montevideo, Uruguay, ²Departamento de Producción Animal y Pasturas - Facultad de Agronomía - UdelaR, Paysandú, Uruguay</td>
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<td>9:45 AM</td>
<td>127</td>
<td>Prepartum supplement level and age of weaning: I. Effects on pre- and postpartum beef cow performance and calf performance through weaning.</td>
<td>L. M. Shoup¹, A. C. Kloth², D. Gonzalez-Peña Fundora², F. A. Ireland³, S. L. Rodriguez Zas³, T. L. Felix³ and D. W. Shike³, ¹University of Illinois, Urbana, ²University of Illinois at Urbana-Champaign, Urbana, IL</td>
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<tr>
<td>10:00 AM</td>
<td>128</td>
<td>Prepartum supplement level and age of weaning: II. Effects of developmental programming on performance and carcass composition of steer progeny.</td>
<td>L. M. Shoup¹, D. Gonzalez-Peña Fundora², F. A. Ireland³, S. L. Rodriguez Zas³, T. L. Felix³ and D. W. Shike³, ¹University of Illinois, Urbana, ²University of Illinois at Urbana-Champaign, Urbana, IL</td>
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<td>10:15 AM</td>
<td>129</td>
<td>Efficiency and performance of primiparous Angus cows raised in a range system.</td>
<td>J. S. Lemes³, C. C. Brauner³, R. Z. Vaz³ and M. A. Pimentel³, ¹Universidade Federal de Pelotas, Pelotas, Brazil, ²Federal University of Pelotas, Pelotas, Brazil</td>
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<tr>
<td>10:30 AM</td>
<td>130</td>
<td>Effect of an injectable trace mineral on reproductive performance of beef cows grazing irrigated pasture.</td>
<td>C. J. Brasche³, J. B. Hall² and M. E. Drewnoski¹, ¹University of Idaho, Moscow, ²University of Idaho, Carmen, ID</td>
</tr>
<tr>
<td>10:45 AM</td>
<td>131</td>
<td>Effect of injectable trace mineral supplementation in yearling bulls on serum and semen trace mineral levels and reproductive parameters.</td>
<td>A. A. Kirchhoff and K. E. Fike, Kansas State University, Manhattan</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>132</td>
<td>Effect of an Injection of a Fat Soluble Vitamin Mix (E, A, and D) to Newborn Beef Calves on Markers of Cell Oxidative Damage and Calf Performance.</td>
<td>W. A. Sutton² and M. E. Drewnoski, University of Idaho, Moscow</td>
</tr>
<tr>
<td>11:15 AM</td>
<td>133</td>
<td>Relationships between maintenance energy EPD and performance measures of progeny from Red Angus sires divergent for maintenance energy EPD.</td>
<td>C. M. Welch⁴, S. E. Speidel⁵, D. H. Crews⁵, J. K. Ahola⁴, J. B. Hall⁴, W. Price⁴ and R. A. Hill⁴, ¹University of Idaho, Moscow, ²Colorado State University, Department of Animal Sciences, Fort Collins, CO, ³Colorado State University, Fort Collins, ⁴University of Idaho, Carmen, ID</td>
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<td>11:30 AM</td>
<td>134</td>
<td>Effects of breeding system of origin (natural service or artificial insemination) on growth, attainment of puberty, and pregnancy rates in crossbred beef heifers.</td>
<td>M. R. Schook⁴, P. L. Steichen⁴, V. R. G. Mercadante⁴, G. C. Lamb⁴, B. W. Neville⁴ and C. R. Dahlen⁴, ¹North Dakota State University, Fargo, ²University of Florida, Marianna, FL, ³North Dakota State University, Streeter, ND</td>
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<td>11:45 AM</td>
<td>135</td>
<td>Simulation and economic analysis of beef cattle natural service and induced twinning via embryo transfer following AI breeding and two calf management systems.</td>
<td>D. G. Aherin¹, P. J. Ebert, J. R. Shearer, R. L. Weaver, J. M. Bormann, D. W. Moser and M. D. MacNeil, Kansas State University, Manhattan</td>
</tr>
<tr>
<td>12:00 PM</td>
<td>136</td>
<td>The indirect effects of horn flies and sire breed on calf preweaning and postweaning performance traits.</td>
<td>A. R. Mays³, M. A. Brown² and C. F. Rosenkrans¹, ¹Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, ²ARS, USDA, Grazinglands Research Laboratory, El Reno, OK, ³University of Arkansas, Fayetteville</td>
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**Companion Animals: Companion Animal Nutrition and Pet Food Processing**

**Chair: George C. Fahey, University of Illinois**

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<th>Time</th>
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<tr>
<td>9:30 AM</td>
<td>180</td>
<td>Influence of pork and pork by-products on macronutrient digestibility in large captive felids.</td>
<td>C. J. Iske¹, C. L. Morris² and K. L. Kappen², ¹Iowa State University, Ames, ²Omaha’s Henry Doorly Zoo &amp; Aquarium, Omaha, NE</td>
</tr>
</tbody>
</table>
9:45 AM  181  Indirect calorimetry, real-time interstitial glucose monitoring and blood sampling to determine effects of low, medium and high glycemic index cat foods.
K. D. Berendt1, A. K. Shoveller2 and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, Canada, 2Procter & Gamble Pet Care, Mason, OH

10:00 AM  182  The Effect of Extrusion and Elevated Storage Temperatures on Vitamin Retention in Pet Food.
A. K. Mooney*, Kansas State University, Manhattan

10:15 AM  183  Effects of Processing on Water Soluble B-Vitamins in a Canned Cat Diet.
S. DeNoya*, G. Aldrich and C. K. Jones, Kansas State University, Manhattan

10:30 AM  

10:45 AM  184  Feeding frequency and dietary water content affect voluntary physical activity in young lean adult female cats.
M. R. C. de Godoy1, K. Ocht2, L. F. de Oliveira Mateus1, A. C. C. de Justino1 and K. S. Swanson1, 1, 2Department of Animal Sciences, University of Illinois, Urbana, 2Nippon Pet Foods Co. Ltd, Tokyo, Japan, 3Department of Animal Sciences University of São Paulo State, Jaboticabal, Brazil, 4Division of Nutritional Sciences, Urbana, IL, 5Department of Veterinary Clinical Medicine, Urbana, IL

11:00 AM  185  Effects of graded dietary resistant starch concentrations on apparent total tract macronutrient digestibility, fecal characteristics, and fecal fermentative end-products in healthy adult dogs.
A. N. Beloshapka* and K. S. Swanson, Department of Animal Sciences, University of Illinois, Urbana

M. Gray*, G. Aldrich and C. K. Jones, Kansas State University, Manhattan

11:30 AM  187  Broken beans (Phaseolus vulgaris) use on extruded diets for cats.
B. P. Neto1, F. C. Sa2, N. Musco3, A. P. Maria4, B. Agy5, B. A. Kamimura5, R. S. Vasconcellos5 and A. C. Carciofi6, 1Universidade Estadual de Maringa, Maringa, Brazil, 2Sao Paulo State University, Jaboticabal, Brazil, 3Università degli Studi di Napoli Federico II, Napoli, Italy, 4Università de Campinas, Campinas, Brazil, 5Sao Paulo State University - UNESP, Jaboticabal, Brazil

Comparative Gut Physiology Symposium: Session I

Chair: David M Bravo, PANCOSMA SA, Thomas B. McFadden, University of Missouri and John Furness, University of Melbourne
Sponsor: PANCOSMA SA
2103A

9:30 AM  

9:45 AM  198  Integrated responses to feeding, comparative aspects.
J. Furness*, University of Melbourne, Parkville, Australia

10:15 AM  199  Expression of Nutrient Transporter mRNA in the Jejunum of High and Low Efficiency Steers.
H. C. Cunningham1, Z. T. L. Gray1, S. I. Paisley1, K. J. Austin1, K. M. Cammack1 and A. M. Meyer1, 1Department of Animal Science, University of Wyoming, Laramie, WY, 2Division of Animal Sciences, University of Missouri, Columbia

10:30 AM  200  Comparative Physiology of Glucagon-like Peptide 2 - Implications and Applications for Production and Health of Ruminants.
E. E. Connor1, M. P. Walker2, C. M. Evock-Clover2, T. H. Elsasser2 and S. Kahn2, 1USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, 2USDA-ARS, BFGL, Beltsville, MD, 3USDA, Agricultural Research Service, Beltsville, MD

11:00 AM  201  Differential subcellular and cellular storage of glp-1 and pyy, and its implications.
J. Furness4, H. J. Cho1, S. Kosari1 and D. M. Bravo1, 1University of Melbourne, Parkville, Australia, 2PANCOSMA SA, Geneva, Switzerland

11:15 AM  202  The Role of the Microbiome in Gut Immune System Development in Newborn and Mature Cattle.
P. J. Griebel1, N. Malmuthuge2, G. Liang3, M. Zhou1 and L. L. Guan4, 1Vaccine and Infectious Disease Organization, University of Saskatchewan, Saskatoon, SK, Canada, 2University of Alberta, Edmonton, AB, Canada

11:45 AM  203  The effects of intentionally-induced leaky gut on metabolism and production in lactating Holstein dairy cows.
S. K. Stoakes1, M. Abuajamieh1, D. B. Snider1, M. V. Sanz Fernandez1, J. S. Johnson1, P. J. Gordon1, N. K. Gabler1, H. B. Green2, K. M. Schoenberg2 and L. H. Baumgard1, 1Iowa State University, Ames, 2Elanco Animal Health, Indianapolis, IN
CSAS Symposium: Understanding Feeding Behaviour to Improve Animal Well-being and Productivity
Chair: Cornelis F.M. de Lange, Department of Animal and Poultry Science, University of Guelph

TUESDAY, JULY 22, 2014

9:30 AM  229  The psychology and sociology of feeding behaviour.
J. J. Villalba*, Utah State University - Agricultural Experiment Station, Logan, UT

10:10 AM  230  Physiological Mechanisms Controlling Feeding Behavior.
M. S. Allen* and P. Piantoni, Michigan State University, East Lansing

10:50 AM  231  Feeding behaviour, productivity and welfare of dairy cows.
M. A. G. von Keyserlingk* and D. M. Weary, University of British Columbia, Vancouver, BC, Canada

11:30 AM  232  Good Eating Habits Lead to Good Growth and Welfare of Dairy Calves.
T. J. DeVries*, University of Guelph, Kemptville, ON, Canada

Dairy Foods Symposium: Protein functionality in cheese systems: Natural, process cheese and analogs
Chair: TBA

9:30 AM  248  Commercial and Functional Considerations when formulating foods with dairy proteins.
T. McCarthy*, Schreiber Foods, Green Bay, WI

9:50 AM  249  A model for the formation of the aggregated network in process cheese products that can be used to predict functional properties.
L. Metzger*, Midwest Dairy Foods Research Center, South Dakota State University, Brookings

10:10 AM  250  Autocatalytic multistage gel formation reaction in dairy based systems in relation to compositional factors.
U. Kulozik*, Technische Universität München, Freising-Weihenstephan, Germany

10:30 AM  251  Protein Functionality in Processed Cheese – Fundamental Principles and Practical Observations.
D. C. Reid*, Fonterra Research and Development Centre, Palmerston North, New Zealand

10:50 AM  252  Impact of emulsifying salts on milk proteins and process cheese properties.
J. A. Lucey*, University of Wisconsin - Madison, Madison

Extension Education
Chair: Amy E. Radunz, University of Wisconsin-River Falls

9:30 AM  286  Developing, Marketing and Branding Mobile Apps for the Horse Industry.
K. L. Martinson1, R. J. Coleman2 and M. E. McCue1, 1University of Minnesota, Saint Paul, 2University of Kentucky, Lexington

9:45 AM  287  Calving Management Education Program for Dairy and Beef Workers and Producers.
L. G. D. Mendonça1, L. Hollis2, J. M. Zeller3 and J. P. Harner2, 1Department of Animal Sciences and Industry, Kansas State University, Manhattan, 2Department of Biological and Agricultural Engineering, Kansas State University, Manhattan

10:00 AM  288  Premium Beef Semen on Dairy Calculator.
G. Lopes1 and V. Cabrera1, 1Accelerated Genetics, Baraboo, WI, 2University of Wisconsin Madison, Madison

10:15 AM  289  A decision support tool to estimate the economic potential of SCC hot sheet data.
D. T. Nolan1 and J. M. Bewley, 1University of Kentucky, Lexington

10:30 AM  290  The Kentucky Master Stocker Program.
J. W. Lehmkuhler1, W. R. Burris2, S. R. Smith, Jr1, G. Halich1, K. Burdine1, M. Arnold1, S. F. Higgins1, A. Gumbert1 and K. Laurent1, 1University of Kentucky, Lexington, 2University of Kentucky, Princeton

D. N. Blück1, J. C. Hadrich2, G. P. Lardy1 and C. R. Dahlen1, 1North Dakota State University, Fargo, 2Colorado State University, Fort Collins
Forages and Pastures Symposium: Use of Marginal Lands and Fibrous Byproducts in Efficient Beef and Dairy Production Systems

Chair: Jeff Lehmkuhler, University of Kentucky
2104A

9:30 AM 313 Improving Efficiency of Production in Pasture/Range Based Beef and Dairy Systems.
J. T. Mulliniks1, A. G. Rius2, M. A. Edwards3, K. B. Brentley1, S. R. Edwards1 and R. L. Nave1, 1University of Tennessee, Crossville, TN, 2Present address: University of Tennessee, Knoxville, 3University of Tennessee, Knoxville

10:10 AM 314 Forage breeding programs aimed at increasing productivity of marginal lands.
M. Casler1, USDA-ARS, Madison, WI

International Animal Agriculture: International Animal Production

Chair: Fernando R. Valdez, Kemin Industries, Inc.
3501F

9:30 AM 396 Effect of High Nutrient Density Diets on Growth Performance, Feed Efficiency, Age at Puberty and Feeding Economics in Nili-Ravi Buffalo Heifers.
M. Abdullah1, K. Javed1, Z. M. Iqbal1, M. Saadullah1, M. A. Jabbar1 and A. U. Haque1, 1University of Veterinary and Animal Sciences, Lahore, Pakistan

9:45 AM 397 Environment concerns and waste management strategies of pig production in China.
J. Peng1, L. Liu2 and L. Huang1, 1Jiangxi Agricultural University, Nanchang, China, 2Jiangxi Department of Agriculture, Nanchang, China

10:00 AM 398 Identification of barriers of Bahamian agriculture production: an assessment of stakeholder needs.
S. J. Trojan1, M. T. Brashears2, S. Morales2, A. Echeverry1 and M. Brashears2, 1Texas Tech University, Department of Animal and Food Sciences, Lubbock, 2Texas Tech University, Department of Agriculture Education and Communications, Lubbock

10:15 AM 399 Diet-induced shifts in the rumen microbiome of Mehshana Buffalo (Bubalus bubalis).
D. W. Pitta1, S. Kumar2, B. Vezicharelli2, N. Parmar2 and C. Joshi1, 1University of Pennsylvania, Kennett Square, 2Anand Agriculture University, Anand, India


Chair: Guoyao Wu, Texas A&M University
Sponsor: Ajimoto Heartland
2504

9:30 AM Welcoming Remarks

9:35 AM 458 Amino acid signaling for embryonic and fetal development.
G. Wu1, F. Bazer, R. Burghardt, G. Johnson, M. C. Satterfield and X. Wang, Texas A&M University, College Station

10:10 AM 459 Leucine: A Potent Nutrient Signal for Protein Synthesis in Neonates.
T. A. Davis1, M. L. Fiorotto2, A. Suryawan1 and D. Columbus2, 1USDA/ARS - Children's Nutrition Research Center, Baylor College of Medicine, Houston, TX, 2Baylor College of Medicine, CNRC, Houston, TX

10:45 AM 460 Tryptophan: Functions beyond protein synthesis.
S. W. Kim1 and Y. Shen, North Carolina State University, Raleigh

11:20 AM 461 New Insights into Sulfur Amino Acid Function in Gut Health and Disease.
D. G. Burrin1, USDA-ARS Children's Nutrition Research Center, Houston, TX
11:55 AM 462 Glutamate and glutamine: Nonessential or essential amino acid.
M. Watford, Rutgers, New Brunswick, NJ

Physiology and Endocrinology: Interrelationships Between Environmental, Metabolic and Physiological Processes I

Chair: Brian Keith Whitlock, Auburn University
2105

9:30 AM 498 Insulin sensitivity of the lipid metabolism of precalving dairy cows across a range of BCS.
J. De Koster* and G. Opsomer, Department of Reproduction, Obstetrics and Herd Health, Faculty of Veterinary Medicine, Ghent University, Ghent, Belgium

9:45 AM 499 Effect of ractopamine hydrochloride and zilpaterol hydrochloride on the electrocardiogram and blood lactate in finishing steers.
D. A. Fresen1, C. Reinhardt1, S. J. Bartle1, D. N. Rethorst1, B. S. Bava1, J. D. Thomason1, G. H. Loneragan2 and D. Thomson1, 1Kansas State University, Manhattan, 2Texas Tech University, Lubbock

10:00 AM 500 Expansion and evaluation of a dynamic, mechanistic model of nutritional and reproductive processes in dairy cattle.
J. P. McNamara1 and S. L. Shields2, 1Washington State University, Pullman, 2Elanco Inc, Pasco, WA

10:15 AM 501 Metabolic, paracellular permeability, and immune gene expression in ruminal epithelium during the transition period in dairy cattle.
A. Minuti1, S. Alqarni2, P. Cardoso3, E. Trevisi1 and J. J. Loor3, 1Università Cattolica del Sacro Cuore, Piacenza, Italy, 2University of Illinois, Urbana-Champaign, 3University of Illinois, Urbana

10:30 AM 502 Energy expenditure is lower in efficient compared to inefficient lactating dairy cattle.
K. DiGiacomo1, L. C. Marer2, W. J. Wales2, B. J. Hayes3, F. R. Dunsha4 and B. J. Leu4, 1The University Of Melbourne, Parkville, Australia, 2The Department of Environment and Primary Industries, Victoria, Ellinbank, Australia, 3The Department of Environment and Primary Industries, Bundooora, Australia

10:45 AM 503 Supplementation of OmniGen-AF during the receiving period modulates the metabolic response to a lipopolysaccharide challenge in feedlot steers.
N. C. Burdick Sanchez1, J. O. Buntyn2, J. A. Carroll1, T. Wistuba3, K. DeHaan4, S. E. Sieren5, S. J. Jones3 and T. B. Schmidt2, 1USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 2University of Nebraska, Department of Animal Science, Lincoln, NE, 3Prince Agri Products Inc, QuinCY, IL, 4Prince Agri Products Inc., Quincy, IL, 5University of Nebraska, Lincoln

11:00 AM 504 Supplementation of Saccharomyces cerevisiae modulates the metabolic response to a lipopolysaccharide challenge in feedlot steers.
T. B. Schmidt1, J. O. Buntyn2, N. C. Burdick Sanchez2, E. Chevaux3, K. Barling3, S. E. Sieren5, S. J. Jones3 and J. A. Carroll1, 1University of Nebraska, Lincoln, 2University of Nebraska, Department of Animal Science, Lincoln, 3USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 4Lallemand Animal Nutrition, Milwaukee, WI, 5University of Nebraska, Lincoln

11:15 AM 505 Circulating amino acids and biomarkers of metabolism and inflammation during the peripartal period in cows with different liver functionality index (LFI).
Z. Zhou1, J. J. Loor2, F. Piccioli-Capelli2, G. E. Lobley4 and E. Trevisi1, 1University of Illinois, Urbana, 2Università Cattolica del Sacro Cuore, Piacenza, Italy, 3Rowett Institute of Nutrition and Health, University of Aberdeen, Aberdeen, United Kingdom

11:30 AM 506 Peripheral Leukocytic Responses To Ultraviolet Radiation In Pre-pubertal Rabbits Fed A Turmeric-Supplemented Diet.
V. A. Togun*, Ladoke Akintola University of Technology, Ogbomoso, Nigeria

11:45 AM 507 Regulation of adipogenesis and key adipogenic gene expression by retinoic acid in 3T3-L1 preadipocytes.
S. Ji1, M. Du2 and R. A. Hill1, 1University of Idaho, Moscow, 2Washington State University, Pullman

12:00 PM 508 Cholesterol Metabolism, Transport and hepatic Regulation during negative Energy Balance in early and mid-lactation in Dairy Cows.
J. J. Gross1, E. C. Kessler2, C. Albrecht2 and R. M. Bruckmaier3, 1Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland, 2Institute of Biochemistry and Molecular Medicine, University of Bern, Bern, Switzerland, 3Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland
Ruminant Nutrition IV

Chair: TBA

2103B

9:30 AM 631 Effect of sunflower seed or sunflower oil as diet supplement on milk production, milk composition and milk fatty acid profile in lactating goats.
T. A. Morsy1, S. Kholf2, O. Matlou3 and A. Abu Elella2, 1National Research Center, Cairo, Egypt, 2Animal Production Research Institute, Agriculture Research Center, Cairo, Egypt

9:45 AM 632 The relationship between human daily requirements of CLA, the potential enrichment of milk through cow's nutrition and daily human consumption.
A. Siurana1 and S. Calsamiglia, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain

10:00 AM 633 Tolerance study of rumen protected conjugated linoleic acid on dairy cows during the transition and early lactation period.
Z. H. Wei1, J. S. Shen1, J. X. Liu2, Y. J. Zhang3 and Y. Jiang4, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Zhejiang University, Hangzhou, China, 3BASF (China) Company Ltd., Shanghai, China

10:15 AM 634 Effect of different dietary fat supplements on milk odd and branched chain fatty acids in dairy cows.
E. Baumann1, 2014 JAM SCIENTIFIC PROGRAM
P. Y. Chouinard, Y. Lebeuf and R. Gervais, Université Laval, Québec, QC, Canada

10:30 AM 635 Feeding Incremental Levels of Ground Flaxseed Increased n-3 Fatty Acids and Conjugated Linoleic Acids in Organically-Managed Jersey Cows.
A. F. Brito1, 2, J. Kraft2, T. L. Resende2, A. B. D. Pereira1, K. J. Soder4, D. H. Wootschach6 and R. B. Reis4, 1University of New Hampshire, Durham, NH, 2Department of Animal Science, University of Vermont, Burlington, 4Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 6USDA-Agricultural Research Service, University Park, PA, 4Universidade Federal de Viçosa, Viçosa, Brazil

10:45 AM 636 Lactational responses to palmitic acid supplementation when substituted for soyhulls or corn grain.
C. L. Preseault, J. P. Boerman and A. L. Lock5, Michigan State University, East Lansing

11:00 AM 637 Interaction between culture pH and corn oil concentration on NDF digestibility and biohydrogenation of unsaturated fatty acids in batch culture.
Y. Sun1, M. S. Allen and A. L. Lock, Michigan State University, East Lansing

11:15 AM 638 Feed intake and production responses of lactating dairy cows when commercially available fat supplements are included in diets: a meta-analysis.
J. P. Boerman and A. L. Lock, Michigan State University, East Lansing

11:30 AM 639 Effect of dietary fat source on milk production and milk composition in early lactation cows in a continuous trial design.
G. Ma1, J. H. Harrison2, E. Block3 and L. VanWieringen4, 1Washington State University, Pullman, 2Washington State University, Puyallup, 3Church and Dwight Animal Nutrition, Ewing, NJ, 4Washington State University, Sunnyside

11:45 AM 640 Farm Survey: Milk Fatty Acid Composition Measured by Mid-Infrared.
D. M. Barbano1, 2, C. Melilli1, 2, T. R. Overton1, 1, Cornell University, Ithaca, NY, 3Northeast Dairy Foods Research Center, Ithaca, NY, 3Cornell University, Department of Animal Science, Ithaca, NY

12:00 PM 641 The effects of high rates protected fat in rations of high yielding dairy cows on production efficiency and digestibility.
U. Moadlem1, E. Frank2, M. Zachut1, L. Livshitz1 and A. Arieli2, 1Institute of Animal Science, Volcani Center, Bet Dagan, Israel, 2Faculty of Agriculture, Hebrew University, Rehovot, Israel

12:15 PM 642 Long chain fatty acids alter expression of genes involved in lipid metabolism in goat mammary epithelial cells partly through PPARγ.
W. Zhao1, 2, M. Biouaz3, J. Luo1, A. Hosseini4, P. Dvorc4 and J. J. Loor2, 1Northwest A & F University, Yangling, China, 3University of Illinois, Urbana, 4Department of Animal and Rangeland Sciences, Oregon State University, Corvallis, 4University of Bonn, Bonn, Germany, 3University of Ljubljana, Domzale, Slovenia
Ruminant Nutrition V
Chair: TBA
2103C

9:30 AM 643 Methane Emissions from Lactating and Dry Dairy Cows Fed Diets Differing in Forage Source and NDF Concentration.
K. J. Hammond*, D. J. Humphries, L. A. Crompton, P. Kirton, C. Green and C. K. Reynolds, University of Reading, Reading, United Kingdom

9:45 AM 644 Effects of Cysteamine on Ruminal Fermentation Parameters and Methane Production of Water Buffalo by in vitro Gas Production Method.
C. Zou*, Y. L. Huang*, X. Liang, S. J. Wei, B. Lin, C. J. Yang and X. W. Liang, 1Buffalo Research Institute, The Chinese Academy of Agricultural Sciences, Nanning, China, 2Buffalo Research Institute, Chinese Academy of Agricultural Sciences, Nanning, China

10:00 AM 645 Effect of lowered pH and increased passage rate on methane and volatile fatty acid production from continuous culture.
B. A. Wenner*1, F. Batistel2, J. D. Souza1, T. J. Hackmann4 and J. L. Firkins1, 1The Ohio State University, Columbus, 2University of São Paulo, Piracicaba, Brazil, 3University of Sao Paulo, Piracicaba, Brazil, 4University of Florida, Gainesville

10:15 AM 646 Effects of encapsulated nitrate on nitrogen utilization and enteric methane emissions in beef cattle.
C. Lee*, R. C. Araujo, K. M. Koenig* and K. A. Beauchemin*, 1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2GRASP Ind. & Com. LTDA, Curitiba, Brazil, 3EW|Nutrition GMBH, Visbek, Germany, 4Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada

10:30 AM 647 Correspondence between in vitro and in vivo rumen methane production obtained with different starch sources and starch levels.
B. Hatake1, J. W. Cone1, W. F. Pellikaan1, S. C. Podesta1, W. H. Hendriks1, A. Bannink2 and J. Dijkstra1, 1Animal Nutrition Group, Wageningen University, Wageningen, Netherlands, 2Wageningen UR Livestock Research, Wageningen University and Research Centre, Lelystad, Netherlands

10:45 AM 648 The potential benefit of corn dried distillers’ grain (co)products (DDG) in the mitigation of methane production in cattle: An in vivo analysis.
M. A. Fonseca1, L. F. L. Cavalcanti2, J. G. L. Regadas Filho3, T. R. Callaway4, G. E. Carstens2, T. A. Wickershams1 and L. O. Tedeschi5, 1Texas A&M University, College Station, 2Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 3Universidade Federal de Vícosa, Vícosa, Brazil, 4USDA-ARS, College Station, TX

11:00 AM 649 Effects of including vibiamycin in feedlot diets containing monensin under commercial conditions in Mexico.
M. Gorocica1, A. Gonzalez-Asifi and S. C. Loerch3, 1Phibro Animal Health, Merida, Mexico, 2SuKarne Agroindustrial, Culiacan, Mexico, 3The Ohio State University, Wooster

11:15 AM 650 Effects of extracts of Perilla frutescens (seeds) on in vitro rumen fermentation, methanogenesis and microbial population.
M. Liu*, J. X. Liu and J. K. Wang, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Zhejiang University, Hangzhou, China

11:30 AM 651 Effect of tannin or inoculum as silage additives on silage quality and rumen fermentation kinetics.
V. J. Taha1, J. A. Huntington1, R. G. Wilkinson1 and D. A. Davies*, 1Harper Adams University, Newport, United Kingdom, 2Silage Solutions, Aberystwyth, United Kingdom

11:45 AM 652 Improving the Performance of Dairy Cattle with a Xylanase-rich Exogenous Enzyme Preparation.
J. J. Romero1, E. G. Macias1, Z. Ma1, R. M. Martins2, B. Y. Coy3, F. M. Silva4, D. H. Garbulo1, I. A. Brody1, C. L. Curry1, K. J. Mill1, M. G. Zehni1, C. R. Staples1 and A. T. Adesogan1, 1Dept. of Animal Sciences, University of Florida, Gainesville, 2Dept. of Zootecnia, Universidad Nacional Agraria La Molina, Lima, Peru, 3Dept. of Zootecnia, Universidade Federal de Viçosa, Minas Gerais, Brazil, 4Univ. Estadual Paulista, São Paulo, Brazil

12:00 PM 653 Effects of feeding chitosan on nutrient digestibility in beef heifers.

12:15 PM 654 Effect of Saccharomyces cerevisiae fermentation product (XP) on energetic efficiency of diet fed to high producing dairy cows during the hot season.
U. Moullem*, L. Livshitz and M. Zachut, Institute of Animal Science, Volcani Center, Bet Dagan, Israel
Teaching/Undergraduate and Graduate Education
Chair: Peter K. Camfield, Oklahoma Panhandle State University
3501D

9:30 AM  762  The effects of learning communities and pro-active advising on performance of first semester students.
McCamman
, Kansas State University, Manhattan

9:45 AM  763  Changes in the perceptions of students involved in a traditional meat science course.
M. J. Anderson*, J. L. Lucia, K. J. Stutts, M. M. Beverly and S. F. Kelley, Sam Houston State University, Huntsville, TX

10:00 AM  764  Student and Evaluator Perceptions of an Oral Equine "Speed Selling" Exercise.
J. S. McCann*, Virginia Tech, Blacksburg

10:15 AM  765  Efficacy of iCEV incorporation into a general animal science undergraduate classroom.
R. J. Rathmann* and R. A. Ritz, Texas Tech University, Lubbock

J. J. Parrish* and J. L. Susko-Parrish, University of Wisconsin, Madison

10:45 AM  767  Incorporating writing-intensive assignments in an animal science production course.
S. J. Trojan*, C. Meyers* and N. Hudson*, Texas Tech University, Department of Animal and Food Sciences, Lubbock, TX,
Texas Tech University, Lubbock

11:00 AM  768  Improved student achievement through gamification and the flipped classroom.
C. J. Mortensen* and A. M. Nicholson, University of Florida, Gainesville

11:15 AM  769  Impact of student engagement activities on student performance on a short assessment.
O. N. Genther* and S. L. Hansen, Iowa State University, Ames

11:30 AM  770  The impact of implementing interactive exam review strategies on student satisfaction and exam scores.
D. T. Masser, J. M. Falk and A. Ahmadzadeh*, University of Idaho, Moscow

11:45 AM  771  Integrating Teaching and Extension: Swine Production.
H. M. Zaleski*, University of Hawaii at Manoa, Honolulu, HI

12:00 PM  772  Teaching Companion Animal Management: Perspective From a Livestock Nutritionist.
J. L. Wahrmund*, Texas A&M University-Commerce, Commerce, TX

12:15 PM  773  A COMPARATIVE VETERINARY COURSE FOR PRE-VETERINARY STUDENTS.
A. P. Fidler*, University of Arkansas, Fayetteville

ADSA Foundation Symposium: Meeting the Present and Future Demand for Employees with a PhD in Dairy Science
Chair: Mike Socha, Zinpro Corporation
2102A

2:00 PM  Welcoming Remarks

2:10 PM  1  Current problems with funding PhD programs.
L. H. Baumgard* and M. G. Hogberg, Iowa State University, Ames

2:35 PM  2  CURRENT SITUATION FOR FINDING QUALIFIED PEOPLE WITH A PHD; AN INDUSTRY PERSPECTIVE, DAIRY PRODUCTION.
W. C. Weldon*, Elanco Animal Health, Greenfield, IN

3:00 PM  3  Current Situation For Finding Qualified People With A PhD; An Industry Perspective, Dairy Foods.
C. Allen*, Kraft Foods, Glenview, IL

3:25 PM  4  Current Situation for Finding Qualified People with PhDs; an Academic Perspective.
V. V. Mistry*, South Dakota State University, Brookings

3:50 PM  5  Short term employment opportunities in industry for people pursuing graduate degrees.
C. Johnson*, Land O'Lakes, Inc., Arden Hills, MN

4:15 PM  Discussion

4:45 PM  Reception
Animal Behavior & Well-Being I

Chair: Heather M. Dann, William H. Miner Agricultural Research Institute
2505B

2:00 PM  32  Associations Between Bovine Respiratory Disease Complex and the Probability and Latency of Group-Reared Neonatal Dairy Calves to Approach a Novel Object or Stationary Person.
M. C. Cramer1,2 and A. L. Stanton3, 1University of Wisconsin-Madison, Madison, 2University of Wisconsin-Madison, Madison

2:15 PM  33  Effect of concentrate feeder design on feeding behavior in holstein bulls fed high-concentrate diets.
M. Verdu1, A. Bach2 and M. Devant3, 1IRTA-Department Ruminant Production, Caldes Muntbi-Barcelona, Spain, 2Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 3IRTA- Department of Ruminant Production, Caldes De Montbui, Spain

2:30 PM  34  The Effect of Respiratory Disease on Lying Behavior in Holstein Dairy Calves.
T. L. Ollivert1, K. E. Leslie1, D. V. Nydam2, T. F. Duffield3, G. Zobel4, J. Hewson1 and D. F. Kelton4, 1University of Guelph, Guelph, ON, Canada, 2Cornell University, Department of Population Medicine and Diagnostic Sciences, Ithaca, NY, 3University of British Columbia, Vancouver, BC, Canada, 4Department of Population Medicine, Ontario Veterinary College, University of Guelph, Guelph, ON, Canada

2:45 PM  35  Freestall housing during the dry period altered lying time but did not affect milk quality or energy balance compared to pasture.
R. A. Black1, H. M. Dann2 and P. D. Krawcez1, 1University of Tennessee, Knoxville, 2William H. Miner Agricultural Research Institute, Chazy, NY

3:00 PM  36  Health of Dairy Calves When Using Automated Feeders in the Midwest USA.
M. Jorgensen1, A. Adams Progar1, S. Godden1, H. Chester-Jones1, J. Rushen1, A. M. de Passille1 and M. I. Endres2, 1University of Minnesota, Saint Paul, 2University of Minnesota Southern Research and Outreach Center, Waseca, MN

3:15 PM  37  Effect of heat retaining covers on calf hutch temperature during cold weather.
J. A. Haberman1, T. H. Friend and W. Binion, Texas A&M University, College Station

3:30 PM  38  Modeling the effect of reflective film calf hutch covers on reducing heat loss.
W. Binion1 and T. H. Friend, Texas A&M University, College Station

Animal Health II: Host-Microbial Interactions: Detection and Intervention

Chair: Charles C. Elrod, Vi-COR, Inc.
2502

2:00 PM  80  Alterations in the response of pigs to Salmonella typhimurium when provided Enterobacter cloacae.
J. R. Donaldson1,2, J. A. Carroll1, N. C. Burdick Sanchez1, J. W. Dailey1, T. B. Schmidt1, T. R. Callaway1 and J. G. Wilson1, 1Mississippi State University, Mississippi State, 2USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 3USDA-ARS Livestock Issues Research Unit, Lubbock, TX, 4University of Nebraska, Lincoln, 5USDA-ARS, College Station, TX

2:15 PM  81  Adhesion of Escherichia coli in piglets and association of phenotypes to known candidate genes in South African breeds.
N. S. Chaora1, Agricultural Research Council, Pretoria, South Africa

2:30 PM  82  Effect of metaphylaxis on production responses and antimicrobial usage in high-risk steers.
A. B. Word1, T. A. Wickersham1, G. Mays1, J. L. Trubenbach1 and J. E. Sawyer1, 1Texas A&M University, College Station, 2Texas AgriLife Research, College Station, TX

2:45 PM  83  PR-39 Ameliorates Salmonella Typhimurium-induced Intestinal Epithelial Barrier Dysfunction.
X. Xi1, Institute of Feed Science, Zhejiang University, Hangzhou, China

3:00 PM  84  Quantification of microbial populations in organic and inorganic dairy cattle bedding materials.
R. F. Rowbotham1,2, T. L. Peters2, T. M. Walker2 and P. L. Ruegg2, 1Grande Cheese Company, Brownsville, WI, 2Department of Dairy Science, University of Wisconsin-Madison, Madison

3:15 PM  85  Prevalence of Bovine Mastitis Pathogens in Bulk Tank Milk.
Bi1, Cao1, Sun1, Qin1 and Li1, 1State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China, 2Hipra, Avda. La Selva, No.135 17170-Amer (Girona) Spain, Girona, Spain
3:30 PM  86  Modulation of the acute phase response in feedlot steers supplemented with Saccharomyces cerevisiae.
J. O. Bunty1,*, N. C. Burdick Sanchez2, J. A. Carroll3, E. Chevaux4, K. Barling5, S. E. Sieren3, S. J. Jones4 and T. B. Schmidt5, 1University of Nebraska, Department of Animal Science, Lincoln, NE, 2USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 3Lallemand Animal Nutrition, Milwaukee, WI, 4Lallemand Animal Nutrition, Iola, TX, 5University of Nebraska, Lincoln

3:45 PM  87  Performance evaluation of calves with diarrhea in different systems supplemented with yeast culture plus enzymatically hydrolyzed yeast cell wall.
V. R. Rabassa7,*, B. Scherer9, F. B. Del Pino7, C. C. Brauner2, F. M. Gonçalves7, R. F. S. Raimondo7, E. G. Xavier7, C. C. Elrod7 and M. Nunes Corrêa7, 1Universidade Federal de Pelotas, Pelotas, Brazil, 2Federal University of Pelotas, Pelotas, Brazil, 3Granjas 4 Irmãos, Rio Grande, Brazil, 4Vi-COR, Inc., Mason City, IA

4:00 PM  88  Variations in the survival of Listeria monocytogenes to grow in bile from porcine gallbladders.
J. G. Wilson*, S. J. White and J. R. Donaldson, Mississippi State University, Mississippi State

4:15 PM  89  Yeast probiotics vary in their potential to bind to gram positive or gram negative bacteria.
G. Posadas7,*, J. A. Carroll8, J. R. Corley9, A. Lawrence1 and J. R. Donaldson1, 1Mississippi State University, Mississippi State, 2USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 3Lesaffre Feed Additives, Milwaukee, WI

4:30 PM  90  An Analysis of Giardia lamblia and Cryptosporidium parvum in Bucket Calves at The University of Findlay's Animal Science Barn.

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**Beef Cattle Reproduction Symposium: Rebuilding the U.S. Cowherd: Rethinking the Way Industry Selects and Develops Replacements**

**Chair:** David J. Patterson, University of Missouri

2:00 PM  112  Rebuilding the U.S. Cowherd: Rethinking the Way Industry Selects and Develops Replacements.
D. S. Brown1 and D. J. Patterson, University of Missouri, Columbia

2:45 PM  113  Physiology and Endocrinology of Puberty in Heifers.
J. Atkins2,*, K. G. Pohler2 and M. F. Smith2, 1American Simmental Association, Bozeman, MT, 2University of Missouri, Columbia

3:15 PM  114  Beef Heifer Replacement Considerations Related to Breed and Biological Type.
A. L. Van Eenennaam1, University of California - Davis, Davis, CA

3:45 PM  115  Nutritional Development and the Target Weight Debate.
J. B. Hall2, University of Idaho, Carmen, ID

D. J. Patterson1,*, J. M. Thomas1, D. S. Brown1, J. E. Decker1, W. J. Sexten1 and S. E. Pook1, 1University of Missouri, Columbia, 2University of Missouri-College of Veterinary Medicine, Columbia, MO

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**Beef Species: Stocker and Feedlot**

**Chair:** Judson T. Vasconcelos, Merck & Co

2:00 PM  137  Effect of crude protein levels and metaphylaxis on growth and performance of newly received stocker calves.
T. J. Braud1,*, B. B. Karisch1, D. R. Smith2, C. L. Huston2, R. Vann2 and S. G. Genova2, 1Mississippi State University, Mississippi State, 2MAFES-Brown Loam, Mississippi State University, Raymond, MS

2:15 PM  138  Effect of growth rate and placement weight of stocker-feeder cattle on subsequent finishing performance and carcass characteristics: a meta-analysis.
P. A. Lancaster1, C. R. Krehbiel and G. W. Horn, Oklahoma State University, Stillwater

2:30 PM  139  Performance impacts of feeding bermudagrass (Cynodon dactylon) or ryegrass (Lolium multiflorum) plus rye (Secale cereale) baleage to weaned crossbred beef calves.
R. M. Martin1,2,*, R. Walker2, B. Buttry2 and C. C. Williams4, 1Louisiana State University, Baton Rouge, LA, 2LSU AgCenter, School of Animal Sciences, Baton Rouge, LA, 3LSU AgCenter, Hill Farm Research Station, Homer, LA, 4LSU AgCenter, Baton Rouge, LA
2:45 PM  140  Early metabolic imprinting for improvements in finishing feed efficiency and beef carcass characteristics.  
J. K. Smith\textsuperscript{1,3}, M. D. Hanigan\textsuperscript{2}, S. P. Greiner\textsuperscript{1} and M. A. McCann\textsuperscript{2,3}; \textsuperscript{1}Virginia Tech, Blacksburg, \textsuperscript{2}Virginia Polytechnic Institute and State University, Blacksburg

3:00 PM  141  Linear and Non-Linear Estimates of the Efficiency Of Metabolizable Energy Use for Maintenance and Gain in Beef Cattle.  
C. A. Old\textsuperscript{1} and H. A. Rossow\textsuperscript{2}; \textsuperscript{1}A3 Cattle Company, Le Grand, CA, \textsuperscript{2}VMTRC, University of California, Tulare, CA

3:15 PM  142  Relationships among feeding traits of growing and finishing phase Red Angus cattle.  
M. McGee\textsuperscript{1}, C. M. Welch\textsuperscript{2}, J. A. Ramirez\textsuperscript{2}, G. E. Carstens\textsuperscript{2}, W. Price\textsuperscript{3}, J. B. Hall\textsuperscript{1} and R. A. Hill\textsuperscript{1}; \textsuperscript{1}University of Idaho, Moscow, \textsuperscript{2}Texas A&M University, College Station, \textsuperscript{3}University of Idaho, Carmen

3:30 PM  143  Phenotypic relationships between residual measurements of finishing feed efficiency and visceral organ mass of backgrounded beef steers.  
J. K. Smith\textsuperscript{1,2}, A. R. Murray\textsuperscript{1}, D. D. Harmon\textsuperscript{2}, M. D. Hanigan\textsuperscript{2}, S. P. Greiner\textsuperscript{1} and M. A. McCann\textsuperscript{2,3}; \textsuperscript{1}Virginia Tech, Blacksburg, \textsuperscript{2}Virginia Polytechnic Institute and State University, Blacksburg

**Breeding and Genetics: Genetic and Genomic Methods**

**Chair: John B Cole, Animal Improvement Programs Laboratory, Agricultural Research Service, United States Department of Agriculture**

2:00 PM  163  Evaluation of predictive ability of Cholesky factorization of genetic relationship matrix for additive and non-additive genetic effect using Bayesian regularized neural network.  
H. Oka\textsuperscript{1}, D. Gianola\textsuperscript{2}, K. A. Weigel\textsuperscript{2} and G. J. M. Rosa\textsuperscript{2}; \textsuperscript{1}University of Yuzuncu Yil, Van, Turkey, \textsuperscript{2}University of Wisconsin - Madison, Madison, \textsuperscript{2}University of Wisconsin, Madison

2:15 PM  164  Using recursion to compute the inverse of the genomic relationship matrix.  
I. Misztal\textsuperscript{1,2}, A. Legarra\textsuperscript{1,2} and I. Aguilar\textsuperscript{3}; \textsuperscript{1}University of Georgia, Athens, \textsuperscript{2}INRA, Castanet-Tolosan, France, \textsuperscript{3}INIA, Las Brujas, Uruguay

2:30 PM  165  Advantage of supernodal methods in restricted maximum likelihood when dense matrices are involved in a coefficient matrix of mixed model equations.  
Y. Masuda\textsuperscript{1,2}, S. Tsuruta\textsuperscript{1} and I. Misztal\textsuperscript{1}; \textsuperscript{1}Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan, \textsuperscript{2}University of Georgia, Athens

2:45 PM  166  Use of Genomic Recursions and APY Algorithm for Single-Step GBLUP Analyses with Large Number of Genotypes.  
B. D. Fragomeni\textsuperscript{1,2}, I. Misztal\textsuperscript{1}, D. Lourenco\textsuperscript{2}, S. Tsuruta\textsuperscript{1} and Y. Masuda\textsuperscript{1,2}; \textsuperscript{1}University of Georgia, Athens, \textsuperscript{2}Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan

3:00 PM  167  Genomic Prediction Accounting For Residual Heteroskedasticity.  
Z. On\textsuperscript{1}, R. J. Tempelman\textsuperscript{1}, J. P. Stein\textsuperscript{1}, C. W. Ernst\textsuperscript{3}, R. O. Bates\textsuperscript{3} and N. M. Bello\textsuperscript{1}; \textsuperscript{1}Kansas State University, Manhattan, \textsuperscript{2}Michigan State University, East Lansing

3:15 PM  168  Are Past Generations Contributing to Evaluations on Young Genotyped Animals?  
D. Lourenco\textsuperscript{1}, I. Misztal\textsuperscript{1}, S. Tsuruta\textsuperscript{1}, I. Aguilar\textsuperscript{2}, T. J. Lawlor\textsuperscript{2}, S. Formi\textsuperscript{2} and J. I. Weller\textsuperscript{3}; \textsuperscript{1}University of Georgia, Athens, \textsuperscript{2}INIA, Las Brujas, Uruguay, \textsuperscript{3}Holstein Association USA Inc., Brattleboro, VT, \textsuperscript{4}Genus Plc, Hendersonville, TN, \textsuperscript{5}ARO, The Volcani Center, Bet Dagan, Israel

3:30 PM  169  Use of Linear Models with Normal, Student-t or Slash Distributed Error for the Analysis of Quantitative Traits.  
B. Mestav\textsuperscript{1}, K. Kizilkaya\textsuperscript{2} and S. O. Peters\textsuperscript{1}; \textsuperscript{1}Canakkale Onsekiz Mart University, Canakkale, Turkey, \textsuperscript{2}Adnan Menderes University, Aydin, Turkey, \textsuperscript{3}New Mexico State University, Mount Berry, GA

**Companion Animals Symposium: Companion Animals and Sustainability: Today’s Impact on the Future**

**Chair: Maria R C de Godoy, University of Illinois**

3501B

2:00 PM  188  Introductory Remarks

2:10 PM  189  Nutritional Sustainability of Pet Foods.  
R. A. Carter\textsuperscript{4}, P. R. Buff\textsuperscript{3}, K. S. Swanson\textsuperscript{2}, T. P. Yount\textsuperscript{1} and J. H. Kersey\textsuperscript{3}; \textsuperscript{1}The Nutro Company, Franklin, TN, \textsuperscript{2}Department of Animal Sciences, University of Illinois, Urbana

2:40 PM  190  How Sustainability Influences Ingredient Sourcing, Quality and Safety.  
D. L. Meeker\textsuperscript{1}, National Renderers Association, Alexandria, VA
3:10 PM Break

3:25 PM 190 Sustainability of Non-traditional Companion Animals.  
G. Ballam*, Purina Animal Nutrition, St Louis, MO

3:55 PM 191 Sustainable Ecosystems: Free-Ranging Cats and Their Effect on Wildlife Populations.  
S. E. Kitts-Morgan*, E. I. Parsons and K. A. Hilburn, Berry College, Mount Berry, GA

K. S. Swanson*, Department of Animal Sciences, University of Illinois, Urbana

Comparative Gut Physiology Symposium: Session II

Chair: David M Bravo, PANCOSMA SA, Thomas B. McFadden, University of Missouri and John Furness, University of Melbourne  
Sponsor: PANCOSMA SA

2:00 PM 204 Manipulating Goblet Cell Function to Protect Against Enteric Infection.  
M. Wlodarska*, University of British Columbia, Vancouver, BC, Canada

2:30 PM 205 Nutritional Immunology in Swine.  
Y. Liu*, D. M. Bravo and J. Pettigrew, 1University of Illinois at Urbana-Champaign, Urbana, IL, 2PANCOSMA SA, Geneva, Switzerland

2:45 PM 206 Mucosal IgA responses to members of the gut microbiota in healthy vs. malnourished Malawian children.  
A. Kau*, Center for Genome Sciences & Systems Biology, St-Louis, MO

H. Lillehoj*, ARS USDA, Beltsville, MD

J. Oh1, S. Walusimbi1, F. Giallongo1, H. L. Weeks1, T. W. Frederick1, A. N. Hristov1, J. L. Pate1, R. J. Elias2, L. Tao3 and E. H. Wall3, 1Department of Animal Science, The Pennsylvania State University, University Park, 2Department of Food Science, The Pennsylvania State University, University Park, 3Pancosma, Geneva, Switzerland

4:00 PM 209 Host-microbiome interactions during gut development across species: the role of milk.  
T. B. McFadden*, University of Missouri, Columbia

4:30 PM Panel Discussion  

Dairy Foods: Technical Oral Session: Analytical / Processing  
Chair: TBA

2:00 PM 257 Modification of the Functionality of Micellar Casein Concentrates by Changing the Structure of Casein Micelles Using High Pressure Processing.  
C. I. Moraru1, M. Walking-Ribeiro1, I. Aprodou1 and M. V. Karwe1, 1Cornell University, Ithaca, NY, 2Dunarea de Jos University, Galati, Romania, 3Rutgers University, New Brunswick, NJ

2:15 PM 258 Microfiltration (MF) of milk protein concentrate using ceramic membranes: Determination of limiting flux and serum protein (SP) removal at 8, 9 or 10% protein in the recirculation loop.  
E. E. Hurt1,2, M. C. Adams1,2 and D. M. Barbano1,2, 1Cornell University, Ithaca, NY, 2Northeast Dairy Foods Research Center, Ithaca, NY

2:30 PM 259 Impact of membrane channel diameter on limiting flux and serum protein removal during milk protein concentrate microfiltration.  
M. C. Adams1, E. E. Hurt and D. M. Barbano, Cornell University, Ithaca, NY

2:45 PM 260 Using Membrane Filtration Techniques to Fractionate Acid Whey into Value Added Ingredients.  
B. Chen*, K. E. Smith, J. A. Lucey, R. Kalscheuer and M. Molitor, University of Wisconsin - Madison, Madison

3:00 PM 261 Polymerization of lactose to polylactose by twin-screw extrusion.  
T. C. Schoenfuss*, C. E. Tyl and E. M. Reid, University of Minnesota, St. Paul
A Proficiency Test System to Improve Laboratory and Method Performance and Produce Reference Values for Component Calibration Samples for Infrared Milk Analysis.
D. M. Barbano 1*, K. L. Wojciechowski 1*, and C. Melilli 1, 2, 1Cornell University, Ithaca, NY, 2Northeast Dairy Foods Research Center, Ithaca, NY

A relatively rapid method for the estimation of the amount of exopolysaccharide produced by lactic acid bacteria during milk fermentation.
S. N. Khanal 1 and J. A. Lucey 1, 2, 1University of Wisconsin-Madison, Department of Food Science, Madison, WI, 2University of Wisconsin-Madison, Madison, WI, 3Wisconsin Center for Dairy Research, Madison, WI

Raw milk quality in the dairy industry: compositional changes correlated with somatic cell counts.
C. R. T. Júnior 1, G. C. Ribeiro 2, R. M. Longo 2, M. C. P. P. Oliveira 2, L. M. Fonseca 3, M. O. Leite 1 and M. P. Cerqueira 2, 1Ministry of Agriculture, Poços de Caldas, Brazil, 2Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil, 3University of Wisconsin-Madison/CAPES Est.Senior 1813-12-3, Madison, WI

The effect of immunoglobulins and somatic cells on the gravity separation of fat, bacteria, and spores in pasteurized whole milk.

Dairy Foods Symposium: Milk Protein-Hydrocolloid Interactions: Recent Impacts
Chair: TBA

Exopolysaccharides from lactic acid bacteria- a world of opportunities.
A. Hassan 1*, South Dakota State University, Brookings

A Tale of In-Body Magnetic Resonance Imaging of Foods and Gut Feelings.
L. Marciaini 1, University of Nottingham, Nottingham, United Kingdom

Functionality and Structure of Hydrocolloids in Dairy Foods.
H. D. Goff 1, University of Guelph, Guelph, ON, Canada

Impact of starch on milk protein functionality in food applications.
M. E. Yildiz 1*, Ingredion, Bridgewater, NJ

Horse Species: Developmental Programming: Applications in the Horse
Chair: Tom Hoagland, University of Connecticut

Developmental programming in agriculturally relevant species: an overview.
K. A. Vonnahme 1*, North Dakota State University, Fargo

Glucocorticoid programming of development during early life.
A. Fowden 1, O. A. Valenzuela 1, J. K. Jellyman 1, N. B. Holdstock 3 and A. J. Forhead 1, 1University of Cambridge, Cambridge, England, 2University of Cambridge, Cambridge, United Kingdom, 3University of Cambridge, Cambridge, United Kingdom, 4University of Cambridge, Cambridge, United Kingdom

Nutritional programming and the impact on mare and foal performance.
J. Coverdale 1, C. J. Hammer 2 and K. W. Walter 3, 1Texas A&M University, College Station, 2North Dakota State University, Fargo, 3Truman State University, Kirksville, MO

Lactation Biology II
Chair: Monique Rijnkels, Baylor College of Medicine and Mark A McGuire, University of Idaho

Intramammary Glucocorticoid During a Mammary Immune Response to Lipopolysaccharide Modulates the Blood-Milk Barrier.
O. Wellnitz 1, S. K. Wall 2, M. Saudenova 2 and R. M. Bruckmaier 1, 1Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland, 2Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland

Milk Prolactin Response after Experimental Infection with Different Coagulase-Negative Staphylococci in Dairy Heifers.
Regulation of Nuclear IGFBP-3 in Response to Intrinsic Apoptotic Stress in Bovine Mammary Epithelial Cells.
K. Piccart\(^1\), S. Piepers\(^1\), J. Verbeke\(^1\), N. Melo de Sousa\(^2\), J. F. Beckers\(^2\) and S. De Vliegher\(^1\), \(^1\)Ghent University, Ghent, Belgium, \(^2\)University of Liège, Liège, Belgium

2:30 PM 414

Cellular Composition of Water Buffalo Mammary Gland and its Proliferation Status During Dry and Mastitis.
R. K. Choudhary\(^1\), D. Pathak\(^2\), D. Deka\(^1\) and R. Verma\(^1\), \(^1\)School of Animal Biotechnology, GADVASU, Ludhiana, Punjab - 141 004, India, \(^2\)Department of Veterinary Anatomy, GADVASU, Ludhiana, Punjab - 141 004, India

2:45 PM 415

Use of the RatLoft™ in laboratory conditions decreases pup mortality in lactating mice.
S. R. Weaver\(^1\), C. R. Cronick, A. P. Prichard, J. Laporta, N. J. Benevenga and L. L. Hernandez, University of Wisconsin-Madison, Madison

3:00 PM 416

Addition of glycerol to lactating cow diets stimulates milk protein yield to a greater extent than addition of corn grain.
D. L. Bajramaj\(^1\), R. V. Curtis\(^2\), J. J. M. Kim\(^2\), V. R. Oshorne\(^1\), T. Wright\(^1\) and J. P. Cant\(^1\), \(^1\)University of Guelph, Guelph, ON, Canada, \(^2\)Department of Animal & Poultry Science, University of Guelph, Guelph, ON, Canada, \(^3\)University of Guelph/OMAF, Guelph, ON, Canada

3:30 PM 417

Glucose does not stimulate milk protein yield of dairy cows when essential amino acids are in excess supply.
K. Nichols\(^1\), M. Carson\(^*\), J. J. M. Kim\(^1\), J. A. Metcalf\(^2\), J. P. Cant\(^1\) and J. Doelman\(^1\), \(^1\)Department of Animal & Poultry Science, University of Guelph, Guelph, ON, Canada, \(^2\)Nutreco Canada Agresearch, Guelph, ON, Canada

3:45 PM 418

Physiology and Endocrinology: Interrelationships Between Environmental, Metabolic and Physiological Processes II
Chair: Lance Baumgard, Iowa State University

2:00 PM 509

Effects of calcium salts of soybean oil on factors that influence pregnancy establishment in Bos indicus beef cows.
B. I. Cappellozza\(^1\), R. F. Cooke\(^1\), T. Guarnieri Filho\(^1,2\), I. Bueno\(^3\), D. W. Bohnert\(^1\), R. L. A. Cerri\(^1\) and J. L. M. Vasconcelos\(^4\), \(^1\)Oregon State University - EOARC Burns, Burns, OR, \(^2\)Faculdade de Medicina Veterinária e Zootecnia, UNESP – Univ. Estadual Paulista, Botucatu, Brazil, \(^3\)Faculty of Land and Food Systems - University of British Columbia, Vancouver, BC, Canada, \(^4\)UNESP - FMVZ, Botucatu, Brazil

2:15 PM 510

Metabolomics profiling of four biofluids from dairy cow fed different forages using gas chromatography–time of flight/mass spectrometry.
H. Z. Sun\(^1\), B. Wang\(^2\), D. M. Wang\(^3\), J. K. Wang\(^1\), L. L. Guan\(^2\) and J. X. Liu\(^1\), \(^1\)Institute of Dairy Science, Zhejiang University, Hangzhou, China, \(^2\)Department of Agricultural, Food & Nutritional Science, University of Alberta, Edmonton, AB, Canada, \(^3\)Zhejiang University, Hangzhou, China

2:30 PM 511

Separation of proteins from the milk fat globule membrane with minimal losses.
W. Holzmüller\(^1\), Technische Universität München, Freising, Germany

2:45 PM 512

Serotonin (5-HT) receptor expression in bovine apocrine sweat gland epithelial cells isolated from cow skin.
S. Hamzaoui\(^1\), J. L. Collier\(^2\) and R. J. Collier\(^3\), \(^1\)Universitat Autònoma de Barcelona, Bellaterra, Spain, \(^2\)University of Arizona, Tucson, \(^3\)The University of Arizona, Tucson

3:00 PM 513

Responses to an insulin challenge in dairy cows classed as efficient or inefficient based on residual feed intake (RFI) during mid lactation and the dry period.
K. DiGiacomo\(^1\), E. Norris\(^2\), L. C. Marett\(^2\), W. J. Wales\(^2\), B. J. Hayes\(^3\), F. R. Dunshew\(^1\) and B. J. Leury\(^1\), \(^1\)The University Of Melbourne, Parkville, Australia, \(^2\)The Department of Environment and Primary Industries, Victoria, Ellinbank, Australia, \(^3\)The Department of Environment and Primary Industries, Bundooro, Australia

3:15 PM 514

Interactions between Metabolic Load and Dairy Cow Welfare-related Parameters in Herbage based Feeding Systems.
R. S. Zhbinden\(^1\), J. J. Gross\(^1\), M. Falk\(^2\), H. A. van Dorland\(^1\), A. Münger\(^2\), F. Dohme-Meier\(^2\) and R. M. Bruckmaier\(^1\), \(^1\)Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland, \(^2\)Agroscope, Institute for Livestock Sciences ILS, Postieux, Switzerland, \(^3\)Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland

3:30 PM 515

Effects of repeated short-term Feed-restrictions and LPS induced systemic Inflammation on Metabolism and Performance in Dairy Cows.
J. J. Gross\(^1\), E. Kalatzakis\(^2\), O. Wellnitz\(^2,3\), H. Bollwein\(^2\) and R. M. Bruckmaier\(^1\), \(^1\)Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland, \(^2\)Clinic of Reproductive Medicine, Vetsuisse Faculty University of Zurich, Zurich, Switzerland, \(^3\)Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland
3:45 PM 516  Effects of heat stress on pancreatic insulin content and β-cell distribution in growing pigs,  
M. Sanz Fernandez1, J. S. Johnson1, M. Abuajamieh2, S. K. Stoakes3, S. M. Lei4, R. P. Rhoads5 and L. H. Baumgard4,  
1Iowa State University, Ames, 2Virginia Tech, Blacksburg

4:00 PM 517  Effects of protein supplementation frequency on metabolic responses associated with reproduction of beef cows,  
M. M. Reis1, R. F. Cooke1, B. I. Cappellozza1, R. Marques2, T. Guarnieri Filho1, G. A. Perry3 and D. W. Bohnert4,  
1Oregon State University - EOARC Burns, Burns, OR, 2Faculdade de Medicina Veterinária e Zootecnia, UNESP – Univ.  
Estadual Paulista, Botucatu, Brazil, 3South Dakota State University, Brookings

4:15 PM 518  A vaccine-induced acute-phase reaction increases plasma leptin concentrations in beef cattle,  
R. Marques1, R. F. Cooke1, B. I. Cappellozza1, T. Guarnieri Filho1, M. M. Reis1, D. H. Keisler3 and D. W. Bohnert4,  
1Oregon State University - EOARC Burns, Burns, OR, 2Faculdade de Medicina Veterinária e Zootecnia, UNESP – Univ.  
Estadual Paulista, Botucatu, Brazil, 3University of Missouri-Division of Animal Sciences, Columbia, MO

4:30 PM 519  A prepartum diet supplemented with rolled sunflower seed increased calf weight, the incidence of dystocia and  
colostrum immunoglobulin content in Holstein cows,  
R. Salehi1, M. G. Colazo2, M. Obu and D. J. Ambrose2,  
1University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Rural Development, Edmonton, AB, Canada

4:45 PM 520  Effect of Altering the Dietary Ratio of n-6 to n-3 Fatty Acids on Luteolytic Mechanism in Dairy Cows,  
L. F. Greco1, J. T. Neves Neto1, A. Pedrilo2, F. S. Lima2, R. S. Bisinotto2, N. Martinez3, E. S. Ribeiro2, W. W. Thatcher4,  
C. R. Staples1 and J. E. P. Santos2,  
1Department of Animal Sciences, University of Florida, Gainesville, 2University of Florida, Gainesville, 3Dept. of Animal Sciences, University of Florida, Gainesville

Production, Management, and the Environment: Influence of Diet and Management Practices on Environmental Footprint  
Chair: TBA  
2012B

2:00 PM 547  Effect of breed type and pasture type on methane emissions from weaned lambs offered fresh grasses,  
M. D. Fraser, H. R. Fleming, V. J. Theobald and J. M. Moorby, Aberystwyth University, Aberystwyth, United Kingdom

2:15 PM 548  Effects of dietary nitrate supplementation on enteric methane and nitrous oxide emissions from beef cattle,  
C. J. Neumeier1, Q. Wang1, A. R. Castillo2, Y. Zhao1, Y. Pan2 and F. M. Mitloehner3,  
1University of California, Davis, Davis, CA, 2University of California Cooperative Extension, Merced, CA

2:30 PM 549  Comparison of active flux and passive concentration measurements of methane emissions from cattle,  
P. Huhtanen1, E. H. Cabezas Garcia2, S. R. Zimmerman3 and P. R. Zimmerman3,  
1Swedish University of Agricultural Sciences (SLU), Umea, Sweden, 2Swedish University of Agricultural Sciences, Umea, Sweden, 3C-Lock Inc, Rapid City, SD

2:45 PM 550  Methane emission intensities by Holstein and Holstein x Jersey crossbreed lactating cows in two Brazilian grazing  
systems,  
A. Berndt, A. P. Lemes, L. A. Romero, T. C. Alves, A. M. Pedroso1, A. D. F. Pedroso and P. P. A. Oliveira, EMBRAPA, São Carlos, Brazil

3:00 PM 551  Comparison Between the Sulfur Hexafluoride Tracer Technique and the Portable Automated Head Chamber  
System for Measurements of Enteric Methane Fluxes in Mid-Lactation Holstein Cows,  
A. B. D. Pereira1, C. D. Dorich2, A. F. Brito3, R. K. Varner1 and R. Martineau1,  
1University of New Hampshire, Durham, NH, 2Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada

3:15 PM 552  Nitrogen use efficiency and carbon footprint by beef cattle limit-fed co-product feedstuffs,  
W. B. Smith1, K. P. Coffey4, R. T. Rhein1, E. B. Kegley1, D. Philipp1, J. D. Caldwell1 and A. N. Young1,  
1Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, 2University of Arkansas, Fayetteville, 3Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO

Ruminant Nutrition VI  
Chair: TBA  
2103C

2:00 PM 655  Effect of Rumen-Protected Lysine Supplementation of Corn-Protein Based Diets Fed to Lactating Dairy Cows,  
N. E. Lobos1, G. A. Broderick2 and M. A. Wattiaux3,  
1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2Broderick Nutrition & Research, LLC, Madison, WI, 3University of Wisconsin-Madison, Madison

2:15 PM 656  Effects of a Rumen Protected Lysine (AjiPro®-L) supplementation on peripartum disease, reproduction and  
lactational performance of dairy cows.
TUESDAY, JULY 22, 2014

2:30 PM 657 Effect of strategic ration balancing with use of Prolak and USA-Lysine on the efficiency of milk protein production and environmental impact.
J. H. Harrison1, J. Jarrett2, Y. Chen2, L. VanWieringen2, B. Chalupa2, F. Sun2, P. Ndegwa1, D. Wilks2 and H. S. Joo2, 1Washington State University, Pullman, 2Washington State University, Puyallup, WA, 3Prince Agri, Quincy, IL, 4Washington State University, Pullman, 5Washington State University, Sunnyside, WA, 6University of Pennsylvania, New Bolton Center, PA, 7EPL Feeds, Dixie, WA

2:45 PM 658 Effect of strategic ration balancing with use of Prolak and MetaboLys on the efficiency of milk protein production and environmental impact.
P. Ndegwa1, J. H. Harrison2, D. Wilks3, L. VanWieringen4, Y. Chen5, W. Chalupa6, F. Sun7 and H. S. Joo1, 1Washington State University, Pullman, 2Washington State University, Puyallup, WA, 3University of Pennsylvania, New Bolton Center, PA

3:00 PM 659 Evaluation of diets formulated with soybean-based products, blood meal, or rumen-protected lysine to meet MP lysine demands of lactating dairy cows.
W. D. Weich1, K. F. Kalscheur1, K. J. Herrick2 and F. R. Valdez2, 1South Dakota State University, Brookings, 2Kemin Industries, Inc., Des Moines, IA

3:15 PM 660 The plasma free amino acid dose response technique: a proposed approach for determining lysine bioavailability of ruminally-protected lysine products.
N. L. Whitehouse1, A. F. Brito1 and C. G. Schwab1, 1University of New Hampshire, Durham, NH, 2Schwab Consulting, LLC, Boscoe, WI

3:30 PM 661 Effects of Maternal Nutrition and Rumen-Protected Arginine Supplementation on Pregnant and Non-Pregnant Ewe and Postnatal Lamb Serum Amino Acids.
J. L. Peine1, G. Jia1, M. Kapphahn1, S. T. O'Rourke1, A. M. Meyer2, L. P. Reynolds2 and J. S. Caton2, 1North Dakota State University, Fargo, 2Division of Animal Sciences, University of Missouri, Columbia

A. C. Fonseca1, S. M. Fredin2, L. F. Ferraretto2, P. L. Utterback3, C. M. Parsons3 and R. D. Shaver4, 1University of Wisconsin, Madison, 2University of Wisconsin, Madison, 3University of Illinois, Urbana, 4University of Illinois at Urbana-Champaign, Urbana, IL

4:00 PM 663 Performance by Holstein Steers Offered Hay and Supplement With or Without Added Methionine.
A. L. Bax1, J. D. Caldwell2, L. S. Wilbers3, B. C. Shanks4, T. Hampton1, S. E. Betts2, Y. Liang5 and G. I. Zanton2, 1Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, 2Novus International, Inc., St. Charles, MO

4:15 PM 664 Effects of feeding slow release NPN and microbial fermentation extracts on lactation performance of high-producing dairy cows.
F. Díaz-Royón1, A. D. García1, K. F. Kalscheur2 and K. Mjoun1, 1Dairy Science Department, South Dakota State University, Brookings, 2South Dakota State University, Brookings, 3Alltech, Brookings, SD

4:30 PM 665 Concentration of soluble non-ammonia nitrogen and related transporter expression in non-mesenteric gastrointestines of dairy cows.
Y. M. Xie1, Q. B. Xu2, Y. M. Wu1 and J. X. Liu1, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Zhejiang University, Hangzhou, China

4:45 PM 666 Role of proton-coupled oligopeptide transporter 1 in small peptide absorption in the bovine forestomach.
Q. B. Xu1, Y. M. Wu1, H. Y. Liu1 and J. X. Liu1, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Zhejiang University, Hangzhou, China

Small Ruminant

Chair: R. R. Redden, North Dakota State University

2:00 PM 724 Rumen Microbial Species Associated With Feed Efficiency in Sheep Fed a Forage-Based Diet.
K. M. Cammack1, M. Ellison2, G. C. Conant2, W. R. Lamberson3, R. Cockrum4 and K. J. Austin1, 1Department of Animal Science, University of Wyoming, Laramie, WY, 2University of Wyoming, Laramie, WY, 3University of Missouri, Columbia, 4Virginia Polytechnic Institute and State University, Blacksburg

2:15 PM 725 Rationing late gestation ewes using a Net Energy or Metabolisable Energy rationing system: Impacts on ewe and lamb performance.

106 | DRAFT 2014 JAM SCIENTIFIC PROGRAM
Production, Management, and the Environment: Animal health: A Retrospective Look

Chair: TBA

3:30 PM 553  **Antibiotic Use in period 2005-2012 in Dairy Herds in The Netherlands, with outlook to some other Countries.**
A. Kuipers*1 and H. Wemmenhove*1, 1Expertise Centre for Farm Management and Knowledge Transfer, Wageningen UR, Wageningen, Netherlands, 2Livestock Research Wageningen UR, Lelystad, Netherlands

3:45 PM 554  **Retrospective analysis of body energy content profiles of dairy cows with different production and metabolic diseases during the transition period.**
G. L. Smith*1, 1 M. G. Chagunda*2, 1 C. J. Ashworth*2, 1 N. C. Friggens*1, 1 Scottish Rural University College (SRUC), Edinburgh, United Kingdom, 2The Roslin Institute, University of Edinburgh, Edinburgh, United Kingdom, 1Institut National de la Recherche Agronomique (INRA), Paris, France

4:00 PM 555  **Update on animal health concerns of recombinant bovine somatotropin (rbST): Meta-analysis of use in dairy cows.**
N. St. Pierre*1, 1 G. A. Millikin*1, 1 D. E. Bauman*1, 1 J. S. Collier*1, 1 J. S. Hogan*1, 1 K. L. Smith*1 and W. W. Thatcher*1, 1 The Ohio State University, Columbus, 2Kansas State University, Manhattan, 3Cornell University, Ithaca, NY, 4The University of Arizona, Tucson, 3The Ohio State University, Wooster, 3Iowa State University, Ames, 1Department of Animal Sciences, University of Florida, Gainesville
4:15 PM  556  **Trends in U.S. Milk Quality Based on Bulk-Tank Somatic Cell Counts.**

4:30 PM  557  **Somatic cell counts, mastitis infection prevalence, and mastitis pathogen distribution in compost bedded pack and sand freestall farms.**
E. A. Eckelkamp, J. L. Taraba, R. J. Harmon, K. A. Akers and J. M. Bewley, University of Kentucky, Lexington

4:45 PM  558  **Corn Silage Management Practices on California Dairies.**
J. M. Heguy, D. Meyer and N. Silva-del-Rio, UCCE Stanislaus and San Joaquin Counties, Modesto, CA, Department of Animal Science, UC Davis, Davis, CA, VMTRC, University of California, Tulare, CA
Wednesday, July 23, 2014

POSTER PRESENTATIONS
7:30 AM – 9:15 AM
Exhibit Hall AB

Animal Behavior & Well-Being Posters II

802 W001 Relationship between hair cortisol concentration and previous performance and feeding behavior in Holstein bulls fed high-concentrate diets.
M. Verdu\textsuperscript{1}, A. Bach\textsuperscript{2} and M. Devant\textsuperscript{1}, \textsuperscript{1}IRTA-Department Ruminant Production, Caldes Montbui-Barcelona, Spain, \textsuperscript{2}Department of Ruminant Production, IRTA, Caldes de Montbui, Spain

803 W002 Competition in the milk-feeding stage affects post-weaning feeding behavior of pair-housed dairy calves.
E. K. Miller-Cushion\textsuperscript{1}, R. Bergeron\textsuperscript{2}, K. E. Leslie\textsuperscript{3}, G. J. Mason\textsuperscript{1} and T. J. DeVries\textsuperscript{1}, \textsuperscript{1}University of Guelph, Kemptville, ON, Canada, \textsuperscript{2}University of Guelph, Alfred, ON, Canada, \textsuperscript{3}University of Guelph, Guelph, ON, Canada

804 W003 Effect of exposure to individual ration components on feed sorting of dairy heifers.
E. K. Miller-Cushion\textsuperscript{1}, J. P. Vogel\textsuperscript{2} and T. J. DeVries\textsuperscript{1}, \textsuperscript{1}University of Guelph, Kemptville, ON, Canada, \textsuperscript{2}Dalhousie University, Truro, NS, Canada

805 W004 Relationships of temperament, behavior, and growth of performance tested bulls.
S. A. Lockwood\textsuperscript{1}, H. G. Kattesh, P. D. Krawczel, J. B. Wilkerson, J. D. Rhinehart, D. Kirkpatrick and A. M. Saxton, University of Tennessee, Knoxville

806 W005 The efficacy of bridging stimuli during acquisition of an operant task and the use of food-based positive reinforcement training on unwanted oral investigative behaviors in horses, Equus caballus.
M. R. LaFollette, K. A. Cloonan and K. W. Walter, Truman State University, Kirksville, MO

807 W006 Towards a better understanding of foraging behavior to boost the expression of conditioned preferences for low-quality foods.
F. H. Cataneso\textsuperscript{1}, R. A. Distel\textsuperscript{1} and J. J. Villa\textsuperscript{1}, \textsuperscript{1}Universidad Nacional del Sur, Bahia Blanca, Argentina, \textsuperscript{2}Utah State University - Agricultural Experiment Station, Logan, UT

808 W007 Effects of bedding frequency on lying behavior of weaned calves.
M. Terre\textsuperscript{1} and A. Bach\textsuperscript{2}, \textsuperscript{1}IRTA, Caldes de Montbui, Spain, \textsuperscript{2}Department of Ruminant Production, IRTA, Caldes de Montbui, Spain

809 W009 Behavior of pigs infected with Salmonella and fed diets containing a probiotic or a physiological promoter.
V. F. Butto\textsuperscript{2}, E. Barba-Vidal\textsuperscript{1}, L. Castillejos\textsuperscript{2}, X. Manteca\textsuperscript{2} and S. Martin-Orue\textsuperscript{1}, \textsuperscript{1}Department of Animal Science, Faculty of Agronomy Eliseu Maciel, Federal University of Pelotas, Pelotas, Brazil, \textsuperscript{2}Animal Nutrition and Welfare Service Department of Animal and Food Sciences Universitat Autonoma de Barcelona, Bellaterra 08193, Spain, \textsuperscript{3}Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autonoma de Barcelona, Bellaterra 08193, Spain

808 W008 Effect of oral meloxicam on indicators of pain following band castration in beef calves.
S. Marti\textsuperscript{1}, M. J. Jelinski\textsuperscript{2}, L. C. Dorin\textsuperscript{2}, E. D. Janzen\textsuperscript{1}, M. E. Olson\textsuperscript{1}, B. J. Ralston\textsuperscript{1} and K. S. Schwartzkopf-Genswein\textsuperscript{1}, \textsuperscript{1}Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, \textsuperscript{2}Veterinary Agri-Health Services, Airdrie, AB, Canada, \textsuperscript{3}University of Calgary, Calgary, AB, Canada, \textsuperscript{4}Alberta Veterinary Laboratories, Calgary, AB, Canada, \textsuperscript{5}Alberta Agriculture and Rural Development, Calgary, AB, Canada

811 W010 Integrating animal science and human medicine: development of a novel porcine model for calcium oxalate stone formation.
B. P. Trojan\textsuperscript{1}, S. J. Trojan\textsuperscript{2}, A. Navetta\textsuperscript{1}, S. Filleur\textsuperscript{1} and T. Nelius\textsuperscript{1}, \textsuperscript{1}Texas Tech University Health Sciences Center, Lubbock, TX, \textsuperscript{2}Texas Tech University, Department of Animal and Food Sciences, Lubbock, TX

812 W011 Effects of group size and social rank on welfare and performance of gestating sows in a group-housing system with floor feeding.
Y. Li\textsuperscript{1} and L. Wang, University of Minnesota, West Central Research and Outreach Center, Morris, MN

813 W012 Grazing and feedlot performance, and carcass quality measurements of beef cattle surgically castrated at different stages of maturity with or without analgesia.
E. A. Backes\textsuperscript{1}, A. C. Brown\textsuperscript{1}, E. B. Kegley\textsuperscript{1}, J. T. Richeson\textsuperscript{2}, H. D. Hughes\textsuperscript{3}, M. L. Thomas\textsuperscript{1}, K. Anschutz\textsuperscript{1} and J. G. Powell\textsuperscript{1},
Evaluation of a disposition scoring system in pen-raised white-tailed deer.
K. J. Stuts1, J. L. Lucia, M. J. Anderson, M. M. Beverly and S. F. Kelley, Sam Houston State University, Huntsville, TX

J. A. Reed1, N. May2, T. McEvers2, L. A. Walters3, J. P. Hutcheson4 and T. E. Lawrence4, 1West Texas A&M University, Canyon, 2Merck Animal Health, Summit, NJ, 3West Texas A&M University, Canyon

A Competitive and Unpredictable Feeding Environment Disrupts Feeding and Social Behavior of Pre-partum Dairy Cows.
K. Proudfoot1,2, D. Weary3 and N. von Keyserlingk4, 1The Ohio State University, Columbus, 2The University of British Columbia, Vancouver, BC, Canada

Effects of within dyad weight variation on competition, feed intake, and milk production of dairy cows sharing feeding gates.
J. R. R. Dórea1, A. L. Stanton2, C. M. Staffel2 and L. E. Armentano3, 1University of São Paulo, Piracicaba, Brazil, 2University of Wisconsin-Madison, Madison, 3University of Wisconsin, Madison

Impact of feeding and housing strategy on calf performance and behavior.
S. H. Ward1, K. Parker and K. Hart, Mississippi State University, Mississippi State

Communicating farm animal welfare science: Wisconsin dairy producers’ attitudes toward and interest in cow welfare.
C. Skasa1, S. Turner2 and A. L. Stanton3, 1University of Wisconsin- Eau Claire, Eau Claire, WI, 2University of Wisconsin - Eau Claire, Eau Claire, WI, 3University of Wisconsin-Madison, Madison

Effect of transportation stress on cytokine gene expression, hematic biometry and blood chemistry.
B. Avila1, J. Kawas, D. Zambor and H. Fimbres, Universidad Autónoma de Nuevo León, Dep. Veterinary Population Medicine, University of Wisconsin, Madison, Wisconsin

Flight speed as predictor of cattle ability to adapt to feedlots.
D. R. Soares1, J. N. S. G. Cyrillo1, A. C. Sant’anna1, T. S. Valente1, K. S. Schwartzkopf-Genswein1 and M. J. R. Paranhos da Costa1, 1Bolsista do CNPq - Brasil, Programa de Pós-Graduação em Zootecnia, Faculdade de Ciências Agrárias e Veterinárias, Unesp, 14.884-900, Jaboticabal - SP, Brazil, 2Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho-SP, Brazil, 3Departamento de Zootecnia, Faculdade de Ciências Agrárias e Veterinárias, Unesp, 14.884-900, Jaboticabal-SP, Brazil, 4Programa de Pós-Graduação em Genética e Melhoramento Animal, Faculdade de Ciências Agrárias e Veterinárias, Unesp, 14.884-900, Jaboticabal-SP, Brazil, 5Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 6Pesquisador CNPq - Departamento de Zootecnia, Faculdade de Ciências Agrárias e Veterinárias, Unesp, 14.884-900, Jaboticabal-SP, Brazil

Influence of pen-shade on respiratory rate and panting score in two breed types of growing bull-calves.
A. Camacho1, B. J. Cervantes2, L. R. Flores2, J. J. Lomeli2, J. A. Romo1 and R. Barajas2, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico, 2Ganaderia los Migueles, S.A. de C.V., Culiacan, Mexico

Association among residual feed intake, residual body weight gain, residual intake and body weight gain and temperament of Nellore cattle.
C. L. Francisco1, A. M. Jorge2, A. M. Castilhos1, F. D. Rexende1, J. M. B. Benatti1, M. B. Silva1 and R. F. Cooke2, 1Universidade Estadual Paulista - FMVZ, Botucatu, Brazil, 2Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista, Botucatu-SP, Brazil, 3Agência Paulista de Tecnologia dos Agronegócios - APTA, Colina, Brazil, 4Universidade Estadual Paulista - FCAV, Jaboticabal, Brazil, 5Oregon State University - EOARC Burns, Burns, OR

Association among peripartum health parameters, cud chewing and activity.
D. N. Liboreiro1, K. S. Machado1, P. Basso Silva1, M. M. Filho1, G. Franco1, A. E. Barreto1, M. I. Endres2 and R. C. Chebel1, 1Dep. Veterinary Population Medicine, University of Minnesota, St. Paul, 2University of Minnesota, Saint Paul, 3Dep. Veterinary Population Medicine, St Paul, MN

Animal Welfare Policies in South Korea.
D. H. Kim1, J. H. Jeon1, S. H. Moon1, M. J. Kim1, D. M. Hal1, H. S. Park2, N. Whitley3 and S. H. Oh4, 1Gyeongnam National University of Science and Technology, Jinju, South Korea, 2National Institute of Animal Science, Seouon, South Korea, 3Konkuk University, Chungju, South Korea, 4Seongwoon Livestock Production, Gcheon Chang, South Korea, 5North Carolina A&T State University, Greensboro

Influence of environmental conditions across day on respiratory rate and panting score of beef cattle in a hot and humidity weather.
A. Camacho1, B. J. Cervantes2, E. X. Murillo1, M. B. Corona1, M. A. Osuna1 and R. Barajas1, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico, 2Ganaderia los Migueles, S.A. de C.V., Culiacan, Mexico
Animal Health: Cow and Heifer Health

864 W026 Identification of serum innate immunity reactants in transition dairy cows before clinical signs of laminitis.
G. Zhang, D. M. Hailermarium, E. Dervishi, Q. Deng, S. A. Goldansaz, S. M. Dunn and B. N. Ametaj, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

865 W027 Milk yield and reproductive performance of Holstein cows seropositive for tuberculosis.
D. S. Resendiz*, UNIVERSIDAD AUTÓNOMA AGRARIA ANTONIO NARRO, TORREON, Mexico

866 W028 Behavior of lactating dairy cows under mild and severe heat stress with free access or not to shadow.
V. Fischer1, E. Forgiarini Vizzotto1, A. Sisenbach de Abreu1, A. Thaler Neto2, M. Tempel Stumpf, D. Werncke1 and F. André Schmidt1, Instituto Federal do Rio Grande do Sul, Porto Alegre, Brazil, 1Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, 2Universidade Estadual de Lages, Lages, Brazil

867 W029 Risk factors for hypocalcemia incidence and their effect on milk yield and reproduction in a grazing Jersey, Guernsey and Holstein herd in Costa Rica.
A. Saborio-Montero1 and J. M. Sánchez, Centro de Investigaciones en Nutrición Animal y Escuela de Zootecnia, Universidad de Costa Rica, San José, Costa Rica

868 W030 Activation of innate immunity in transition dairy cows before clinical appearance of milk fever.
G. Zhang1, D. M. Hailermarium, E. Dervishi, Q. Deng, S. A. Goldansaz, S. M. Dunn and B. N. Ametaj, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

869 W031 Transition dairy cows show blood alterations in innate immunity ahead of occurrence of retained placenta.
G. Zhang1, D. M. Hailermarium, E. Dervishi, Q. Deng, S. A. Goldansaz, S. M. Dunn and B. N. Ametaj, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

870 W032 Hypocalcemia and hypomagnesemia prevalence in a grazing Jersey, Guernsey and Holstein herd in Costa Rica.
J. M. Sánchez1 and A. Saborio-Montero, Centro de Investigaciones en Nutrición Animal y Escuela de Zootecnia, Universidade de Costa Rica, San José, Costa Rica

871 W033 Milk and blood selenium concentrations in dairy cattle differ depending on the source of selenium supplementation (sodium selenite, selenium-yeast or l-selenomethionine).
L. Vandaele1, B. Ampe1, S. Wittocx2, L. Segers1, M. Rovers1, 2A. van der Aa1, G. du Laing3 and S. De Campeneere1, 1Institute for Agricultural and Fisheries Research (ILVO), Melle, Belgium, 2Orffa Additives BV, Werkendam, Netherlands, 3Excentials BV, Werkendam, Netherlands

872 W034 Dynamic of intramammary infections in ¾ Holstein x Zebu dairy cows from a herd of Minas Gerais State, Brazil.
C. V. Ladeira1, F. N. Souza1, D. R. Freitas1, L. G. Ladeira1, D. S. Rodrigues2, M. O. Leite1, L. M. Fonseca1, C. M. Penna1, M. A. P. Brito1 and M. P. Cerqueira4, 1Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 2EPAMIG, Belo Horizonte, Brazil, 3Embrapa, Juiz de Fora, Brazil, 4Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil

873 W035 In vitro efficacy of teat disinfectants against Staphylococcus aureus strains isolated from bovine mastitis in Brazil.
R. P. Santos1, F. N. Souza1, C. C. Vasconcelos2, A. Cortez2, D. O. Lapinha1, A. B. Jardim1, A. F. Cunha1, M. O. Leite1, M. R. Souza1, A. Q. Lana2, M. B. Heinemann1 and M. P. Cerqueira4, 1Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 2Instituto de Investigaciones en Nutrición Animal y Escuela de Zootecnia, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 3Laboratorio de Medicina Experimental, Botucatu, Brazil, 4Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil

874 W036 Profile of clinical and subclinical mastitis pathogens isolated from cows housed on compost bedding.
F. V. R. Portilho, S. Favero, G. G. Wanderley, H. Langoni and J. C. F. Pantoja3, Sao Paulo State University, Botucatu, Brazil

875 W037 Risk factors for repeated cases of clinical mastitis during the same lactation.
B. dos Santos, G. G. Wanderley, H. Langoni and J. C. F. Pantoja3, Sao Paulo State University, Botucatu, Brazil

876 W038 Incidence of retained placenta and the consequences on milk production and reproductive efficiency of Holstein cows.
E. V. Rezende, C. C. Campos and R. M. Santos3, FAMEV - UFU, Uberlândia, Brazil

877 W039 Associations between Severity and Etiology of Clinical Mastitis and Pregnancy Outcomes to First-Service in Dairy Cows.
M. J. Fuenzalida4, P. D. Carvalho2, M. C. Wiltbank2, P. M. Fricke1 and P. L. Ruegg1, 1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2University of Wisconsin, Madison

878 W040 Application of probiotics in the vaginal tract modulated bacterial composition in transition dairy cows.
B. N. Ametaj1, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada
Intravaginal administration of probiotics modulated serum metabolites and milk composition of transition dairy cows.
B. N. Ametaj*, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada

Association among peripartum body condition score and metabolic parameters of Jersey cows and cure of sub-clinical mastitis in the dry period and incidence of sub-clinical and clinical mastitis postpartum.
D. N. Liboreiro* and R. C. Chebel, Dep. Veterinary Population Medicine, University of Minnesota, St. Paul

Evaluation of the ketone bodies concentration and clinical parameters in dairy cows supplemented with rumen-protected choline during the transition period.
R. C. D. Souza*, R. C. Souza, R. F. Cota, J. M. Leão, I. B. Fortes and L. S. D. Andrade, PUC Minas, Betim, Brazil, UFMG, Belo Horizonte, Brazil

Switching lactating Jersey cows from a high neutral detergent fiber diet to an isenergetically high soluble carbohydrate diet induces mild inflammation.
G. Taasoli*, C. R. Nightingale, F. Kafizadeh*, D. Ghardi*, J. A. Carroll and M. A. Ballou, Texas Tech University, Department of Animal and Food Sciences, Lubbock, TX, Razi University, Department of Animal Science, Kermanshah, Iran, MRI, Institute of Physiology and Biochemistry, Karlsruhe, Germany, USDA-ARS, Livestock Issues Research Unit, Lubbock, TX

Effects of prepartum plane of nutrition during mid or late gestation on beef cow BW, BCS, and preimplantation embryo recovery.
T. B. Wilson*, F. Cardoso and D. W. Shike, University of Illinois, Champaign, IL, University of Agriculture, Faisalabad, Pakistan, University of Agriculture, Faisalabad, Pakistan

Effects of Maternal Plane of Nutrition During Mid or Late Gestation on Beef Cow Performance and Progeny Performance Through Weaning.
T. B. Wilson* and D. W. Shike, University of Illinois, Urbana

Effects of prepartum plane of nutrition during mid- or late gestation on beef cow BW, BCS, and preimplantation embryo recovery.
W. C. Meteer*, T. B. Wilson, P. Cardoso and D. W. Shike, University of Illinois, Champaign, IL, University of Agriculture, Faisalabad, Pakistan

Effects of breed, sex, parity, birth year and birth season on body weight traits for five local cattle breeds and crossbreds in arid region of Punjab, Pakistan.
G. Bilal*, M. Moaen-ud-Din, M. Ageel, A. Ijaz, M. S. Khan, M. Y. Gondal, K. M. Khan, M. Mukhtar and M. N. Manzoor, PMAS-Arid Agriculture University, Rawalpindi, Pakistan, University of Agriculture, Faisalabad, Pakistan, Barani Livestock Production Research Institute, Attock, Pakistan

Intravaginal administration of probiotics modulated serum metabolites and milk composition of transition dairy cows.
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Effects of prepartum plane of nutrition during mid or late gestation on beef cow BW, BCS, and preimplantation embryo recovery.
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Effect of rumen protected carbohydrate supplementation on performance and plasma glucose concentrations in growing heifers.  

Evaluation of forage soybean, with and without pearl millet, as an alternative forage for developing beef replacement heifers.  
E. Taylor, P. J. Gunn, L. A. Horstman, R. L. Atkinson, K. D. Johnson and R. P. Lemenager, Purdue University, Lafayette, IN, Iowa State University, Ames, Purdue University, West Lafayette, IN, Southern Illinois University - Carbondale, Carbondale, IL

Plasma glucose concentration, subcutaneous fat thickness, and puberty attainment in nelore heifers treated with recombinant bovine somatotropin.  
G. Nogueira, D. Giraldo-Aranda, J. S. Souza, M. A. Maioli, M. C. V. Miguel, R. S. Cipriano, T. Saynuri Aguiar, D. M. Pinheiro and R. F. Cooke, Unesp, Aracatuba, Brazil, Unisalesiano, Aracatuba, Brazil, UNESP, Aracatuba, Brazil, Oregon State University - EOARC Burns, Burns, OR

Effect of dried distillers grains with solubles and dried citrus pulp supplementation on metabolic and reproductive parameters of Charolais beef cows grazing buffelgrass in Northeastern Mexico.  
E. Garza Brenner, H. Bernal Barragán, E. Gutiérrez Ornelas, F. Sánchez Dávila, A. S. Juárez Reyes and E. Olivares Sáenz, Universidad Autónoma de Nuevo León, San Nicolás de los Garza, Mexico, Red Internacional de Nutrición y Alimentación en Rumiantes, Durango, Mexico, Universidad Juárez del Estado de Durango, Durango, Mexico

Evaluation of anthelmintic resistance of intestinal parasitic nematodes in heifers in south central Nebraska.  

Effect of an injectable trace mineral on pregnancy rate of virgin heifers when synchronized using the 5 day Co-Synch plus CIDR or 14 day CIDR-PG protocol.  
C. J. Brasche, J. B. Hall and M. E. Drewnoski, University of Idaho, Moscow, University of Idaho, Carmen, ID

Oral supplementation with selenium for young Brangus bulls raised in pasture: seminal quality in fresh and frozen semen.  

Use of vitamin C combined to pentoxifylline and fertility in cattle after cryopreservation.  

Breeding and Genetics: Application and Methods in Animal Breeding - Livestock I

Whole Genome Association Analysis for Detecting QTLs Related to Fat and Protein Production in Buffaloes.  
H. Tonhati, D. F. Cardoso, R. R. Aspilcueta Borquis, N. A. Hurtado Lugo, G. M. de Camargo, L. G. Albuquerque, D. J. A. Santos, D. C. Saclez and M. C. Nakagawa, State University of São Paulo, Facultade de Ciências e Tecnologia de Ribeirão Preto, Brazil, Universidade Estadual Paulista “Júlio de Mesquita Filho” (FCAV-UNESP), Jaboticabal, Brazil, UNESP Univ Estadual Paulista, Jaboticabal, Brazil, State University of São Paulo, Facultade de Agricultura e Veterinária, Jaboticabal, São Paulo, Brazil, Jaboticabal, Brazil

Evaluation of single nucleotide polymorphism markers on four pig chromosomes for potential associations with halothane sensitivity phenotypes in a population of Yorkshire-Landrace pigs.  
K. R. Perry, C. W. Ernst, J. P. Steibel and R. O. Bates, Michigan State University, East Lansing

Growth Rate of Purebred Berkshire Pigs Housed in Hoop Buildings in North Carolina.  
S. H. Oh, N. Whiteley, F. McElveen and H. S. Park, North Carolina A&T State University, Greensboro

Use of the canonical discriminant analysis for selecting a panel of informative markers in 21 Italian sheep breeds.  
C. Dimarco, M. Celleti, L. Nicolo, P. Crepaldi, N. P. P. Macciotta, G. Pulina and F. Pilla, Università di Sassari, Sassari, Italy, Università di Milano, Milano, Italy, Dipartimento di Agraria, University of Sassari, Sassari, Italy, Università del Molise, Campobasso, Italy

Genomic differences between Rambouillet sheep selected for high and low reproductive rate.  
J. M. Thomson and J. G. Berardinelli, Montana State University, Bozeman
Breeding and Genetics: Molecular Biology and Genomics

**W066** Associations of the NCAPG I442M and GDF8 Q204X loci on feed efficiency at the onset of puberty in a beef x dairy cattle resource population.
C. Kühn, P. Widmann, R. Weikard and E. Albrecht, Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany

**W067** Association of DNA methylation levels with tissue-specific expression of adipogenic and lipogenic genes in Longissimus dorsi muscle of Korean cattle.
M. Baik, T. T. T. Vu, M. Y. Piao and H. J. Kang, Department of Agricultural Biotechnology, College of Agriculture and Life Sciences, Seoul National University, Seoul, South Korea, Chonnam National University, Gwangju, South Korea

**W068** Changes in the cattle cervical transcriptome between estrus and luteal phase.
D. Gonzalez-Peña Fundora, P. Cardoso, M. B. Wheeler and S. L. Rodriguez Zas, University of Illinois at Urbana-Champaign, Urbana, IL, University of Illinois, Urbana

**W069** Physical and chemical and fatty acid profile in the steers beef with different genetic predominance fed with diets containing substitutions levels of corn by pearl millet.
R. M. D. Silva, J. T. Pádua, J. J. R. Fernandes, R. Z. Taveira, R. L. Misso, P. S. Pacheco, D. A. Fausto and J. Restle, Universidade Estadual de Goiás, São Luís de Montes Belos, Goiás, Brazil, Universidade Federal de Goiás, Goiânia, Goiás, Brazil, FAPEG, Goiânia, Goiás, Brazil, Universidade Federal de Goiás, Goiânia, Goiás, Brazil, Universidade Federal de Goiás, Goiânia, Brazil, Universidade Tecnológica Federal do Paraná, Pato Branco, Paraná, Brazil, Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil, ESALQ / USP, Piracicaba, São Paulo, Brazil

**W070** Major loci associated with growth traits on BTA14 in Hanwoo (Korean cattle).

**W071** SNP located on three candidate genes influencing growth, performance and carcass traits in a population of steers sired by Braunvieh, Charolais and Simmental Bulls.
M. D. Garcia, S. Mizelli and T. Fage, LSU, Baton Rouge, LA, Louisiana State University, Baton Rouge

**W072** Single nucleotide polymorphisms in the XKR4 and DRD2 genes influence adjusted birth and 205-day weights of calves grazing endophyte-infected tall fescue.
K. M. Elly, C. J. Kojima, A. M. Saxton and R. L. Kallenbach, University of Tennessee, Knoxville, University of Missouri, Columbia

Dairy Foods: Technical Poster Session III: Fluid Milk

**W073** Interaction of bovine and caprine milk alpha-caseins with tea polyphenols.
A. Mora-Gutierrez and R. Attia, Prairie View A&M University, Prairie View, TX

**W074** Comparison Of Jersey And Holstein-Friesian Milk Composition And Coagulation Properties.
J. H. Bland, C. C. Fagan and A. S. Grandison, University of Reading, Reading, United Kingdom

**W075** Light Exposure Affects Milk Acceptability and Emotional Response of College Students.
A. M. Walsh, H. Potts and S. Duncan, Virginia Tech, Blacksburg

**W076** Fatty acid compositions of low-fat goat milk ice creams formulated with commercial ice cream mix and 3 different levels of caprine milk fat.
C. E. McGhee, B. P. Gupta and Y. W. Park, Fort Valley State University, Fort Valley, GA

**W077** Application of Non-Nutritive Natural Sweeteners to Skim Chocolate Milk.
X. E. Li, K. Lopetcharat and M. Drake, Southeast Dairy Foods Research Center, NCSU, Raleigh, NC

**W078** Cross-linking of milk proteins can reduce its susceptibility to plasmin-induced hydrolysis.
H. Bhattacharya, A. Cucheval, C. Coker, H. G. Patel, A. Carr and R. Bennett, Massey University, Palmerston North, New Zealand, Fonterra Research & Development Centre, Palmerston North, New Zealand, South Dakota State University, Brookings

**W079** Optimization of gamma-aminobutyric acid production of Lactobacillus plantarum and determination of flavor substances in gamma-aminobutyric acid-enriched fermented milk.
L. Li, C. Man, T. Li, Y. Shan, Y. Deng, M. Ding, M. Guo and Y. Jiang, Department of Food Science, Northeast Agricultural University, Harbin, China, National Dairy Engineering and Technology Research Center, Northeast Agricultural University, Harbin, China, Synergetic Innovation Center of Food Safety and Nutrition, Harbin, China, University of Vermont, Burlington
Comparison of odd and branched chain fatty acids profiles of cow, yak, buffalo, Jersey cattle, goat, camel and horse milk fat.
L. Ma1, 2, D. P. Bu1, J. T. Chen1 and J. Q. Wang2, 3, 1Inner Mongolia Agricultural University; Huhhot, China, 2State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

Detection and comparison of major and trace elements from different species milk by inductively coupled plasma-mass spectrometry.
L. Ma, D. P. Bu, J. T. Chen and J. Q. Wang, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

Identification of microRNA in fresh milk of cow and goat.
D. P. Bu1, 2, L. Ma1, X. M. Nan1, J. J. Loor1 and J. Q. Wang2, 3, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2University of Illinois, Urbana

Sodium azide and Potassium dichromate not suitable preservative of raw milk for detection β-lactamase by cylinder plate method.
Y. Zhang1, 2, 3, N. Zheng1, 2, 3, F. Wen1, 2, 3, S. Li1, 2, 3, S. Zheng1 and J. Wang2, 1, 2, 3, 1Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China, 3State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

Discrimination of reconstituted milk and over-processed milk in pasteurized and UHT milk.
H. Wang1, 2, 3, N. Zheng1, 2, F. Wen1, 2, H. Wang2, X. Guo1, 2, S. Li1, 2, 3 and J. Wang2, 1, 2, 3, 1Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2College of Animal Science and Technology, Yangzhou University; Yangzhou, China, 3State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

Caséinomacropeptide Index (CMP), microbiology and protein content of uht chocolate milk-whey-based drinks in brazil.
F. P. Paula1, L. M. Melgaço1, A. B. Jardim1, C. F. A. M. Penna1, L. M. Fonseca1, L. M. R. Souza2, M. P. Cerqueira2 and M. O. Leite1, 1Universidade Federal de Minas Gerais; Belo Horizonte, Brazil, 2Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil

Stability of Vitamin A Palmitate in Raw Skim Milk and Apple Juice on Exposure to Ultraviolet Light.
M. S. Mohan1 and F. Harte2, 1The University of Tennessee, Knoxville, 2University of Tennessee, Knoxville

Effect of Abomasal Ferrous Lactate Infusion on Milk Proteins.
A. Wang1, A. M. Dietrich1, S. Duncan1, K. F. Knowlton1 and W. Slade2, 1Virginia Tech, Blacksburg, 2University of North Carolina at Chapel Hill, Chapel Hill, NC

Effect of high hydrostatic pressure processing on in vitro digestion of milk proteins and fats.
D. X. Ren1, 2, D. L. Van Hekken1, M. H. Tunick1 and P. M. Tomasula2, 1USDA, ARS, ERRC, Dairy & Functional Foods Research Unit, Wyndmoor, PA, 2Institute of Dairy Science, College of Animal Science, Zhejiang University, Hangzhou, P.R., China, Dairy & Functional Foods Research Unit, Eastern Regional Research Center, Agricultural Research Service, United States Department of Agriculture, Wyndmoor, PA

Effect of storage temperature on the physio-chemical properties of skim milk powders treated with chelators.
V. Sikand1, P. S. Tong2, S. Vink3 and S. Roy3, Dept. of Dairy Science, California Polytechnic State University, San Luis Obispo, CA, 2Dept. of Statistics, California Polytechnic State University, San Luis Obispo, CA

Effect of sunflower oil, vitamin E and selenium inclusion in the diet of dairy cows on the sensory acceptability of milk.
L. F. D’Abreu1, C. Rodrigues, A. Saran Netto, J. L. Guimarães, M. A. Silva and N. D. P. Lopes, School of Animal Science and Food Engineering, University of São Paulo, Pirassununga, Brazil

Forages and Pastures Posters III: General Forages and Forage Systems

Effect of Plant Density on Nutritional Quality of Green Chopped Corn.
G. Ferreira1, 2, D. Carp3, M. Alfonso1 and S. Depino1, 1Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, 2CREA Lincoln, Asociación Argentina de Consorcios Regionales de Experimentación Agropecuaria, Lincoln, Buenos Aires, Argentina, 3Forratec Argentina, SA, Chacabuco, Buenos Aires, Argentina

Assessment of in vitro fermentation characteristics of lactation dairy diets consisting of orchardgrass or birdsfoot trefoil pasture forages with different supplements using continuous cultures.
R. G. Christensen1, A. J. Young1, J. S. Eun1, J. W. MacAdam1 and B. R. Min2, 1Utah State University, Logan, 2Tuskegee University, Tuskegee, AL
Fatty acid profile and oxidative stability of carcass fat from meat goats fed grass-legume forage diets.
B. R. Min*, Tuskegee University, Tuskegee, AL

Effects of Moisture Level at Baling and FRESH CUT® brand Plus on Quantity and Quality of Alfalfa Hay Harvested in Large Rectangular Bales.
K. E. Grisswold¹, R. Almada, A. Lipata and E. Rodberg, Kemin Animal Nutrition & Health, Des Moines, IA

Estimation of macronutrients content in mixed swards by Near Infrared Reflectance Spectroscopy.
A. I. Roca-Fernández¹, P. Castro-García and A. González-Rodriguez, Agrarian Research Centre of Mabegondo, La Coruña, Spain

Fall Harvest Management of Eastern Gamagrass.
W. K. Coblentz²¹, M. G. Bertram², P. C. Hoffman³, N. M. Esser⁴ and J. S. Cavadini⁵, US Dairy Forage Research Center, Marshfield, WI, University of Wisconsin, Madison, University of Wisconsin, Marshfield, Marshfield.

Fertilization of Fall-Grown Oat with Urea or Bedded-Pack Manure.
W. K. Coblentz¹, W. E. Jokela¹ and M. G. Bertram², US Dairy Forage Research Center, Marshfield, WI, University of Wisconsin, Arlington

Nutrient composition and in vitro digestibility of cultivated and non-cultivated plant species found within a Southwestern forage production operation.
J. D. Allen¹, L. W. Hall² and J. English³, Northwest Missouri State, Maryville, The University of Arizona, Tucson

Effects of Marandu pastures heights and sources of energy supplements on the weights gains per animal and per area.
A. A. Oliveira¹, M. V. Azemha², S. S. Santana, C. H. O. Macedo³, J. P. R. Costa², T. T. Berchielli², A. C. Ruggieri³ and R. A. Reis³, Unesp, Jaboticabal, Brazil, University of Sao Paulo State, Jaboticabal, Brazil, Sao Paulo State University, Jaboticabal, Brazil

Effect of Sowing Date on Forage Yields and Quality of Italian Ryegrass in Early Spring-seeded.
K. Kim¹, Livestock Institute, Jeollanamdo, South Korea

Relationship between Protein Structural Characteristics and Supply of Metabolizable Protein to Dairy Cattle from New Cool-Season Forage Corn Varieties in Western Canada.
N. A. Khan, S. Abeysekara, D. A. Christensen, X. Huang and P. Yu, University of Saskatchewan, Saskatoon, SK, Canada

Evaluation of agronomic characteristics of five varieties of corn in integrated crop-livestock-forest system.
A. A. Pinheiro¹, M. C. A. Santana, V. A. Silva, J. T. C. Pacheco, A. C. Fernandes and I. D. Carneiro, Emater, Goiânia, Brazil

Non-structural carbohydrates in Marandu-grass pastures under different grazing intensities.
M. V. Azenha¹, L. F. Brito¹, A. A. Oliveira¹, E. R. Janusckiewicz², E. Raposo¹, S. S. Santana³, R. A. Reis³ and A. C. Ruggieri², University of Sao Paulo State, Jaboticabal, Brazil, Sao Paulo State University, Jaboticabal, Brazil

Production and quality of alfalfa harvested on different stages of maturity in summer and fall.
C. Arzola-Alvarez¹, R. Copado-García¹, O. Ruiz-Barrera¹, C. Rodriguez-Muela¹, A. Corral-Luna⁴, A. Castañeda-Correa¹, H. M. Gaytan-Torres¹ and D. Díaz-Plascencia¹, Universidad Autónoma de Chihuahua, Chihuahua, Mexico, Universidad Autónoma de Nuevo Leon, Monterrey, Mexico

Effect of Cultivars and Planting Dates on Bioenergy Feedstock Characteristics of Switchgrass ( Panicum virgatum ) in South Korea.
B. Kim¹, M. M. Sargolzehi², B. Lee¹, D. Ji³, J. Peng¹, J. Nejad³, S. Kang³, D. H. Min⁴ and K. Sung¹, Department of Animal Life System, College of Animal Life Science, Kangwon National University, Chuncheon, South Korea, Department of Animal Science, College of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran, Planning and Coordination Division, National Institute of Animal Science, Siwon, South Korea, Department of Agronomy, College of Agriculture, Kansas State University, Manhattan

Morphological Composition of Piata Palisade Grass Tillers Subjected to Strategies of Intermittent Defoliation.
G. O. Rocha¹, F. H. Chizzotti¹, D. M. Fonseca¹, M. E. Santos¹ and B. M. Pereira¹, Universidade Federal de Vícosa, Vícosa, Brazil, Universidade Federal de Uberlândia, Uberlândia, Brazil

Chemical composition and in situ dry matter degradability of tropical forages grasses in Northeastern Brazil.
S. S. C. Sanches, R. C. Rodrigues, M. O. M. Parente¹, I. G. R. Araújo, C. M. S. Galvão, A. L. Silva Júnior, S. Figueroa, R. A. Araújo, I. Rodrigues and S. S. Mendes, Universidade Federal do Maranhão, Chapadinha, Brazil
WEDNESDAY, JULY 23, 2014

1121  W108  Influence of phenological stage on fresh forage, hay and silage on nutritional value of tall wheatgrass. M. Menghini1,2, H. M. Arelovičh1,2,3, M. F. Martínez1 and R. D. Bravo1, 1Dpto. Agronomía, Universidad Nacional del Sur, Bahía Blanca, Argentina, 2CIC, Bahía Blanca, Argentina, 3CERIZOS, Bahía Blanca, Argentina

Bonfa, H. C., 1801

1123  W109  Spatio-temporal evaluation of the nutritive value of Croton cortezianus and Leucophyllum frutescens through in vitro fermentation kinetics. A. M. S., G. C. M. *, G. R. H. Z., D. G. T. G. and J. R. A. 1, 1Universidad Juárez del Estado de Durango, Durango, Mexico, 2Universidad Autónoma de Nuevo León, Linares, Nuevo León, Mexico

1124  W110  Reduction of enteric methane emission by using tannin supplementation in grazing goats. A. C. Ruggieri*, N. C. Meister, F. O. Alari, V. C. Silva, N. L. Santos and E. B. Malheiros, Sao Paulo State University, Jaboticabal, Brazil

1125  W111  Nutritive value of buffelgrass-based diets supplemented with dried distillers grains with solubles and dried citrus pulp. N. C. Vásquez Aguilar1, H. Bernal Barragán1, R. G. Ramirez Lozano1, M. Cerrillo Soto2,3, M. V. Gómez Meza1, E. Gutiérrez Ornelas2-3 and M. Guerrero Cervantes2-3, 1Universidad Autónoma de Nuevo León, San Nicolás de los Garza, Mexico, 2Red Internacional de Nutrición y Alimentación en Rumiantes, Durango, Mexico, 3Universidad Juárez del Estado de Durango, Durango, Mexico

1126  W112  Lignin concentration and its correlation with degradability of tropical grasses. A. Vargas Velásquez*, Universidad de São Paulo, Pirassununga, Brazil

1127  W113  Chemical characterization and in vitro fermentation degradability of tropical legumes. I. Scull-Rodriguez1,2, M. A. Cerrillo Soto2,3, O. Olao1,2, M. Guerrero-Cervantes2,3, A. Juárez-Reyes2,3 and R. Herrera-Garcia1,2, 1Instituto de Ciencia Animal, San José de las Lajas, Cuba, 2Red Internacional de Nutrición y Alimentación en Rumiantes, Durango, Mexico, 3Universidad Juárez del Estado de Durango, Durango, Mexico

1128  W114  Modeling dry matter production in Panicum maximum grasses. V. L. N. Brandao1, M. I. Marcondes2, F. H. M. Chizzotti2 and H. Bandeira2, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Federal University of Viçosa, Viçosa, Brazil

1129  W115  Productive performance of Atriplex canescens forage for 30 years of exclusion and grazing in different seasons of the year in the North of Mexico. E. Suarez*, UAAAN, Saltillo, Mexico

Growth & Development Poster II

1130  W116  Effect of Incubation Temperature on the Proliferation and Differentiation of Pig Preadipocytes in Primary Culture. A. E. Bohan*, J. Bartosh and T. D. Brandebourg, Auburn University, Auburn, AL


1135  W121  Impact of the Sires on Puberty Onset in Nellore Heifers. M. F. C. Ferraz Jr., A. Y. Pires, D. D. Nepomuceno1, A. D. B. Ribeiro1, M. V. Bichl2, J. P. C. Thieme2, E. M. Moreira1, J. A. Faleiro Neto1 and J. R. S. Gonçalves1, 1University of São Paulo - FMVZ/USP, Pirassununga, Brazil, 2University of São Paulo - ESALQ/USP, Piracicaba, Brazil, 3Red Internacional de Nutrición y Alimentación en Rumiantes, Durango, Mexico

1136  W122  Microarray Studies in High and Low RFI Cattle Reveal a Potential Role for Gonadotropin Releasing Hormone (GnRH) in Regulating Feed Efficiency.

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Microbiota Diversity is Inversely Related to Adiposity in Mangalica Pigs.
J. W. Broady, L. Wang, A. G. Moss, T. D. Brandebour and E. Schwartz*, Auburn University, Auburn, AL

Muscle hypertrophy induced by myostatin inhibition is suppressed by rapamycin administration.
D. Choi1, J. Yang2, S. K. Park2 and Y. S. Kim3, University of Hawaii, Honolulu, *National Institute of Animal Science, RDA, Savon, South Korea

Poor Maternal Nutrition During Gestation Reduces Mesenchymal Stem Cell (MSC) Proliferation in Offspring.
S. M Pillai1, M. L. Hoffman1, K. N. Peck1, E. V. Valley1, T. D. Crenshaw2, S. A. Zinn1 and K. E. Govoni1, Department of Animal Science, University of Connecticut, Storrs, University of Wisconsin, Madison

Regulation of key markers of lipid metabolism by short chain fatty acids in differentiated pig adipocytes.
H. Yan1 and K. M. Ajuwon1, Purdue University, West Lafayette, IN, Department of Animal Sciences, Purdue University, West Lafayette, IN

Relationship among efficiency measures, economic value and feedlot performance assessed in growing phase of Nellore cattle.
A. M. Castilhos1, C. L. Francisco1, A. M. Jorge1, R. H. Branco2, M. E. Z. Mercadante2, S. F. M. Bonilha2, C. M. Pariz2 and D. C. Rivaldi1, Universidade Estadual Paulista - FMVZ, Botucatu, Brazil, Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho-SP, Brazil

Retinoic Acid Alters Expression of Key Genes during Differentiation of Bovine Intramuscular Preadipocytes.
J. Kim*1, K. Chung1, S. Chang1 and B. J. Johnson1, Texas Tech University, Lubbock, Hanwoo Experiment Station, NIAS, RDA, Pyeongchang, South Korea

Role of G Protein-coupled Estrogen Receptor-1 and Matrix Metalloproteinases 2 and 9 in the Effects of Estradiol-17beta on Proliferation, Protein Synthesis and Protein Degradation in Bovine Satellite Cell Cultures.
E. Kamanga-Solto, B. C. Reiter, K. J. Thornton1, M. E. White and W. R. Dayton, University of Minnesota, Saint Paul

The effect of pre-weaning feeding and housing strategy on calf growth performance and behavior following post-weaning housing transition.
H. M. Gauthier1, H. A. Tucker1, S. E. Williams1, D. M. Shenk1, C. S. Ballard1, K. M. Morrill2 and H. M. Dann1, William H. Miner Agricultural Research Institute, Chazy, NY, Cornell University, Ithaca, NY

The Effect of Two Sources of Soy Protein Concentrate and Hydrolyzed Soy Protein Modified on Growth and Performance of Calves Fed Milk Replacer.
B. L. Miller1, T. Earleywine2, W. S. Bowen Yoho3 and T. E. Johnson3, Land O'Lakes - Purina Feed LLC, Gray Summit, MO, Land O'Lakes Animal Milk Products, Shoreview, MN, Land O’Lakes, Inc., Webster City, IA

The Effect of Various Fat Levels and Fat Sources on Growth and Performance of Calves Fed Milk Replacer.
T. Earleywine1, B. L. Miller2, W. S. Bowen Yoho3 and T. E. Johnson3, Land O'Lakes Animal Milk Products, Shoreview, MN, Land O'Lakes - Purina Feed LLC, Gray Summit, MO, Land O’Lakes, Inc., Webster City, IA

Use of biometric measurements to predict age and body weight of bovine fetus*.
T. R. Gionbelli1, M. P. Gionbelli1, M. S. Duarte1, S. C. Valadares Filho1, F. C. Rodrigues1, M. G. Machado1, D. Zanetti1, B. C. Silva1 and F. A. Villadiego1, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, Instituto Nacional de Ciência e Tecnologia - Ciência Animal, Viçosa, Minas Gerais, Brazil

Horse Species II

Trotting stride variables of the North American Akhal-Teke Horse.
M. C. Nicodemus1 and J. Beranger2, Mississippi State University, Mississippi State, American Livestock Breeds Conservancy, Pittsboro, NC

Development of an objective on-farm equine temperament scoring system.
J. N. Foley1, J. L. Lucia1 and K. W. Walter1, Truman State University, Kirksville, MO, Sam Houston State University, Huntsville, TX

Cooling of equine semen at 16°C for 36h with the addition of cysteine in different concentrations.
R. A. De Oliveira1, L. S. Murata1, M. A. D. O. Viu2 and M. L. Gambarini1, University of Brasilia, Brasília, Brazil, Federal University of Goiás, Goiânia, Brazil

Administration of bioactive proteins to mature horses improves gait kinematics.
J. Coverdale1 and J. M. Campbell1, Texas A&M University, College Station, APC, Inc., Ankeny, IA
1210 W138 The effect of skim milk as an equine semen extender.
M. L. Freitas, C. S. Bouéres, F. J. G. De Oliveira, L. S. Murata* and R. A. De Oliveira, University of Brasilia, Brasilia, Brazil

1211 W139 Reproductive activity in Quarter Horse mares with artificial light.
J. A. Ramirez-Godínez1, J. Delgado-Laphond, A. Flores-Mariñelarena and E. Santellano-Estrada, Universidad Autónoma de Chihuahua, Chihuahua, Mexico

1212 W140 Composition of follicular fluid and serum, ovarian dynamics, and IGF-1 concentrations following n-3 fatty acid supplementation in mares.
S. E. Buist1, M. J. Schmidt1, D. M. Grieger1, C. A. Blevins1, S. K. Webel1, T. L. Douthit1, L. Murray1 and J. M. Koubal,1
1Kansas State University, Manhattan, 2JBS United, Baylis, IL

1223 W142 Serotonin receptors expression in caprine and ovine mammary gland by Real Time PCR-RT.
A. Suárez-Trujillo1, A. Argüello2, M. A. Rivera2, J. Capote2 and N. Castro2,1Department of Animal Science, Universidad de Las Palmas de Gran Canaria, Arucas, 35413, Las Palmas, Spain. 2Department of Morphology, Universidad de Las Palmas de Gran Canaria, Arucas, 35413, Las Palmas, Spain. 3Canarian Agronomic Science Institute, La Laguna, 38200, Tenerife, Spain

1224 W143 Immortalization of a Primary Bovine Mammary Epithelial Cell Line by the SV40 Large T-antigen Gene.
H. Hu1231, N. Zheng1,2,2, W. Dai12,2,3, H. Gao12,2,3 and J. Wang12,2,3,1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China. 2Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China. 3Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China

1225 W144 Color Measurement as potential Tool for Determination of Colostrum Quality in primiparous and multiparous Dairy Cows.
J. J. Gross1, E. C. Kessler1 and R. M. Bruckmaier2,1Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland. 2Veterinary Physiology, Vetsuisse Faculty, University of Bern, Switzerland

1226 W145 Effect of milk yield genotype on gene expression in liver and adipose tissue from periparturient Holsteins.
W. J. Weber1, M. Carriquiry1, S. C. Fahrenkrug1 and B. A. Crooker1,1University of Minnesota, Saint Paul. 2Universidad de la República, Montevideo, Uruguay

L. J. Juengst1, E. E. Connor2, R. L. Baldwin, VI3 and B. J. Bequette1,1Department of Animal and Avian Sciences, University of Maryland, College Park. 2USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD. 3USDA-ARS, BFGL, Beltsville, MD

1228 W147 Is there a core microbiome in bovine milk samples from healthy quarters with somatic cell counts of less than 200,000 cells/mL?
S. L. Brooker1, J. E. Williams1, S. M. Reynolds1, K. M. Yahvah1, L. K. Fox2 and M. A. McGuire1,1University of Idaho, Moscow, 2Washington State University, Pullman

1229 W148 Impact of Machine Milking on Teat Dimensions.
J. F. Guarin112, D. J. Reinemann1 and P. L. Ruegg1,1Department of Dairy Science, University of Wisconsin-Madison, Madison. 2Grupo de Investigación Biogénesis, Facultad de Ciencias Agrarias, Universidad de Antioquia, Medellín, Colombia. 3Department of Biological Systems Engineering, University of Wisconsin-Madison, Madison

1230 W149 Comparison of Ecological Indices of Bacterial Communities in Bovine Milk Varying in Somatic Cell Count.
J. E. Williams1, S. M. Reynolds1, K. M. Yahvah1, S. L. Brooker1, L. K. Fox2, B. Shaﬁi1 and M. A. McGuire1,1University of Idaho, Moscow, 2Washington State University, Pullman

1231 W150 Effects of Arginase Inhibition on Casein Expression and Proliferation of Bovine Mammary Epithelial Cells.
L. Ding1, W. Wang11, L. Chen1, H. Wang1 and J. J. Loor2,1Yangzhou University, Yangzhou, China. 2University of Illinois, Urbana-Champaign

Meat Science & Muscle Biology Posters III
1264  W151  Sun dried meat quality derived from young bulls fed licuri cake derived from biodiesel production.

1265  W152  Processed burger quality derived from young bulls fed licuri cake derived from biodiesel production.
R. L. Oliveira1, A. A. L. Govea1, A. G. Leão1, C. B. D. Pellegrini1, N. G. D. N. Junior1, C. L. D. Abreu1, T. M. Silva1, V. B. D. Silva1 and E. S. dos Santos2, 1Universidade Federal da Bahia, Salvador, Brazil, 2Federal University of Bahia, Salvador, Brazil

1266  W153  Collagen, cooking losses and shear force of aged meat from Nellore steers fed protected or unprotected linseed oil.
W. Henrique1, L. R. Simonetti1, T. M. Pivaro1, V. G. Carvalho1, E. A. Oliveira1, C. C. P. D. Paz1 and A. A. M. Sampaio1, 1Instituto de Zootecnia, Sertãozinho, Brazil, 2Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 3FCAV/UNESP JABOTICABAL, Pradil polis, Brazil, 4Universidade estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil, 5Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 6Universidade Estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil

1267  W154  Effect of aging times and inclusion of unprotected or protected linseed oil on the diet of Nellore steers over the color of Longissimus.
W. Henrique1, L. R. Simonetti2, T. M. Pivaro2, V. G. Carvalho2, E. A. Oliveira2, C. C. P. D. Paz2 and A. A. M. Sampaio1, 1Instituto de Zootecnia, Sertãozinho, Brazil, 2Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 3Instituto de Zootecnia, Sertãozinho, Brazil, 4FCAV/UNESP JABOTICABAL, Pradil polis, Brazil, 5Universidade estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil, 6Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 7Universidade Estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil

1268  W155  Aging times and inclusion of unprotected or protected linseed oil on Nellore steers diet and its influence on cholesterol and lipid oxidation of the meat.
L. R. Simonetti1, W. Henrique2, T. M. Pivaro2, V. G. Carvalho2, E. A. Oliveira2, C. C. P. D. Paz2 and A. A. M. Sampaio1, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 3Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 4Universidade Estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil, 5Universidade Estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil

1269  W156  Effect of aging times and inclusion of unprotected or protected linseed oil from ruminal degradation on the diet of Nellore steers over pH and water holding capacity of meat.
L. R. Simonetti1, W. Henrique2, T. M. Pivaro2, V. G. Carvalho2, E. A. Oliveira2, C. C. P. D. Paz2 and A. A. M. Sampaio1, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 3Instituto de Zootecnia, Sertãozinho, Brazil, 4FCAV/UNESP JABOTICABAL, Pradil polis, Brazil, 5Universidade estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil, 6Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 7Universidade Estadual "Júlio de Mesquita Filho” - FCAV, Jaboticabal, Brazil

1270  W157  Aged beef from Nellore young bulls fed crude glycerin in diets with different roughage sources.
J. F. Lage1, A. F. Ribeiro1, M. Machado1, L. R. Simonetti1, E. A. Oliveira1, E. E. Dallantonia1 and T. T. Berchielli1, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Universidade Estadual Paulista "Júlio de Mesquita Filho” / Unesp, Jaboticabal, Brazil, 3Universidade Estadual Paulista "Júlio de Mesquita Filho” / Unesp, Jaboticabal, Brazil, 4Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 5Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 6Universidade Estadual Paulista, Jaboticabal, Brazil

1271  W158  Effect of aging times on tenderness of five muscles from carcass of Nellore young bulls.
L. R. Simonetti1, J. F. Lage1, E. E. Dallantonia1, E. A. Oliveira1, M. B. Abra1, G. M. Delamagna1, L. Maneck Delevatti1 and T. T. Berchielli1, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 3Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 4Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil

1272  W159  Color and pH of meat aged from Nellore young bulls fed crude glycerin associated with soybean grain in low or high starch diets.
M. B. Abra1, J. F. Lage1, L. G. Rossi1, L. R. Simonetti1, E. A. Oliveira1, G. M. Delamagna1, E. E. Dallantonia1, V. B. Carvalho1 and T. T. Berchielli1, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Universidade Estadual Paulista, Jaboticabal, Brazil, 3Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil, 4Universidade Estadual Paulista "Júlio de Mesquita Filho” - Unesp, Jaboticabal, Brazil

1273  W160  Effects of excess dietary sulfur on beef carcass characteristics and quality after aging.
J. Hawley1, E. B. Kegley, J. W. Yancey and J. K. Apple, Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR

1274  W161  Effect of beta agonist and immunocastration on meat characteristics Nellore cattle.
M. Rezende Mazon1, S. Luz e Silva2, D. Silva Antoneió1, K. Nubiao1, D. Juliana Brigida1, B. Baptista1 and P. R. Leme2,
Nonruminant Nutrition: Evaluation of Feed Ingredients for Monogastric Diets

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1345, W162 The use of Bioelectrical Impedance Analysis to predict carcass composition in calf-fed Holstein steers.
N. D. May1, T. J. McEvers1, L. A. J. Walter2, J. A. Reed2, J. P. Hutcheson2 and T. E. Lawrence1, 1West Texas A&M University, Canyon, 2Mercer Animal Health, DeSoto, KS

1346, W163 Increasing levels of sodium benzoate affect myosin heavy chain type expression in cultured bovine satellite cells.
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1347, W164 Surgical castration and immunocastration improve cut yield of high market value from animals crossbred Aberdeen Angus × Nellore.
A. D. Moreira1, F. D. Resende2, G. R. Siqueira1, J. M. B. Benatti1, M. H. Moretti1, J. A. Alves Neto1, B. S. Lima1, J. F. Lage6, G. Z. Miguel1, P. H. Gonçalves8 and F. D. Santos8, 1Universidade Estadual Paulista, Jaboticabal, Brazil, 2Agência Paulista de Tecnologia dos Agronegócios - APTA, Colina, Brazil, 3APTA-Polo Regional Alta Mogiana, Colina, Brazil, 4UNESP-FCAV, Jaboticabal, Brazil, 5Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 6Universidade do Estado de Mato Grosso, Pontes e Lacerda, Brazil, 7Centro Universitário da Fundação Educativa de Barretos - Unifeb, Barretos, Brazil

Contents on Microbial Fermentation Profile in the Hindgut of Weanling Pigs.
V. V. Almeida1, M. C. Thoma2, A. J. C. Nuñez2, P. V. A. Alvarenga1, F. R. Castelini1, D. Perondi1, R. G. Isola1, A. Remus1,

1348, W165 Nutritional value of macauba pulp presscake (Acrocomia aculeata) for growing pigs.
J. H. B. Pereira1, S. L. S. Cabral Filho1, C. G. D. Q. Roriz2, C. B. Bernardes1, T. M. Barbosa1, L. R. Roos1, A. P. Santana1, J. B. Lopez2 and L. S. Murata3, 1University of Brasilia, Brasilia, Brazil, 2Federal University of Teresina, Teresina, Brazil

1349, W166 Different corn hybrids fed to growing pigs. I. Chemical composition, energy concentration, and digestibility of nutrients.
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1350, W167 Different corn hybrids fed to growing pigs. II. Concentrations and digestibility of amino acids.
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1351, W168 A high dietary electrolyte balance reduces growth performance and CP and Zn total tract apparent digestibility in weanling piglets.
S. A. Guzmán-Pino1, D. Solá-Oriol1, R. Davin1, E. G. Manzanilla1, C. Torrente2 and J. F. Pérez1, 1Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Univeritat Autònoma de Barcelona, Bellaterra, Spain, 2Servei d’Emergències i Cures Intensives de la Fundació Hospital Clínic Veterinari-UAB, Departament de Medicina i Cirurgia Animals, Universitat Autònoma de Barcelona, Bellaterra, Spain

1352, W169 Acceptance and palatability of different protein levels of provisioned diets by restricted and non-restricted nursery pigs.
J. E. Figueroa1,2, D. Solá-Oriol1, R. Davin1, J. F. Pérez1 and D. Dwyer3, 1SNiBA, Departamento de Ciencia Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Universidad Autónoma de Baja California, Mexicali, Mexico, 3University of Illinois at Urbana-Champaign, Urbana, IL, 4ICA, Universitat Autònoma de Baja California, Mexicali, Mexico

1353, W170 Nutritional Value of Whey Permeate and Egg Products Fed to Growing Pigs.
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1354, W171 Inclusion of recycled wastes from the food industry in phase I diets for piglets: effects on nutrient digestibility and growth performance.
B. Saldaña1, P. Guzmán1, G. Fondevilde1, J. F. Diaz Berrocoso1, L. Câmara1, X. Roça2 and G. G. Mateos2, 1Universidad Politécnica de Madrid, Madrid, Spain, 2Promic, S. A., Barcelona, Spain

1355, W172 Effect of wheat and wheat with corn distillers grain on growth performance in nursery pigs.
D. J. Bloxham1, R. Dove and M. J. Azain, University of Georgia, Athens

1356, W173 Effects of Dietary Protein and Rapidly Fermentable Carbohydrate Contents on Microbial Fermentation Profile in the Hindgut of Weanling Pigs.
V. V. Almeida1, M. C. Thoma2, A. J. C. Nuñez2, P. V. A. Alvarenga1, F. R. Castelini1, D. Perondi1, R. G. Isola1, A. Remus1,
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**W1356** Effects of dietary supplementation rice bran extract on production performance, feed intake, egg quality and excreta microbiota in laying hens.
H. L. Li, Y. Lei and I. H. Kim\(^*\), Department of Animal Science, Dankook University, Cheonan, South Korea

**W1357** Injection of glycosaminoglycans and Vitamin C in incubation on the weight loss and shell conductance of the eggs.
E. T. S. Santos\(^1\), D. M. C. C. Castiblanco\(^2\), L. L. Borges\(^3\), C. H. D. F. Domingues\(^4\), T. C. O. D. Quadros\(^5\), S. Sgavioli\(^6\), G. M. D. A. R. Garcia\(^7\), R. D. G. Isola\(^8\) and S. M. B. Artoni\(^9\), \(^1\)Department of Morphology and Animal Physiology, São Paulo State University, Jaboticabal, Brazil, \(^2\)Department of Animal Science, São Paulo State University, Jaboticabal, Brazil

**W1358** Effect of material bioconversion natural complex on growth performance, nutrient digestibility, blood characteristics, and fecal microbiota in weaning pigs.
J. H. Cho\(^1\), M. Begum and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

**W1359** The effects of fermented cotton seed meal on growth performance and egg quality in laying hens.
Y. Wang\(^1\), A. Li\(^2\), Y. Hou\(^3\), Y. Li\(^4\), X. Zhang\(^5\) and H. Wei\(^6\), \(^1\)Academy of State Administration of Grain, Beijing, China, \(^2\)Animal Diseases Control and Prevention Centre of Miyun City, Beijing, China

**W1360** Soybean meals and soy protein concentrates as main source of protein in phase 1 diets for piglets: growth performance data.
P. Guzmán, B. Saldaña, L. Cámara and G. G. Mateos\(^*\), Universidad Politecnica de Madrid, Madrid, Spain

**W1361** Standardized total tract digestibility of phosphorus in camellina (Camelina Sativa) meal fed to growing pigs without or with phytase supplementation.
P. A Adhikari and C. M. Nyachoti\(^*\), University of Manitoba, Winnipeg, MB, Canada

**W1362** Effects of adding a dried food waste product to the diets of finishing pigs on growth, feed intake, and nutrient digestibility.
H. L. Acuff\(^1\) and L. A. Pettey, California State Polytechnic University, Pomona, CA

**W1363** Determination of the effect of the level of corn starch in the diet on the energy value of crude glycerin in swine.
C. Ordoñez-Gomez\(^1,2\), C. Ariza-Nieto\(^3\) and G. Añanador-Tello\(^3\), \(^1\)Universidad Francisco de Paula Santander-Ocaña, Ocaña, Colombia, \(^2\)Universidad Nacional de Colombia, Bogotá, Colombia, \(^3\)CORPOICA, Mosquera, Colombia

**W1364** Effect of the substitution of soybean meal and sorghum for cull chickpeas on the apparent digestibility of nutrients in diets for growing pigs.
J. M. Uriarte\(^1\), R. Barajas Cruz, J. A. Romo Rubio, H. R. Guemez Gaxiola, J. M. Romo Valdez, J. F. Nuñez and N. A. López, UNIVERSIDAD AUTÓNOMA DE SINALOA, CULIACÁN, Mexico

**Nonruminant Nutrition: Factors Impacting Feed Intake**

**W1365** Antioxidant activity of intestinal mucosa in piglets fed deoxynivalenol naturally contaminated diet.
F. Guay\(^1\), M. Lessard\(^2\), Y. Chorfi\(^3\) and B. V. Le Thanh\(^2\), \(^1\)Université Laval, Quebec, Quebec City, QC, Canada, \(^2\)Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, \(^3\)Université de Montréal, Faculté de médecine vétérinaire, St-Hyacinthe, QC, Canada

**W1366** Effects of different feed processing procedures with expander on broiler performance.
M. Giers\(^1\), C. Elwert\(^2\) and S. Sternowsky\(^3\), \(^1\)University of Natural Resources and Life Sciences - Institute of Animal Nutrition, Products, and Nutrition Physiology, Vienna, Austria, \(^2\)Feedtest, Wettin-Löbejün, Germany, \(^3\)Amandus Kahl GmbH & Co KG, Reinbek, Germany

**W1367** Influence of pre-pelleting inclusion of whole corn on performance, nutrient utilization and digestive tract measurements of young broilers.
Y. Singh\(^1\), V. Ravindran\(^2\) and T. J. Wester\(^2\), \(^1\)Massey University, Palmerston North, New Zealand, \(^2\)Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Palmerston North, New Zealand

**W1368** Divergent selection for residual feed intake may be impacted by differences in feeding behaviour.
S. Vigors\(^1\), T. Sweeney\(^2\), A. G. Fahey\(^3\), C. J. O'Shea\(^1\) and J. V. O'Doherty\(^4\), \(^1\)School of Agriculture and Food Science, University of College Dublin, Dublin, Ireland, \(^2\)College of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, \(^3\)School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland

**W1369** Effect of Dietary Aflatoxin from Contaminated corn on Performance of Turkey Poult.
A. S. Oyegeunwa, E. O. Ewuola, A. F. Agboola and E. A. Iyayi\(^1\), University of Ibadan, Ibadan, Nigeria
Physiology and Endocrinology III

W188 Worldwide occurrence of mycotoxins in feeds and feed components in the year 2013. S. Schaumberger1, K. Nährer2 and U. Hofstetter1, 1BIOMIN Holding GmbH, Herzogenburg, Austria, 2Biomin Holding GmbH, Herzogenburg, Austria

W189 Estimated energy balance of periparturient ewes grazing in rangelands. E. González-García1, D. Tagliatella1, M. Jouven1 and F. Bocquier1, INRA UMR868 Systèmes d'Elevage Méditerranées et Tropicaux (SELMET), Montpellier, France, 2Universidade Estadual de Londrina (UEL), Rodovia Celso Garcia Cid, PR 445 Km 380, Campus Universitário, Londrina, Brazil, 3Montpellier Supagro, Sciences Animales, UMR868 Systèmes d'Elevage Méditerranées et Tropicaux (SELMET), Montpellier 34060, France, Montpellier, France

W190 Effects of adsorbent on milk aflatoxin M1 and lactation performance of dairy cows exposed to long-term challenge of aflatoxin B1. J. L. Xiong1, Y. M. Wang2, W. M. Huang1, Y. Zhang1, H. M. Guo1 and J. X. Liu1, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Novus International Trading (Shanghai) Co., Ltd, Shanghai, China, 3Zhejiang University, Hangzhou, China

W191 Effects of excessive energy intake and supplementation with chromium propionate on insulin resistance parameters in lactating dairy cows: II. Glucose tolerance tests and follicular flushing. T. Leiva1, R. F. Cooke2, F. N. Correa3, A. C. Aboin4, A. P. Brandao4, H. F. Soares4, M. B. Piccolo1 and J. L. M. Vasconcelos1, 1UNESP - FMVZ, Botucatu, Brazil, 2Oregon State University - EOARC Burns, Burns, OR

W192 Deuterium enrichment in plasma, rumen fluid and urine of growing sheep dosed with D2O intravenously and intraruminally does not differ. C. C. Metges1, S. Görs1, H. M. Hammon1, U. Agarwali2 and B. J. Bequette2, 1Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 2Department of Animal and Avian Sciences, University of Maryland, College Park

W193 Manipulated plasma insulin, glucose, and BHBA affect immune factors in somatic cells in milk with and without intramammary LPS challenge in dairy cows. M. Zarrin1, M. R. Bruckmaier2 and O. Wellnitz1, 1Veterinary Physiology, VetSwiss Institute, Faculty of Veterinary Medicine, University of Bern, Bern, Switzerland, 2Department of Animal Science, Yangzhou University, Yangzhou, Iran, 3Graduate School for Cellular and Biomedical Sciences, University of Bern, Bern, Switzerland

W194 Effects of road transportation on metabolic and immunological responses in dairy heifers. M. Baik1, H. J. Kang1, J. K. Lee1, M. Y. Piao1, C. W. Kwak1, M. J. Gu1, C. H. Yun1, H. J. Kim1, G. H. Kim2, S. K. Kim2 and J. K. Ha1, 1Department of Agricultural Biotechnology, College of Agriculture and Life Sciences, Seoul National University, Seoul, South Korea, 2Department of Animal Science and Technology, Konkuk University, Seoul, South Korea

W195 Differences in mitochondrial DNA copy numbers in various subcutaneous and visceral fat depots of overconditioned cows. L. Lanbenthal1, L. Locher2, J. Winkler3, U. Meyer4, J. Rehage5, S. Dänicke6, H. Sauwerwein7 and S. Häussler8, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 2University for Veterinary Medicine, Foundation, Hannover, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany

W196 In vitro insulin sensitivity of subcutaneous and omental adipocytes of precalving dairy cows across a range of BCS. J. De Koster1, L. Hulpio2, V. Fievez2, W. Van den Broeck2 and G. Opsomer2, 1Department of Reproduction, Obstetrics and Herd Health, Faculty of Veterinary Medicine, Ghent University, Ghent, Belgium, 2Department of Animal Production, Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium, 3Department of Morphology, Faculty of Veterinary Medicine, Ghent University, Ghent, Belgium

W197 Dietary melatonin supplementation during late gestation alters concentrations of progesterone and milk yield in Holstein heifers. C. O. Lemley1, K. E. Brocks, C. G. Hart and S. H. Ward, Mississippi State University, Mississippi State

W198 Dry-matter intake level and its effects on follicle growth and circulating progesterone in Nelore (Bos indicus) and Holstein (Bos taurus) heifers. E. O. S. Batista1, R. V. Sala1, M. D. D. V. Ortolan1, E. F. Jesus1, T. A. D. Vale1, G. G. Macedo1, F. P. Rennó3, A. H. Souza1 and P. S. Baruselli1, 1USP, São Paulo, Brazil, 2School of Agricultural and Veterinary Sciences of UNESP, Jaboticabal, Brazil, 3USP, Pirassununga, Brazil, 4University of California, Davis, CA, 5University of Sao Paulo-VRA, Sao Paulo, Brazil

W199 Association between insulin signaling and oxidative stress in serum and subcutaneous adipose tissue of overconditioned cows. S. Häussler1, L. Locher2, L. Laubenthal2, S. P. Singh1, U. Meyer1, J. Rehage2, S. Dänicke2 and H. Sauwerwein1, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 2University for Veterinary Medicine, Foundation, Hannover, Germany, 3Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany
1440 W200 Serum apelin concentrations in dairy cows receiving different amounts of concentrate and a nicotinic acid supplement.
M. Weber1, L. Locher2, K. Huber3, J. Rehage2, R. Tienken4, U. Meyer4, S. Dänicke5, U. Müller5, H. Sauerwein4* and M. Mielenz6, 1Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 2University for Veterinary Medicine, Foundation, Hannover, Germany, 3University of Hannover, Hannover, Germany, 4Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany, 5University of Bonn, Institute of Animal Science, Bonn, Germany, 6Leibniz Institute for Farm Animal Biology (FBN), Institute of Nutritional Physiology, Dummerstorf, Germany

1441 W201 Nuclear related factor-E2 is down-regulated by hyperinsulinemic euglycemia in dairy cows.
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1442 W202 Bovine oocytes in vitro matured in the presence of antioxidants: implications for intracellular levels of glutathione and reactive oxygen species and blastocyst development.
N. A. D. S. Rocha Frigoni1, B. C. D. S. Leão1, P. C. Dal’Acqua1, L. Rigon1, A. Nogueira2 and G. Z. Mingoti1, 1University of Sao Paulo State (UNESP), Araçatuba, Brazil, 2EMBRAPA Pantanal, Corumbá, Brazil

1443 W203 Heat stress alters adipose adrenergic signaling in lactating dairy cows.
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1444 W204 Effect of Vitamin C Supplementation on Biochemical Parameters and Haemagglutination Potential of Giant African Land Snail (Archachatina marginata) Haemolymph.
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1445 W205 Effects of grape seed supplementation on blood metabolic profile, immunity and milk production traits of dairy ewes.
F. Correddu1, A. Marzano1, P. Bonelli2, P. Nicolussi2 and A. Nudda3, 1Dipartimento di Agraria, University of Sassari, Sassari, Italy, 2Istituto Zooprofilattico della Sardegna, Sassari, Italy

1446 W206 Determination of glucose metabolism and TCA cycle activity of early antral and late antral feline cat follicles employing [14C]glucose and mass spectrometry.
J. L. Colvin1, N. Songssasen2, C. L. Keefer2 and B. J. Bequette2, 1Department of Animal and Avian Sciences, University of Maryland, College Park, 2Center for Species Survival, Smithsonian Conservation Biology Institute, Front Royal, VA

1447 W207 Interrelationships between methods of blood glucose measurement in early postpartum dairy cows.
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1448 W208 Development of a multiplex assay for simultaneous quantification of endocrine analytes.
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1449 W209 Effect of periconceptual growth hormone injection on feed intake and early fetal development in ewes.
C. H. Pereira1,2,3, K. C. Swanson1, H. O. Patino2, F. E. Doscher2, V. C. Kennedy2, B. R. Mordhorst1, J. D. Kirsch1 and K. A. Vonnahme1, 1Universidade Federal do Rio Grande Do Sul, Porto Alegre, Brazil, 2North Dakota State University, Fargo, 3North Dakota State University, Fargo, 4Universidade Federal do Rio Grande Do Sul, Porto Alegre, Brazil

1450 W210 Relationship between plasma concentrations of thyroid hormones and physiological state of beef cow/calf pairs.
B. H. Boehmer1, M. R. Davis and R. P. Wettemann, Oklahoma Agricultural Experiment Station, Stillwater, OK

1451 W211 Follicle-stimulating hormone converges with canonical WNT signaling to enhance Cyp19a1 promoter activity in granulosa cells.
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1452 W212 Effects of various modes of gonadotropin stimulation on reproductive performance of seasonally anestrous ewes.

1453 W213 Effect of methionine supplementation on methylation and lipid accumulation of the preimplantation embryo in dairy cows.
D. A. Velasco Acosta1,2, A. C. Denicol3, C. S. Skenandore4, Z. Zhou1, M. Nunes Corrêa4, D. N. Luchini4, P. J. Hansen5, J. J. Loo5 and F. C. Cardoso6, 1University of Illinois, Urbana, 2Federal University of Pelotas, Pelotas, Brazil, 3Department of Animal Sciences, University of Florida, Gainesville, 4Adisseo S.A.S., Alpharetta, GA, 5University of Illinois, Urbana-Champaign
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Methane and carbon dioxide emissions from manure of dairy cows fed red clover- or corn silage-based diets supplemented with linseed oil.
F. Hassanat, D. I. Massé and C. Benchaar, Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada

Life cycle assessment of heavy pig production in a sample of Italian farms.
G. Pirlo, S. Care, G. Della Casa, R. Marchetti, G. Ponzi, V. Faceti, V. Fantin, P. Msoni, P. Buttolo and F. Falconi, Consiglio per la ricerca e sperimentazione in agricoltura, Cremona, Italy, Consiglio per la ricerca e sperimentazione in agricoltura, San Cesario s/P, Italy, ENEA, Bologna, Italy, LCA-Lab, Bologna, Italy

Control of Water Consumption in Swine Barns; One Step-Closer to Real Time Management.
C. Pireiro, P. Castro, J. Morales and G. Montalvo, PigCHAMP Pro Europa, Segovia, Spain

Increasing milk yield affects sustainability of dairy cattle production in terms of cultural energy use efficiency.
H. Koknaroglu, H. Sagliam and O. Koskan, Suleyman Demirel University, Isparta, Turkey

Effect of astaxanthin production by the yeast Phaffiarihodotozyma on growth performance, blood profiles, meat quality, and slurry noxious gas emission in broilers.
S. Kim, S. D. Upadhyay and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

Assessing variability in whole-farm environmental impact estimates using a partially-stochastic beef production model.
K. A. Johnson and R. R. White, Washington State University, Pullman

J. A. Dillon and C. A. Rotz, Department of Animal Science, Pennsylvania State University, University Park, USDA-ARS Pasture Systems and Watershed Management Research Unit, University Park, PA

A modeling assessment of cow management decisions, sustainability and durability of beef production systems.
R. R. White and K. A. Johnson, Washington State University, Pullman

Nitrogen excretion from beef cattle for 6 cover crop mixes as estimated by a nutritional model.
E. E. Grings, A. Sackey, M. J. Hansen, V. Owens, D. Beck and P. Sexton, South Dakota State University, Brookings

Effect of crude glycerin associated with energy sources on enteric methane emission from finishing Nellore bulls on pasture in the dry season.
A. José Neto, L. G. Rossi, A. F. Ribeiro, B. R. Vieira, E. E. Dalantonia, J. Duarte Messana, E. Garbin Sgobi and T. T. Berchielli, Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil, Universidade Estadual Paulista, Jaboticabal, Brazil, Universidade Estadual Paulista "Júlio de Mesquita Filho" / Unesp, Jaboticabal, Brazil, Universidade Estadual Paulista Júlio de Mesquita Filho, Jaboticabal, São Paulo, Brazil, Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil

Enteric methane emission from beef cattle fed diets containing crude glycerin associated with energy sources.
L. G. Rossi, A. José Neto, B. R. Vieira, E. E. Dalantonia, A. S. Gómez and T. T. Berchielli, Universidade Estadual Paulista, Jaboticabal, Brazil, Universidade Estadual Paulista "Júlio de Mesquita Filho", Jaboticabal, Brazil, Universidade Estadual Paulista Júlio de Mesquita Filho, Jaboticabal, São Paulo, Brazil, Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil

Using fecal phosphorus, calcium and ash excretion to predict total and inorganic phosphorus intake of beef cattle consuming a forage-based ration.
D. D. Harmon, J. K. Smith and M. A. McCann, Virginia Polytechnic Institute and State University, Blacksburg, Virginia Tech, Blacksburg
1517 W228 Influence of low doses tannins extract addition on the presence of Escherichia coli in feces of beef cattle. T. D. J. Heras\textsuperscript{1}, E. I. Enriguez\textsuperscript{2}, B. J. Cervantes\textsuperscript{3}, S. M. Gaxiola\textsuperscript{4}, J. A. Romo\textsuperscript{5} and R. Barajas\textsuperscript{6}, \textsuperscript{1}FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico, \textsuperscript{2}Ganadera los Migueles, S.A. de C.V., Culiacan, Mexico

1518 W229 Phosphorus excretion in beef steers as impacted by increasing levels of dicalcium phosphate supplementation. E. A. Riley\textsuperscript{1}, D. D. Harmon\textsuperscript{2}, J. K. Smith\textsuperscript{3}, A. L. Zezeski\textsuperscript{4}, S. P. Greiner\textsuperscript{5}, K. F. Knowlton\textsuperscript{1} and M. A. McCann\textsuperscript{2}, \textsuperscript{1}Virginia Tech, Blacksburg, \textsuperscript{2}Virginia Polytechnic Institute and State University, Blacksburg

1519 W230 Estimation of Heat Production and Energy Conversion Efficiency Using Real Time Measurements of Methane and Carbon Dioxide Fluxes in Mid-Lactation Holstein Cows. A. B. D. Pereira\textsuperscript{1}, A. F. Brito\textsuperscript{2} and S. A. Ussami\textsuperscript{3}, \textsuperscript{1}University of New Hampshire, Durham, NH, \textsuperscript{2}Dept. of Animal Science, Michigan State University, Hickory Corners, MI

1520 W231 Effect of dietary nitrate and organic copper supplementation on dairy enteric methane and nitrous oxide emissions. S. J. Werth\textsuperscript{1}, Q. Wang\textsuperscript{2}, C. J. Neumeier\textsuperscript{3}, G. Getachew\textsuperscript{4}, D. H. Putnam\textsuperscript{5}, A. R. Castillo\textsuperscript{6} and F. M. Mitloehner\textsuperscript{7}, \textsuperscript{1}University of California, Davis, Davis, CA, \textsuperscript{2}University of California Cooperative Extension, Merced, CA

1521 W232 Influence of tannins extract addition on in vitro gas production of feces from beef cattle. R. Barajas\textsuperscript{1}, E. X. Murillo, N. Castro and E. A. Velazquez, FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico

1522 W233 Quantification of Cephapirin in Dairy Cow Feces and Urine using Solid Phase Extraction (SPE) coupled with Ultra Performance Liquid Chromatography-Tandem Mass Spectrometry (UPLC/MS/MS). P. P. Ray\textsuperscript{1}, K. F. Knowlton\textsuperscript{2}, C. Shang\textsuperscript{3} and K. Xia\textsuperscript{4}, \textsuperscript{1}Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, \textsuperscript{2}Virginia Tech, Blacksburg, \textsuperscript{3}Department of Crop and Soil Environmental Sciences, Virginia Polytechnic Institute and State University, Blacksburg

1523 W234 Method Development and Application: Solid Phase Extraction (SPE) Clean-up and Ultra Performance Liquid Chromatography-Tandem Mass Spectrometry (UPLC/MS/MS) Quantification of Pirlimycin in Dairy Cow Feces and Urine. P. P. Ray\textsuperscript{1}, K. F. Knowlton\textsuperscript{2}, C. Shang\textsuperscript{3} and K. Xia\textsuperscript{4}, \textsuperscript{1}Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, \textsuperscript{2}Virginia Tech, Blacksburg, \textsuperscript{3}Department of Crop and Soil Environmental Sciences, Virginia Polytechnic Institute and State University, Blacksburg

1524 W235 A larger proportion of grass feed components in the ration was associated with higher methane production rates of dairy cows. C. C. Metges\textsuperscript{1}, M. Derno\textsuperscript{1}, J. Zieslser\textsuperscript{2}, N. Krattenmacher\textsuperscript{3}, G. Thaller\textsuperscript{4} and B. Kuhl\textsuperscript{5}, \textsuperscript{1}Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, \textsuperscript{2}Institute of Animal Breeding and Husbandry, Kiel University, Kiel, Germany, \textsuperscript{3}Christian-Albrechts-Universität, Kiel, Germany

1525 W236 Effect of eco-saline system on some hematological and biochemical parameters in damascus goats raised under semi-arid conditions. E. B. Abdalla\textsuperscript{1}, Faculty of Agriculture, Ain Shams University, Cairo, Egypt

1526 W237 Fibrolytic bacteria isolated from the rumen of North American moose (Alces alces). S. L. Ishaq\textsuperscript{1} and A. D. G. Wright, University of Vermont, Burlington

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1527 W238 Prevalence of subclinical ketosis detected by near infra-red analysis of BHB in DHI milk samples. D. E. Santschi\textsuperscript{1}, R. K. Moore and D. M. Lefebvre, Valacta, Ste-Anne-de-Bellevue, QC, Canada

1528 W239 Role of treatment soybean meal with pistachio extract on total tract nutrients digestibility of Holstein bulls. A. Jolazadeh\textsuperscript{1}, M. Dehghan banadak\textsuperscript{2}, K. Rezayazdi\textsuperscript{3} and N. Vahdani\textsuperscript{4}, \textsuperscript{1}University of Tehran, Karaj, Iran, \textsuperscript{2}Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, \textsuperscript{3}Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, \textsuperscript{4}University of Tehran, Karaj, Iran

1529 W240 Effect of polyherbal supplementation as feed additive on milk production and composition in lactating goats. K. Rezayazdi\textsuperscript{1}, F. Mirzaei\textsuperscript{2} and M. Hosseinabadi\textsuperscript{3}, \textsuperscript{1}Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, \textsuperscript{2}Animal Science Research Institute, Karaj, Iran, \textsuperscript{3}University of Tehran, Karaj, Iran

1530 W241 Changes of protozoal diversity in response to forage and protein of diets in the rumen of dairy cows. J. Zhang, D. Bu\textsuperscript{1}, S. Zhao and J. Wang, State Key Laboratory of Animal Science, Institute of Animal Science, Chinese Academy of Agricultural Science, Beijing, China

1531 W242 Pyrosequencing-based profiling of bacterial 16S rRNA genes identifies the unique Proteobacteria attached to the rumen epithelium of bovines.
S. Zhao, J. Wang* and D. Bu, State Key Laboratory of Animal Science, Institute of Animal Science, Chinese Academy of Agricultural Science, Beijing, China

W243 Genetic diversity of dipeptidyl peptidase IV from anaerobic bacterial cultivation in vitro in dairy cow.
J. W. Zhao1, J. Q. Wang2, S. G. Zhao3 and D. P. Bu1, College of Animal Science and Technology of Inner Mongolia University for the Nationalities, Tongliao, China, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

W244 Effects of test weight, precision processing and processing index on in situ ruminal digestibility of barley grain in beef heifers.
Y. Zhao1, S. Yan2, Z. He1, U. Anele1, M. L. Swift4, T. A. McAllister3 and W. Yang1,1, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 1College of Animal Science, Inner Mongolia Agricultural University, Hohhot, China, 2Key Laboratory for Agro-Ecological Processes in Subtropical Region, Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, China, 3Alberta Agriculture and Rural Development, Lethbridge, AB, Canada, 4Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

W245 Longitudinal shifts in the rumen bacterial communities of dairy cows during the transition period.
D. W. Pitta1, S. Kumar1,2, B. Veiccharelli1, B. Bhukya1, K. Bittinger1, D. Shirley1 and J. Ferguson1, University of Pennsylvania, Kennett Square, 1University of Pennsylvania, Philadelphia

W246 Effects of assumptions on estimating energetic efficiencies in lactating dairy cows.
K. M. Kennedy1 and C. C. Calvert, University of California - Davis, Davis, CA

W247 Nutrient supply estimations errors when using free ruminal bacteria as reference sample.
F. Díaz-Royón1, J. M. Arroyo and J. Gonzalez, Departamento de Producción Animal, Escuela Técnica Superior de Ingenieros Agrónomos, Universidad Politécnica de Madrid, Madrid, Spain

W248 Evaluation of the Nordic Dairy Cow Model Karoline in Predicting Methane Emissions.
M. Ramin1 and P. Huhtanen2, Swedish University of Agricultural Sciences (SLU), Umeå, Sweden, 2Swedish University of Agricultural Sciences (SLU), Umeå, Sweden

W249 Effects of different feeding frequencies on rumen tissue histology and cell proliferation of feedlot cattle.
T. V. Carrara1, J. Silva2, M. C. Pereira2, I. C. Batista Júnior3, C. A. Oliveira2, A. C. J. Pinto4, D. D. Estevam1, M. D. Arrigoní1, F. T. Pereira1 and D. D. Millen2,3, São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil, 2São Paulo State University (UNESP), Dracena campus, Dracena, Brazil, 3Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

W250 Survey of nutritional recommendations used by dairy cattle nutritionists in Brazil in 2013.
D. P. Silva3, A. M. Pedroso2, T. V. Carrara1 and D. D. Millen1,4, São Paulo State University (UNESP), Dracena campus, Dracena, Brazil, 2EMBRAPA, São Carlos, Brazil, 3São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil, 4Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

W251 Effects of type of base forage on the Beta-carotene content of milk and blood plasma in lactating Holstein cows.
H. C. Leicester2,3 and L. J. Erasmus2, UC Davis, Davis, CA, 2University of Pretoria, Pretoria, South Africa

W252 Effect of acute exposure to ergot alkaloids on short-chain fatty acid absorption and barrier function of isolated bovine ruminal epithelium.
A. P. Foote1, G. B. Penner2, M. E. Walpole2, J. L. Klotz3, L. P. Bush4 and D. L. Harmon2,1, USDA, ARS, US Meat Animal Research Center, Clay Center, NE, 2University of Saskatchewan, Saskatoon, SK, Canada, 3USDA-ARS, FAPRU, Lexington, KY, 4University of Kentucky, Lexington

W253 Evaluation of the CNCPS v6.5 for predicting metabolizable energy and protein allowable milk in sugarcane based diets.
E. A. Collao-Saenz1, A. Foskolo2, R. J. Higgs2, M. N. Pereira3 and M. E. Van Amburgh4, 1Universidade Federal de Goiás, Jataí-GO, Brazil, 2Cornell University, Ithaca, NY, 3Universidade Federal de Lavras, Lavras, Brazil

W254 Effects of different feeding frequencies on DMI variation and selective consumption by feedlot cattle.
J. Silva1, T. V. Carrara1, M. C. Pereira2, D. V. Vicari1, I. C. Batista Júnior3, L. A. Tomaz4, D. H. Watanabe1, A. L. Rigueiro1, M. D. Arrigoní1 and D. D. Millen1,3, São Paulo State University (UNESP), Dracena campus, Dracena, Brazil, 2São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil, 3Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

W255 Evaluation of milk yield and composition of F1 Holstein x Gir lactating cows supplemented with rumen-protected choline during the transition period.
R. C. D. Souza1, R. C. Souza1, A. B. D. Pereira1, R. F. Cota1, T. A. Torres1, I. B. Fortes1 and G. V. Fonseca3, 1PUC Minas, Betim, Brazil, 2University of New Hampshire, Durham, NH, 3PUC, Betim, Brazil
1798 W257 Effects of supplemental bupleurum extract on blood material metabolism in heat-stressed dairy cows.
X. Sun, Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China

1799 W258 Evaluation of the updated version of CNCPS (v6.5).
A. Foskolos1, E. A. Collao-Saenz2, D. A. Ross1, R. J. Higgs1 and M. E. Van Amburgh1, 1Cornell University, Ithaca, NY, 2Universidade Federal de Goiás, Jataí-GO, Brazil

1800 W259 Effects of bupleurum extract on performance and health status in heat-stressed late lactation dairy cows.
B. Shi1,2, N. Zheng2, J. Cheng3, L. Min2, C. Yin2 and J. Wang2,3, 1Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2College of Animal Science and Technology, Anhui Agricultural University, Hefei, China, 3State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1801 W260 Estimation of NDF pool in the rumen of cattle using fecal excretion and diet characteristics.
H. C. Bonfá1,2, E. Detmann1, S. Krizsan1, S. C. Valadares Filho1,2 and P. Huhtanen1, 1UFV, Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Minas Gerais, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 3Swedish University of Agricultural Sciences (SLU), Umeå, Sweden

1802 W261 Performance and carcass traits of immunocastrated Nellore cattle fed β-agonists.
D. Silva Antoneiro1, M. Rezende Mazon1, K. Eduardo Zanoni Nubiato1, D. Juliana Brigida1, J. Fernando Morales Gomes2, B. Luis Nery Garcia1, M. Zanatsu1, P. R. Leme1 and S. Luz e Silva1, 1University of Sao Paulo, Pirassununga, Brazil, 2University of Cundinamarca, Fusagasugá, Colombia, 3University of Sao Paulo / FZEA, Pirassununga, Brazil

1803 W262 Effects of nicotinamide on hormone levels, antioxidant status and immune function of cows in heat stressed dairy cows.
J. Cheng1,2,3, N. Zheng1,3,4, X. Sun1,2,3, D. P. Bu1, L. Pan1 and J. Wang1,3,4, 1Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2College of Animal Science and Technology, Anhui Agricultural University, Hefei, China, 3State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 4Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

1804 W263 Effects of supplemental bupleurum extract on blood material metabolism in heat-stressed dairy cows.
X. Sun1,2,3, N. Zheng1,3,4, J. Cheng1,2,3, D. P. Bu1, L. Pan1 and J. Wang1,3,4, 1Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2College of Animal Science and Technology, Anhui Agricultural University, Hefei, China, 3State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 4Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

1805 W264 Effects of nicotinamide on blood material metabolism of dairy cows under heat stress.
X. Sun1,2,3, N. Zheng1,3,4, D. P. Bu1, L. Pan1 and J. Cheng1,2,3, 1College of Animal Science and Technology, Anhui Agricultural University, Hefei, China, 2State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 3Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

1806 W265 Supplementation of selenium plus vitamin E vs. canola oil in the diet of feedlot cattle: which one can improve nutritional quality of meat modifying gene expression?
G. F. Greghi1, A. Saran Neto2, H. Fukumasu1, J. C. D. C. Balseiro3, A. O. Latorre3, L. B. Correa1 and M. A. Zanetti1, 1University of São Paulo- USP/FZEA, Pirassununga, Brazil, 2University of São Paulo, Pirassununga, Brazil, 3University of São Paulo- USP/FMVZ, Pirassununga, Brazil, 4Adolfo Lutz Institute, São Paulo, Brazil

1807 W266 Effects of feeding a corn straw or mixed forage diet on immune function in dairy cows.
P. Sun1, C. Qin1,2, D. P. Bu1, J. Q. Wang1 and P. Zhang2, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2Hunan Provincial Key Laboratory for Genetic Improvement of Domestic Animal, College of Animal Science and Technology, Hunan Agricultural University, Changsha, China

1808 W267 Fatty acid composition of milk from cows supplemented with canola oil.
K. C. Welter, C. M. de Magalhães Rodrigues Martins, M. M. Martins, B. Roqueuto dos Reis, J. G. Rebelato Forti, A. Soligo Vizeu de Palma, B. L. Unglaube Schmidt and A. Saran Neto1, University of São Paulo, Pirassununga, Brazil

1809 W268 Effects of a corn straw or mixed forage diet on Bovine Milk Fatty Acid Biosynthesis.
M. Zhao1, D. P. Bu1, J. Q. Wang1, X. Q. Zhou1,2, Y. Zhang1 and P. Sun1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2Northeast Agricultural University, Harbin, China
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<td>W269</td>
<td>Influence of forage level and corn processing method on feeding behavior of Nellore bulls.</td>
<td>M. Caetano(^1), A. R. Cabral(^2), G. B. Feltrin(^1), R. S. Goulart(^1), S. Luiz e Silva(^1), P. R. Leme(^1) and D. P. D. Lanna(^<em>), (^1)University of Sao Paulo / EASALQ, Piracicaba, Brazil, (^2)current address University of Adelaide, Roseworthy, Australia, (^</em>)University of Sao Paulo / FZEA, Pirassununga, Brazil</td>
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<td>W270</td>
<td>Evaluation of a hand-held meter to detect subclinical ketosis in dairy cows.</td>
<td>Z. J. Cao(^1), S. S. Xia and S. L. Li, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China</td>
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<td>W271</td>
<td>Effects of rumen protected choline supplementation on milk yield and plasma metabolites in dairy cows fed hay based diets.</td>
<td>L. Pinotti(^1), M. Ottomanoppo, V. Caprarulo, A. Pilotto, A. Agazzi, G. Invernizzi, Università degli Studi di Milano, Dept. VESPA, Milan, Italy</td>
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<td>W272</td>
<td>Liver metabolism of Holstein cows is altered by nutrient supply but not by lipopolysaccharide in vitro.</td>
<td>M. García(^1), B. J. Bequette and K. M. Moyes, Department of Animal and Avian Sciences, University of Maryland, College Park</td>
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<td>W273</td>
<td>Effects of postruminal infusion of fructose on hepatic steatosis.</td>
<td>K. E. Boesche(^2), J. E. Sibray, S. L. Koser and S. S. Donkin, Purdue University, West Lafayette, IN</td>
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<td>W274</td>
<td>Effects of rare earth-chitosan chelate on liver and kidney parameters in lactating dairy cows.</td>
<td>J. Li(^1), J. Q. Wang(^1), P. Sun(^1), F. D. Li(^2) and D. P. Bu(^1), (^1)State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, (^2)College of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China</td>
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<td>W275</td>
<td>Supplementation of Aspergillus oryzae α-amylase on ruminal volatile fatty acid distribution and digestive tract gene expression in beef steers fed a steam-flaked corn based finishing diet.</td>
<td>B. N. Gordon(^1), S. W. Hahn(^2), J. J. Wagner(^1), J. S. Jennings(^2), H. Han(^1) and T. E. Engle(^1), (^1)Colorado State University, Fort Collins, (^2)Texas A&amp;M AgriLife Research, Amarillo, TX</td>
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<td>W276</td>
<td>Effects of rumen-protected choline during the transition period on nonesterified fatty acids and β-hydroxybutyrate concentrations in periparturient dairy cattle.</td>
<td>I. M. Lima(^1), R. A. Silva(^1), C. H. Ramires(^1), S. L. Viechnies(^2) and R. D. Almeida(^*), (^1)Universidade Federal do Paraná, Curitiba - Paraná, Brazil, (^2)StarMilk Farm, Ceu Azul - Paraná, Brazil</td>
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<td>W277</td>
<td>Effects of replacing alfalfa hay and corn silage with corn straw in diets on main hormones in blood of dairy cows.</td>
<td>X. Q. Zhou(^1), D. P. Bu(^1), Y. D. Zhang(^1), M. Zhao(^1), P. Sun(^1) and J. Q. Wang(^1), (^1)Heilongjiang Bayi Agricultural University, Daqing, China, (^2)State Key Laboratory of Animal Nutrition, Institute of Animal Nutrition, Chinese Academy of Agricultural Sciences, Beijing, China</td>
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<td>W278</td>
<td>Body condition score at calving alters the hepatic transcriptome in grazing dairy cattle.</td>
<td>H. Akbar(^1), Z. Zhou(^1), K. Macdonald(^1), K. E. Schütz(^2), G. Verkerk(^2), J. R. Webster(^2), S. L. Rodríguez Zas(^1), J. R. Roche(^2) and J. J. Loor(^1), (^1)University of Illinois, Urbana, (^2)DairyNZ, Hamilton, New Zealand, (^*)AgResearch, Hamilton, New Zealand</td>
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<td>W279</td>
<td>Short Term Feed Restriction Increases Afternoon but not Morning Milk Fat Concentration in Lactating Dairy Cows.</td>
<td>A. M. Abdelatty(^1), M. E. Iwaniuk(^1), A. E. Weidman(^3), B. B. Teter(^2), M. A. Tony(^2), F. F. Hahn(^1), P. S. Erickson, N. L. Whitehouse, B. J. Isenberg, E. M. Barron, J. Y. Buckley and A. M. Finke, (^1)Texas A&amp;M AgriLife Research, Amarillo, TX, (^2)StarMilk Farm, Céu Azul - Paraná, Brazil, (^3)StarMilk Farm, Céu Azul - Paraná, Brazil</td>
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<td>W280</td>
<td>The mRNA expression of the classical genes of enzymes involved in milk fatty acid synthesis does not explain milk fat depression in dairy cows.</td>
<td>A. Siurana(^1), D. Gallardo and S. Calsamiglia, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain</td>
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<td>W281</td>
<td>Effects of niacin supplementation and forage type on milk, digestibility, blood parameters and body temperature in lactating dairy cows.</td>
<td>R. B. Standish(^1), P. S. Erickson, N. L. Whitehouse, B. J. Isenberg, E. M. Barron, J. Y. Buckley and A. M. Pike, University of New Hampshire, Durham, NH</td>
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<td>W282</td>
<td>Differences in hepatic transcriptional regulatory networks due to body condition score at calving in grazing dairy cattle.</td>
<td>H. Akbar(^1), Z. Zhou(^1), K. Macdonald(^1), K. E. Schütz(^2), G. Verkerk(^2), J. R. Webster(^2), S. L. Rodríguez Zas(^1), J. R. Roche(^2) and J. J. Loor(^1), (^1)University of Illinois, Urbana, (^2)DairyNZ, Hamilton, New Zealand, (^*)AgResearch, Hamilton, New Zealand</td>
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| W283 | Effects of a Corn Straw or Mixed Forage Diet on mammary gland function and its endocrine regulation in early lactation dairy cows. | T. Qin\(^1\), H. Y. Wang\(^2\), D. P. Bu\(^1\) and H. B. Zhu\(^1\), \(^1\)Embryo Biotechnology and Reproduction Laboratory, Institute of Animal
Milk fatty acid profile of dairy cows grazing a tropical pasture supplemented with sources of rumen protected fat.
J. D. Souza¹, F. Batistel¹, C. Sitta¹ and F. A. P. Santos²,¹University of São Paulo, Piracicaba, Brazil, ²University of São Paulo, Piracicaba, Brazil

Evaluating Daily Variation in Body Weight, Milk Production, and Rumination Activity on a Commercial Dairy with Robotic Milking.
R. W. Bender¹, D. E. Cook, T. L. Chandler, H. M. White and D. K. Combs, Department of Dairy Science University of Wisconsin, Madison

Peroxisome proliferator activated receptor-γ controls lipogenic gene networks in goat mammary epithelial cells.
W. Zhao¹,², J. Luo³ and J. J. Loo⁴,³Northwest A & F University, Yangling, China, ²University of Illinois, Urbana

Effects of Ergot Alkaloid Exposure on Serotonin Receptor mRNA in the Smooth Muscle of the Bovine Gastrointestinal Tract.
J. L. Klotz⁵, D. Kim⁶, A. P. Foote⁷ and D. L. Harmon⁸,¹USDA-ARS, FAPRU, Lexington, KY, ²University of Kentucky, Lexington

Effect of mineral supplementation on lactational performance in early-lactating dairy cows fed a high-concentrate diet.
A. R. Alfonso-Avila⁹, E. Charbonneau¹⁰, P. Y. Chouinard¹¹, G. Tremblay¹² and R. Gervais¹³,¹ Université Laval, Québec, QC, Canada, ²Agriculture and Agri-Food Canada, Soils and Crops Research and Development Centre, Quebec, QC, Canada

Mineral profile, immunoglobulins and antioxidant activity in culls cows fed DDGS.
A. Flores¹⁴,¹⁵, J. D. Souza¹⁴,¹⁵, E. Acosta Sánchez¹⁶,¹⁷, G. Corral¹⁸,¹⁹, J. J. Luo²⁰,¹⁷, J. A. Ramírez-Godínez¹⁷,¹ J. Dominguez-Viveros¹⁷,¹ J. Anchondo-Garay¹⁷ and H. Ramírez-Garduño²¹,¹ Universidad Autónoma de Chihuahua, Chihuahua, Mexico, ²INIFAP, Chihuahua, Mexico

Metabolic Characteristics and Truly Metabolizable Protein Supply to Dairy Cattle from New Cool-Season Forage Corn Varieties in Western Canada.
S. Abeysekara, D. A. Christensen, N. A. Khan, X. Huang² and P. Yu, University of Saskatchewan, Saskatoon, SK, Canada

Hepatic expression of genes associated with glutathione and fatty acid metabolism during the peripartal period reveal beneficial effects of MetaSmart and Smartamine M supplementation on health status in dairy cows.
J. S. Osorio¹, P. Jf, J. K. Drackley², D. N. Luchini² and J. J. Loo³,¹University of Illinois, Champaign, IL, ²William H. Miner Agricultural Research Institute, Chazy, NY, ³University of Illinois, Urbana, ⁴Adisso S.A.S., Alpharetta, GA, ⁵University of Illinois, Urbana-Champaign

Feed intake and Feeding Behavior of lactating dairy cows were affected by dietary fatty acid profile.
H. Khaliivandi-Behroozyar¹, M. Dehghan Banadaky¹, M. Ghaffarzadeh² and K. Rezayazi³,¹Department of Animal Science, Urmia University, Urmia, Iran, ²Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, ³Chemistry and Chemical Engineering Research Center of Iran, Tehran, Iran

Whole cottonseed and Vitamin E in diets for Nellore cattle finished in feedlot: Performance traits and Feed conversion.
A. M. Ferrihno¹, F. Baldi², B. M. Toda³, F. B. Mendonça¹, B. L. Utembergue¹, R. R. germano¹, A. S. C. Pereira¹, P. R. Leme¹ and S. L. Silva¹,¹Universidade de São Paulo, Pirassununga, Brazil, ²Universidade Estadual Paulista “Julio de Mesquita Filho”- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil

Effect of chitosan and lipid source combination on energy intake and milk yield and composition of dairy cows.
T. A. Del Valle¹,², V. C. Galvão¹, F. C. R. D. Santos¹, E. F. Jesus¹, A. G. B. V. B. Costa¹, C. E. C. Consentini¹, G. F. D. Almeida¹, G. F. Cabral¹, F. Zhierardí¹ and F. P. Rennó¹,¹School of Veterinary Medicine and Animal Science, University of São Paulo, Pirassununga, Brazil, ²School of Agricultural and Veterinary Sciences of UNESP, Jaboticabal, Brazil, ³School of Animal Science and Food Engineering of University of São Paulo, Pirassununga, Brazil

Plasma urea concentration of beef heifers fed with different lipid sources and frequency supplementation.
M. C. A. Santana¹,², V. C. Modesto³, G. T. Pereira¹, R. A. Reis³, G. M. P. Melo², H. J. U. Costa¹, T. T. Berchielli² and L. P. L. Moreira³,¹Emater, Goiânia, Brazil, ²UNESP, Jaboticabal, Brazil

Effects of selenium supply, maternal plane of nutrition, and physiological stage on nitrogen flow, microbial efficiency, and metabolizable protein in primiparous ewes.
K. J. McLean¹,², A. M. Meyer¹, L. R. Coupen¹, G. P. Lardy¹, K. A. Vonnahme¹ and J. S. Caton¹,¹North Dakota State University, Fargo, ²Division of Animal Sciences, University of Missouri, Columbia

Effect of prototype sequestering agents on performance and milk aflatoxin M1 concentrations of dairy cows fed aflatoxin B1-contaminated diets.
1839 W298 Blood glucose concentrations and deposition of muscular and subcutaneous fat tissues of Nellore young bulls finished in pasture supplemented with crude glycerin.
E. San Vito, J. F. Lage, L. Maneck Delevatti, E. E. Dalantoncia, L. R. Simonetti, M. B. Abra and T. T. Berchielli, Universidade Estadual Paulista Júlio de Mesquita Filho - UNESP, Jaboticabal, Brazil

1840 W299 Effect of propolis on plasma metabolites and hematocrit of Holstein calves.
P. Pervanian, K. Rezayazdi and G. Nehzati, 1 University of tehran, tehran, Iran, 2 Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, 3 University of tehran, karaj, Iran

1841 W300 Effects of maternal plane of nutrition, selenium supply, and physiological stage on digestibility and ruminal fermentation in ewes.
K. J. McLean, A. M. Meyer, L. R. Coupe, G. P. Lardy, K. A. Vonnahme and J. S. Caton, 1 North Dakota State University, Fargo, 2 Division of Animal Sciences, University of Missouri, Columbia

1842 W301 Effect of reduced energy density of close-up diet on dry matter intake, milk yield and energy balance in multiparous Holstein cows.
W. M. Huang, A. Simayi, A. Yasheng, Z. H. Wu, S. L. Li and Z. J. Cao, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China

1843 W302 Effects of lysolecithin on milk fat synthesis and milk fatty acid profile of cows fed diets differing in fiber and unsaturated fatty acid concentration.
D. E. Rico, J. Y. Ying and K. J. Harvatine, Penn State University, University Park

1844 W303 Effects of fescue toxicosis induced by endophyte-infected tall fescue seed on forestomach epithelial gene expression in Angus steers.
D. Kim, J. L. Klotz and D. L. Harmon, 1 University of Kentucky, Lexington, 2 National Institute of Animal Science, Rural Development Administration, Suwon, South Korea, 3 USDA-ARS, FAPRU, Lexington, KY

1845 W304 Replacement of soybean meal by high energy cottonseed meal in diets of dairy cows: milk production and Ovarian follicular dynamics.
F. M. Wingert, L. K. Hatamoto-Zervoudakis, P. N. Cosentino, J. T. Zervoudakis and A. L. Cândida de Resende Fraga, FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil


1847 W306 Contribution of a chelated trace mineral supplement as a methionine source for dairy cows.

1848 W307 Effect of the supplementation of plant extracts, vitamins and their associations on feedlot performance and carcass traits of Nellore cattle.
M. B. Silva, A. M. Jorge, F. D. Resende, G. R. Siqueira, G. F. Bertí, C. L. Francisco and A. M. Castilhos, 1 Universidade Estadual Paulista - FMVZ, Botucatu, Brazil, 2 Faculdade de Medicina Veterinária e Zootecnia, Universidade Estadual Paulista, Botucatu-SP, Brazil, 3 Agência Paulista de Tecnologia dos Agronegócios - APTA, Colina, Brazil, 4 APTA-Polo Regional Alta Mogiana, Colina, Brazil, 5 Centro Universitário da Fundação Educacional de Barretos - Unifeb, Barretos, Brazil

1849 W308 Body condition score assessment in a grazing jersey herd in Costa rica.

1850 W309 Intake and nutrient digestibility of growing Nellore heifers and steers fed two levels of calcium and phosphorus.
L. F. Costa e Silva, T. E. Engle, P. P. Rotta, S. C. Valadares Filho, R. D. Valadares, F. A. S. Silva and E. C. Martins, 1 Colorado State University, Fort Collins, 2 Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Minas Gerais, Brazil, 3 Universidade Federal de Viçosa, Viçosa, Brazil, 4 Universidade Federal de Viçosa, Viçosa, Brazil

1851 W310 Ration composition in Wisconsin dairy herds: factors affecting fertility.
A. H. Souza, P. D. Carvalho, C. M. Drake, R. D. Shaver and M. C. Wilthanka, 1 University of California Cooperative Extension, Tulare, CA, 2 University of Wisconsin, Madison, 3 University of California, Davis, CA
**WEDNESDAY, JULY 23, 2014**

1852  W311  Milk quality from dairy farms divided in five levels of production.
L. L. Cardoso, M. I. Marcondes, G. A. T. Ferreira, V. L. N. Brandao, A. S. Trece and A. S. Trece, Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

1853  W312  MasterGraze Silage for Growing Holstein Heifers.
D. L. Gadeken, K. Koone, S. Harriss, M. kirk and D. Casper, 1 South Dakota State University, Brookings, 2 Masters Choice, Anna, IL, 3 masters Choice, Anna, IL

1854  W313  Transcriptome profiling of milk in dairy cows fed linseed.
A. Shurana, D. Gallardo and S. Calsamiglia, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autonoma de Barcelona, Bellaterra 08193, Spain

S. Kargar, M. Khovash, G. R. Ghorbani and D. J. Schingoethe, 1 Isfahan University of Technology, Isfahan, Iran, 2 Isfahan university of technology, isfahan, Iran, 3 South Dakota State University, Brookings

1856  W315  Altering ewe nutrition in late gestation; the impact on lamb performance.
F. McGovern, F. Campion, T. Sweeney, S. Fair, S. Lott and T. M. Boland, 1 School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland, 2 College of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, 3 Department of Life Sciences, University of Limerick, Limerick, Ireland

1856  W316  A sensory additive alters the eating behavior of dry dairy cows.
C. Iglesias, F. Bargo, A. Mereu, I. Ipharraguerre and A. Bach, 1, 2 IRTA, Barcelona, Spain, 3 Lucta S.A., Barcelona, Spain, 4 ICREA, Barcelona, Spain

1857  W317  Effects of restricted versus conventional dietary adaptation over periods of 6, 9 and 14 days on blood lipopolysaccharide binding-protein concentration of feedlot cattle.
D. V. Vicari, 2 A. Perdigão, L. L. Cursino, R. S. Barbucci, M. D. Arrigoni and D. D. Millen, 1 São Paulo State University (UNESP), Dracena campus, Dracena, Brazil, 2 São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil, 3 Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

1859  W318  The effects of OmniGen-AF on serum metabolites, calcium concentrations and hormones of the adrenal axis during heat stress in lactating Holstein cows.
L. W. Hall, 2 F. A. Villar, J. D. Allen, J. D. Chapman, N. M. Long and R. J. Collier, 1 The University of Arizona, Tucson, 2 Northwest Missouri State, Maryville, MO, 3 Prince Agri Products, Inc., Quincy, IL, 4 Clemson University, Clemson, SC

1860  W319  Assessment of the effect of plant tannins on rumen fermentation and gut microbial diversity in goats using 16S rDNA ampyleon pyrosequencing.
B. R. Min, C. Wright, P. Ho, J. S. Eun, N. Giung and R. Shang, 1 Tuskegee University, Tuskegee, AL, 2 Montgomery Blair High School, Silver spring, MD, 3 Utah State University, Logan

1861  W320  Effect of supplemental chelated Cu, Zn, and Mn on antioxidant status and hoof health of lactating cows.
X. J. Zhao, J. H. Wang, Y. M. Wang and L. Wang, 1 College of Animal Science and Veterinary Medicine, Shandong Agriculture University, taian, China, 2 College of Animal Science, Zhejiang University, hangzhou, China, 3 Novus International Trading (Shanghai) Co., Ltd, Shanghai, China

1862  W321  Effects of supplemental bupleurum extract on serum hormone and immune globulin levels in heat-stressed dairy cows.
X. Sun, J. Cheng, D. P. Bu, L. Pan, N. Zheng and J. Wang, 1 Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2 College of Animal Science and Technology, Anhui Agricultural University, Hefei, China, 3 State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 4 Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

1863  W322  Dry matter intake, milk yield and composition of holstein cows fed organic minerals.
T. A. Del Valle, E. F. Jesus, A. G. B. V. B. Costa, G. F. Cabral, V. C. Galvão, P. G. D. Paiva, T. S. Acero, L. F. M. Tamassia and F. P. Rennó, 1 School of Veterinary Medicine and Animal Science, University of São Paulo, Pirassununga, Brazil, 2 School of Agricultural and Veterinary Sciences of UNESP, Jaboticabal, Brazil, 3 School of Animal Science and Food Engineering of University of São Paulo, Pirassununga, Brazil, 4 DSM Produtos Nutricionais, São Paulo, Brazil

1864  W323  Effects of sampling position on blood hormone concentration in dairy cattle.
M. Zhao, D. P. Bu, J. Q. Wang, X. Q. Zhou, Y. Zhang, S. G. Zhao and P. Sun, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1865  W324  Effects of Dietary Protein Composition on Blood Hormone Levels in Dairy Cattle.
M. Zhao, D. P. Bu, J. Q. Wang, X. Q. Zhou, Y. Zhang and P. Sun, 1 State Key Laboratory of Animal Nutrition,
1866 W325 The Small Ruminant Nutrition System: Considering the ruminal fiber stratification for goats.  
J. G. L. Regadas Filho\textsuperscript{1}, L. O. Tedeschi\textsuperscript{2}, A. Cannas\textsuperscript{3}, M. T. Rodrigues\textsuperscript{4} and R. A. Vieira\textsuperscript{5}, \textsuperscript{1}Universidade Federal de Viçosa, Viçosa, Brazil, \textsuperscript{2}Texas A\&M University, College Station, \textsuperscript{3}Universita Di Sassari, Sassari, Italy, \textsuperscript{4}Universidade Federal de Viçosa, Viçosa, Brazil, \textsuperscript{5}Norte Fluminense State University, Campos dos Goytacazes, Brazil  

1867 W326 Effect of "COGU" technology on glucose uptake and mineral utilization and deposition in growing lambs.  
A. M. Temple\textsuperscript{1}, G. A. Ayangbile\textsuperscript{2}, D. R. Vandermyde\textsuperscript{3} and C. R. Vandermyde\textsuperscript{2}, \textsuperscript{1}Agri-King Inc., Fulton, IL, \textsuperscript{2}Morrison Veterinary Clinic, Morrison, IL  

1868 W327 Effect on plasma metabolites of Nellore bulls fed Ractopamine hydrochloride and protein level.  
N. R. B. Cónsolo\textsuperscript{1}, F. Rodríguez\textsuperscript{1}, M. O. Frassetto\textsuperscript{1}, R. A. P. Maciel\textsuperscript{2}, V. Rizzi\textsuperscript{1} and L. F. P. Silva\textsuperscript{1}, \textsuperscript{1}University of Sao Paulo, Pirassununga, Brazil, \textsuperscript{2}University of Sao Paulo, Sao Paulo, Brazil, \textsuperscript{3}Ouro Fino, Cravinhos, Brazil  

1869 W328 Impact of "COGU" technology on performance in lactating dairy cows.  
A. M. Temple\textsuperscript{1}, G. A. Ayangbile, D. F. Jones and D. A. Spangler, Agri-King Inc., Fulton, IL  

1870 W329 A Conceptual Model of Protein-Precipitable Polyphenols (Condensed Tannins) on Protein Binding and Protein Digestion in Ruminants.  
H. D. Naumann\textsuperscript{1}, N. M. Cherry\textsuperscript{2}, L. O. Tedeschi\textsuperscript{1}, J. P. Muir\textsuperscript{3} and B. D. Lambert\textsuperscript{4}, \textsuperscript{1}University of Missouri, Columbia, \textsuperscript{2}Texas A\&M AgriLife Research, Stephenville, TX, \textsuperscript{3}Texas A&M University, College Station, \textsuperscript{4}Tarleton State University, Stephenville, TX  

1871 W330 Effect of Sprouted Barley Grain Supplementation of an Herbage or Haylage Diet on Ruminal Fermentation and Methane Output in Continuous Culture.  
A. N. Hafla\textsuperscript{1}, K. J. Soder\textsuperscript{2}, A. F. Brito\textsuperscript{2}, M. D. Rubano\textsuperscript{1} and C. J. Dell\textsuperscript{1}, \textsuperscript{1}USDA-Agricultural Research Service, University Park, PA, \textsuperscript{2}University of New Hampshire, Durham, NH  

1872 W331 Effect of Lalsil\textsuperscript{R} bacterial inoculants on the pH of corn silage with low dry matter.  
M. Saberi\textsuperscript{1}, K. Rezayazdi\textsuperscript{2} and M. Dehghan banadaky\textsuperscript{1}, \textsuperscript{1}Graduated student, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, \textsuperscript{2}Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran  

1873 W332 The microbiome composition of the rumen is altered during the peripartal period in dairy cattle.  
H. Derakhshani\textsuperscript{1}, S. Alqarni\textsuperscript{2}, H. Khazanehei\textsuperscript{1}, F. C. Cardoso\textsuperscript{3}, J. C. Plaizier\textsuperscript{4}, E. Khafipour\textsuperscript{1,2} and J. J. Loor\textsuperscript{2,4}, \textsuperscript{1}Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, \textsuperscript{2}Texas A&M University, King Inc., Fulton, IL, \textsuperscript{3}Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, \textsuperscript{4}Texas A&M AgriLife Research, Stephenville, TX, \textsuperscript{5}Texas A&\textsuperscript{M} University, College Station  

1874 W333 Evaluating rations offered to a group of cattle as a component of ration formulation software.  
J. Ferguson\textsuperscript{1}, Z. Wu\textsuperscript{1}, D. T. Galligan\textsuperscript{2}, L. Baker\textsuperscript{1} and N. Thomsen\textsuperscript{1}, \textsuperscript{1}University of Pennsylvania, Kennett Square, \textsuperscript{2}University of Pennsylvania, Kennett Square  

1875 W334 Epidemiological study about the effects of chelated minerals on milk, reproductive performance, and locomotion scores of dairy cattle.  
A. Bach\textsuperscript{1,2}, A. Pinto\textsuperscript{3} and M. Blanch\textsuperscript{1}, \textsuperscript{1}Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, \textsuperscript{2}ICREA, Barcelona, Spain, \textsuperscript{3}Department of Ruminant Production, IRTA, Barcelona, Spain, \textsuperscript{4}Novus Int. Inc., St Charles, MO  

1876 W335 Apparent synthesis of thiamin and vitamin B\textsubscript{12} in rumen of lactating dairy cows fed alfalfa or orchardgrass silages at different maturity stages.  
D. S. Castagnino\textsuperscript{1,2}, K. Kamens\textsuperscript{3}, M. S. Allen\textsuperscript{3}, R. Gervais\textsuperscript{1}, P. Y. Chouinard\textsuperscript{1}, D. E. Santschi\textsuperscript{1} and C. L. Girard\textsuperscript{2}, \textsuperscript{1}Université Laval, Québec, QC, Canada, \textsuperscript{2}Michigan State University, East Lansing, \textsuperscript{3}Valacta, Ste-Anne-de-Bellevue, QC, Canada  

1877 W336 Potassium carbonate as a cation supplement to increase dietary cation anion difference and improve dairy feed efficiency in lactating dairy cows.  
A. E. Weidman, M. E. Iwaniuk\textsuperscript{1} and R. A. Erdman, University of Maryland, College Park  

1878 W337 Degradation ruminal kinetics of organic matter, neutral detergent fiber and crude protein of sorghum wet distiller grain without solubles in comparison to the original sorghum grain.  
A. I. Trujillo\textsuperscript{1}, M. D. L. A. Bruni\textsuperscript{2} and P. Chilibroste\textsuperscript{1}, \textsuperscript{1}Facultad de Agronomía, Universidad de la República, Montevideo, Uruguay, \textsuperscript{2}Facultad de Agronomía Universidad de la República, Paysandu, Uruguay, \textsuperscript{3}Facultad de Agronomía, Universidad de la República, Paysandu, Uruguay
WEDNESDAY, JULY 23, 2014

1879  W338  Relative Bioavailability of Phosphorylated Ascorbic Acid in Lactating Dairy Cows.
C. K. Reynolds1, D. J. Humphries2, C. E. S. Barratt3, P. C. Aikman4 and W. Steinberg5, 1University of Reading, Reading, United Kingdom, 2DSM Nutritional Products, Basel, Switzerland

1880  W339  Changes in Serum IgG and Total Protein Concentrations in Calves fed Differing Amounts of Colostrum Replacer.

1881  W340  Apparent synthesis of thiamin, riboflavin, vitamin B6 and vitamin B12 in rumen of lactating dairy cows fed 2 concentrations of nitrogen and 2 energy sources.
V. Beaudet1,2, R. Gervais3, P. Y. Chouinard4, P. Nosiere3, B. Graulet1, M. Doreau3 and C. L. Girard1, 1Université Laval, Québec, QC, Canada, 2Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 3Michigan State University, East Lansing, 4Université Laval, Québec, QC, Canada

1882  W341  Apparent synthesis of thiamin and vitamin B12 in rumen of lactating dairy cows fed alfalfa or orchardgrass silages of different particle lengths.
D. S. Castagnino1, K. Kammes1, M. S. Allen2, R. Gervais3, P. Y. Chouinard4, D. E. Santschi5 and C. L. Girard1, 1Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 2Michigan State University, East Lansing, 3Université Laval, Québec, QC, Canada, 4Valacta, St-Anna-de-Bellevue, QC, Canada

1883  W342  Concentration of vitamin B12 in colostrum and milk from dairy cows fed different energy levels during the dry period.
M. Duplessis1,2, S. Mann3, D. V. Nydam4, C. L. Girard4, P. Pellerin1 and T. R. Overton4, 1Université Laval, Département des sciences animales, Québec, QC, Canada, 2Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 3Michigan State University, East Lansing, 4Université Laval, Québec, QC, Canada

1884  W343  Ruminal bacterial community structure of dairy cows fed conventional and reduced-fat dried distillers grains with solubles.

1885  W344  Diet influences microbial community composition, and methane emission in growing and finishing beef cattle.
S. C. Fernando1, A. L. Knoell1, C. L. Anderson1, A. C. Pesta1, G. E. Erickson2 and T. J. Klopfenstein3, 1University of Nebraska, Lincoln, 2University of Nebraska-Lincoln, Lincoln

1886  W345  Dietary fatty acid profile affects plasma metabolic profile of peripartum Holstein cows.
H. Khalilvandi-Behrooza1, M. Dehghan Banadakya2, M. Ghaffarzadeh1 and K. Rezayazi2, 1Department of Animal Science, Urmia University, Urmia, Iran, 2Department of Animal Science, University of Tehran, Karaj, Tehran, Iran

1887  W346  Prediction of enteric methane emissions in Holstein dairy cows fed various forage sources.
D. E. Rico1, P. Y. Chouinard3, F. Hassana1, C. Benchaar2 and R. Gervais3, 1Université Laval, Québec, QC, Canada, 2Agriculture & Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada

1888  W347  RNA-Seq detection of differential gene expression in the rumen of beef steers associated with feed efficiency phenotypes.

1889  W348  Bioassay activity of different tannin sources by gas production technique.
N. Vahdati1, M. Dehghan banadaky2, F. khaligti-Sigaroudi3 and K. Rezayazi2, 1University of Tehran, karaj, Iran, 2Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, karaj, Iran, 3Institute of medicinal plants. Academic center for education, culture and research (ACECR), Karaj, Iran, 4Department of Animal Science, University of Tehran, Karaj, Tehran, Iran

1796  W255  Evaluation of mineral excretion of lactating Holstein dairy cows supplemented with Copper, Manganese and Zinc in organic and inorganic forms.

1890  W349  Differences in formulation and bioavailability of commercial injectable fat-soluble vitamin products.
D. B. Snider1, R. A. Zinn2 and R. L. Stuart3, 1Iowa State University, Ames, 2University of California-Davis, El Centro, CA, 1Stuart Products Inc, Bedford, TX

1891  W350  Individual and additive value of conventional and non-conventional technologies in beef steers housed and fed using a GrowSafe® feeding system.

1892 W351 Effects of supplemental bupleurum extract on serum hormone and immune globulin levels in heat-stressed dairy cows.
X. Sun, 1, 2, 3, J. Cheng, 1, 2, 3, N. Zheng, 1, 2, 3, 4, D. P. Bu, 1, L. Pan 1 and J. Wang, 1, 2, 3, 4, 1 Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, 2 College of Animal Science and Technology, Anhui Agricultural University, Hefei, China, 3 State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 4 Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

1893 W352 Influence of additional tannins extract level on feedlot performance of finishing hair lambs.
R. Barajas, 1, 2, E. B. Bonilla, 1, L. R. Flores, 1, J. J. Lomeli and J. A. Romo, 1 FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico

1894 W353 Supplementation of dairy cows before calving with beta-carotene.
R. C. Oliveira, 1, B. M. Guerreiro, 2, N. N. Morais Junior, 1, R. L. Araujo, 1, 3, R. A. N. Pereira 1, 3, 4 and M. N. Pereira 1, 3, 4, 1 Universidade Federal de Lavras, Lavras, Brazil, 2 Universidade de São Paulo, São Paulo, Brazil, 3 Instituto Federal de Educação, Ciência e Tecnologia do Espírito Santo, Colatina, Brazil, 4 Empresa de Pesquisa Agropecuária de Minas Gerais, Lavras, Brazil, 5 Better Nature Research Center, Ijaci, Brazil

1895 W354 Relationship Between Residual Feed Intake and Mitochondrial Function.
M. M. Masiero, 1, M. S. Kerley and W. J. Sexten, University of Missouri, Columbia

1896 W355 Bioavailability of Rumen Protected Choline Sources When Supplemented at Different Concentrations.
K. J. Herrick, 1, J. A. Davidson, 2, F. R. Valdez, 2, M. J. Christofferson 2 and S. E. Schuling, 2 Kemin Industries, Inc., Des Moines, IA, 3 Land O'Lakes Purina Feed, Gray Summit, MO, 4 Hubbard Feeds, Inc., Des Moines, IA

1897 W356 Effect of method of flaxseed processing and tannins on the growth performance and carcass fatty acid profile of lambs.
E. Castillo-Lopez, 1, M. Edrosolam, 1, P. J. Shand, 1, D. A. Christensen and G. B. Penner, University of Saskatchewan, Saskatoon, SK, Canada

1898 W357 Evaluating the energy and protein requirements for growing Nellore heifers and steers fed two levels of calcium and phosphorus.
L. F. Costa e Silva, 1, T. E. Engle, 1, S. C. Valadares Filho, 1, P. P. Rotta, 1, M. I. Marcondes, 1, B. C. Silva 2 and M. V. C. Pacheco, 1 Colorado State University, Fort Collins, 2 Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Minas Gerais, Brazil, 3 Universidade Federal de Viçosa, Viçosa, Brazil, 4 Universidade Federal de Viçosa, Viçosa, Brazil

Small Ruminant Poster Session II

1917 W358 The Effects of Live Yeast, Glucan and Mannan on Performance, Rumen and Blood Parameters of Fattening Lambs.
O. Canbolat, 1, I. Filya, 1, V. Akay and A. Kamalak, 1, 1 University of Uludag, Faculty of Agriculture, Department of Animal Sciences, Bursa, Turkey, 2 Global Nutritech Biotechnology LLC, Richmond, VA, 3 University of Kahramanmaras Sutcu Imam Faculty of Agriculture, Department of Animal Sciences, Kahramanmaras, Turkey

1918 W359 Effect of prostaglandin F2α on fertility of ewes treated with a short-term progesterone-based estrous synchronization protocol.
C. D. Paul, 1 West Virginia University, Morgantown, WV

1919 W360 Anthelmintic activity of selected aldehydes and ketones against sheep gastro-intestinal nematodes.
E. Ort, 1, G. Sanna, 2, A. Scala, 2, G. Pulina, 1, P. Caboni 1 and G. Battacone, 1 1 Dipartimento di Agraria, University of Sassari, Sassari, Italy, 2 Dipartimento di Medicina Veterinaria, University of Sassari, Sassari, Italy, 3 Dipartimento di Scienze della Vita e dell'Ambiente, University of Cagliari, Cagliari, Italy

1920 W361 Ovine footrot gene marker screening in a Katahdin sheep flock.
T. Wuliji, 1, J. G. Hickford, 2, W. R. Lamberson, 2, B. C. Shanks 1 and S. Azarpajouh, 1 1 Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, 2 Lincoln University, Lincoln, New Zealand, 3 University of Missouri, Columbia

1921 W362 The Effects of Gonadotropic Stimulation on Fertility of Progesterone-treated Nulliparous Ewes Bred During Seasonal Anoestrous.
A. K. Redhead, 1 West Virginia University, Morgantown, WV
1922  W363  Effects of hair sheep breed on performance response of ram lambs to artificial infection with Haemonchus contortus.  

1923  W364  Effect of sodium butyrate administered in the concentrate on rumen development and productive performance of lambs in intensive production system during the suckling and the fattening periods.  
S. Cavin 1, S. Iraira 1, A. Siurana 2, A. Foskalos 1, A. Ferre 1, M. A. Gomez 2 and S. Calsamiglia 1, 1Animal Nutrition and Welfare Service, Universitat Autonoma de Barcelona, Bellaterra, Spain, 2Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autonoma de Barcelona, Bellaterra 08193, Spain,

1924  W365  Nutrients intake and performance of lambs fed diets with two levels of crude protein and concentrate.  
R. S. Santos 1, K. G. Ribeiro 2, O. G. Pereira 3, S. C. Valadares Filho 1, S. D. J. Villela 3, J. L. Silva 2 and P. G. F. Duarte 1, 1Federal University of Vicsa, Vicsa, Minas Gerais, Brazil, 2Universidade Federal de Vicsa, Vicsa, Minas Gerais, Brazil, 3Universidade Federal de Vicsa, Vicsa, Minas Gerais, Brazil, 4Federal University of Vales do Jequitinhonha e Mucuri (UFVJM), Diamantina, Brazil

1925  W366  Milk production, blood glucose, insulin and non-esterified fatty acids concentration in ewes fed diet containing crude glycerin.  
D. M. Polizel 1, R. S. Gentil 1, E. M. Ferreira 4, R. A. Souza 1, M. V. C. Ferraz Jr. 2, M. C. A. Sucupira 3 and I. Susin 3, 1Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil, 2University of São Paulo - FMVZ/USP, Pirassununga, Brazil, 3Faculdade de Medicina Veterinária e Zootecnia - FMVZ/USP, São Paulo, Brazil

1926  W367  Apparent digestibility, rumen metabolism and nitrogen balance in lambs fed high-concentrate diets containing increasing levels of ground cottonseed.  
R. A. Souza 1, R. S. Gentil 1, E. M. Ferreira 4, D. M. Polizel 1, A. P. A. Freire 4, J. A. Faleiro Neto 3 and I. Susin 3, 1Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil, 2Faculdade de Medicina Veterinária e Zootecnia - FMVZ/USP, São Paulo, Brazil

1927  W368  Intake and performance of finishing lambs fed diets with licuri nut (Syagrus coronata) cake.  

1928  W369  Growth and carcass characteristics of lambs fed high-concentrate diets containing different sources of non-protein nitrogen.  
A. P. A. Freire 4, F. L. M. Silva 4, D. M. Polizel 1, R. A. Souza 1, R. S. Gentil 1, R. C. Araujo 2 and I. Susin 3, 1Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil, 2GRASP Ind. & Com. LTDA, Curitiba, Brazil

1929  W370  Zilpaterol hydrochloride modify the fatty acids profile of intramuscular fat of feedlot lambs.  
H. Davila-Ramos 5 and J. C. Robles-Estrada, Universidad Autonoma de Sinaloa, Culiacan, Mexico

1930  W371  Composition of cheeses made from milk of ewes fed with soybean seed or linseed concentrates.  
C. F. A. M. Penna 1, M. I. Simão 1, F. P. Paula 1, M. O. Leite 1, M. P. Cerqueira 1, L. M. Fonseca 1, M. R. Souza 1 and I. Borges 1, 1Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil, 2Universidade Federal de Minas Gerais (Veterinary School/ UFMG), Belo Horizonte, Brazil, 3Universidade Federal de Minas Gerais, Belo Horizonte, Brazil

1931  W372  Pregnancy and lambing rates in anestrous ewes bred to a new synchronization protocol and laparoscopic timed artificial insemination (TAI).  
S. B. Turner 1, M. B. Gordon 1, T. Gowan 2, J. A. Small 2 and D. M. W. Barrett 1, 1Faculty of Agriculture, Dalhousie University, Truro, NS, Canada, 2Agriculture and Agri-Food Canada, Truro, NS, Canada

1932  W373  Effect of supplementation with water-washed neem fruit and/or yeast on the performance and digestibility of west african dwarf sheep.  
M. K. Adewumi 1 and T. O. Ososanya, University of Ibadan, Ibadan, Nigeria

1933  W374  Effect of crude protein level and zilpaterol supplementation on growth performance and carcass dressing of finishing hairy lambs.  
A. E. Angulo 1, I. C. Perez 1, A. Plascencia 1, H. L. Lopez 2, P. M. Perez 2, E. I. Gonzalez 2 and F. G. R. Rincon 2, 1Universidad Autonoma De Sinaloa, Culiacan Sinaloa, Mexico, 2Universidad Autonoma De Sinaloa, Culiacan Sinaloa, Mexico, 3Uabc, Mexicali, Mexico, 4Universidad Autonoma De Sinaloa, Culiacan Sinaloa, Mexico

1934  W375  Performance of lambs fed with crude glycerine diets.  
V. B. Carvalho 3, J. M. Bertocco Ezequiel 3, R. F. Leite 1, S. F. F. Petrorossi 3, T. R. Delphino 3, H. L. Perez 3, J. R. Paschoaloto 3, M. T. C. Almeida 3, V. R. Favaro 3 and E. H. Fernandes 3, 1UNESP, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, SP, Brazil, 2UNESP, Jaboticabal, Brazil, 3UNESP, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, Brazil, 4State University of Sao Paulo, Jaboticabal, Brazil
**Swine Species: Nutrition**

**1949**

W379  Effect of porcine digestive peptides as sweet milk whey replacer for piglets diets: preferences, acceptance and performance during the nursery period.

J. E. Figueroa, D. Solà-Oriol, R. Davin, E. Borda, S. A. Guzmán-Pino and J. F. Pérez, Departament de Ciencia Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain, Universidad de Chile, Santiago, Chile, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain, Bioiberica, Barcelona, Spain

**1950**

W380  High nutrient intake alters muscular growth and metabolic status of neonatal intra-uterine growth-retarded pigs.

F. Han, L. Chen, L. Che, B. Yu, X. Ding, Y. Luo, S. Bai, D. Chen, Y. Xuan and K. Zhang, Institute of Animal Nutrition, Sichuan Agricultural University, Chengdu, China

**1951**

W381  The inclusion of yeast-derived protein in weaning diet improves growth performance, anti-oxidative capability and intestinal health of piglets.

L. Hu, L. Che, G. Su, Y. Xuan, G. Luo, F. Han, Z. Fang, Y. Lin, S. Xu and D. Wu, Institute of Animal Nutrition, Sichuan Agricultural University, Chengdu, China

**1952**

W382  Effects of added zinc during the grower and/or finisher phase on growth performance and carcass characteristics of finishing pigs fed diets with or without ractopamine HCl.

C. B. Paulk, M. D. Tokach, S. S. Dritz, J. M. DeRouchey and R. D. Goodband, Kansas State University, Manhattan

**1953**


L. Hu, L. Che, Y. Liu, X. Yian, F. Han, Z. Fang, Y. Lin, S. Xu and D. Wu, Institute of Animal Nutrition, Sichuan Agricultural University, Chengdu, China

**1954**

W384  Effects of dietary omega-3 polyunsaturated fatty acids on growth and immune response of weanling pigs.

Q. Li, J. H. Brendemuhl, K. Jeong and L. Badinga, University of Florida, Gainesville

**Teaching/Undergraduate and Graduate Education**

**1955**

W385  Examining demographics and student interests in an introductory animal science course.

D. A. Nichols and M. R. Hay McCammant, Kansas State University, Manhattan

**1956**

W386  Development of a science education experience for adolescents based on stress physiology and a growing interest in smartphone technology.

P. A. Eichen, B. Scharf, G. D. Martin, R. Mott and D. E. Spiers, University of Missouri, Columbia

**1957**

W387  Student assessment through a survey instrument of a horse management laboratory course.

M. C. Nicodemus and T. L. Bova, Mississippi State University, Mississippi State

**1958**

W388  Educational Outcomes of an Online Course: Pharmaceutical Use in Cattle.

E. Blythe, West Texas A&M University, Canyon

**1959**

W389  Using Community Engagement to Enhance Student Learning in Animal Science: Farm to Fork - At Home and Abroad.

T. Montgomery, University of Wisconsin-Platteville, Platteville

**1960**

W390  An animal handling course for today's animal science student.

A. P. Fidler, University of Arkansas, Fayetteville

**1961**

W391  Experiential Learning Experience for Undergraduate Students in Livestock and Fisheries Work in India.

S. Robinson, M. Shelby, C. Prakash, O. Bolden-Tiller and N. Gurung, Tuskegee University, Tuskegee, AL

**1962**

W392  Fine Focus: A New International Journal for Undergraduate Microbiology Research.

J. L. McKillip, Ball State University, Muncie, IN
SYMPOSIA AND ORAL SESSIONS

ADSA-ASAS Northeast Section Symposium: Opportunities to Meet Changing Consumer Preferences for Animal Products

Chair: Lisa Holden, The Pennsylvania State University

3501B

10:30 AM  11 The Science and Art of Cheese Making.
K. E. Kaylegian*, Pennsylvania State University, University Park

A. Novakovic*, Cornell University, Ithaca, NY

11:20 AM  13 New approaches to low-fat meat products to better meet consumer demands.
E. W. Mills*, Penn State University, University Park

11:45 AM  Panel Discussion

12:05 PM  Business Meeting & Awards

Animal Behavior and Well-Being II

Chair: Alexandra Harlander, University of Guelph

2505B

10:30 AM  39 Evaluation of hair cortisol as a biomarker of chronic stress in beef cattle.
D. Moya*, M. He, Y. Wang, T. A. McAllister and K. S. Schwartzkopf-Genswein, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

10:45 AM  40 Maternal behavior in sheep production: Effects on lamb performance and economic indicators.
C. Raineri1,2, B. C. Nunes1, T. B. Bovo1, E. A. Titto1, E. R. Afonso1 and A. H. Gameiro1, 1University of São Paulo. School of Veterinary Science and Animal Science, Department of Animal Nutrition and Production, Pirassununga, Brazil, 2Federal University of Uberlândia. School of Veterinary Medicine, Uberlândia, Brazil

11:00 AM  41 Effect of rest-stop duration during long-distance transport on indicators of animal welfare in weaned beef calves.
S. Marti* and K. S. Schwartzkopf-Genswein, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

11:15 AM  42 Monitoring stress behavior in grazing beef cows with a long range pedometric system.
R. Gabrieli*, Ministry of agriculture and rural development, extension service, Beit Dagan, Israel, Beit Dagan, Israel

11:30 AM  43 Effect of four different reflective barriers on black-globe temperatures in calf hutches and on calf ADG.
T. H. Friend*, W. Binion and J. Haberman, Texas A&M University, College Station

11:45 AM  44 Effects of Three Tail Painting Formulations on Behavior of Dairy Heifers.
C. S. Skenandore* and F. C. Cardoso, University of Illinois, Urbana

12:00 PM  45 Balking behavior incidence in cattle at the processing plant and carcass implications.
M. L. Thomas3, Y. V. Thaxton3, A. H. Brown, Jr3, K. E. Pfalzgraf3, K. D. Christensen3, K. Anschutz4 and C. F. Rosenkranz4, 1Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, 2Center for Food Animal Wellbeing, University of Arkansas, Fayetteville, 3Center of Excellence for Poultry Science, University of Arkansas, Fayetteville, 4University of Arkansas, Fayetteville

12:15 PM  46 Effects of ractopamine or zilpaterol on physiologic and metabolic parameters in feedlot steers.
A. L. Fuller*1, T. L. Covey1, T. E. Lawrence2 and J. T. Richeson3, 1West Texas A&M University, Canyon, 2OT Feedyard and Research Center, Hereford, TX

Beef Species: Feed Additives

Chair: Allison M. Meyer, University of Missouri

2103C

10:30 AM  144 Comparison of Feed Technologies for Backgrounding of Weaned Beef Calves.
M. J. Hersom*, T. A. Thrift and J. V. Yelich, University of Florida, Gainesville
10:45 AM 145 Effects of dose and duration of ractopamine hydrochloride supplementation on growth performance and carcass characteristics of feedlot heifers.
B. M. Edenburn, N. A. Pyatt and T. L. Felix, University of Illinois at Urbana-Champaign, Urbana, Elanco Animal Health, Greenfield, IN

11:00 AM 146 A Meta-analysis of Zilpaterol and Ractopamine Effects on Feedlot.

11:15 AM 147 Evaluation of objective and subjective mobility variables in feedlot cattle supplemented with zilpaterol hydrochloride.

11:30 AM 148 Comparison of real-time ultrasound measurements for body composition traits to carcass data in feedlot cattle fed zilpaterol hydrochloride.
B. J. Ragland, F. R. B. Ribeiro, W. C. Burson, B. J. Johnson and R. J. Rathmann, Texas Tech University, Lubbock

11:45 AM 149 The effect of zilpaterol supplementation and RFI on growth performance.
L. A. J. Walter, West Texas A&M University, Canyon

12:00 PM 150 Effects of zilpaterol hydrochloride on internal body temperature and respiration rate of black-bred feedlot steers and heifers during moderate heat stress.

12:15 PM 151 Effects of zilpaterol hydrochloride on blood gas, electrolyte balance and pH in feedlot cattle.

Dairy Foods: Technical Oral Session: Protein / Polysaccharide Interactions

Chair: TBA
3501C

10:30 AM 266 Production and Purification of Whey Protein Glycate Conjugated with Low Molecular Mass Dextrans.
L. Xu, Y. Gong and J. A. Lucey, University of Wisconsin-Madison, Department of Food Science, Madison, WI, University of Wisconsin-Madison, Department of Food Science, Madison, WI, University of Wisconsin - Madison, Madison

10:45 AM 267 Impact of Maillard Modification on the in vitro Carbohydrate Digestibility of WP-Dextran Glycates.
Y. Gong, L. Xu and J. A. Lucey, University of Wisconsin-Madison, Madison, Center for Dairy Research, University of Wisconsin-Madison, Madison

11:00 AM 268 Effects of mineral salts and calcium chelating agents on the functionalities of milk protein concentrate prepared by ultrafiltration.
X. Luo, L. Ramchandran and T. Vasiljevic, Victoria University, Melbourne, Australia

11:15 AM 269 Storage stability of sodium caseinate stabilized oil-in-water emulsions as affected by severe heat treatment and storage temperatures.
Y. Liang, G. Gillies, H. G. Patel, L. Matia-Merino, A. Ye and M. Golding, Massey University, Palmerston North, New Zealand, Fonterra Research and Development Centre, Palmerston North, New Zealand, South Dakota State University, Brookings, Riddet Institute, Palmerston North, New Zealand

11:30 AM 270 Understanding mechanisms of the plasmin-induced dissociation of the casein micelle.
H. Bhatt, A. Cucheval, C. Coker, H. G. Patel, A. Carr and R. Bennett, Fonterra Research & Development Centre, Palmerston North, New Zealand, South Dakota State University, Brookings, Massey University, Palmerston North, New Zealand

11:45 AM 271 Heat-induced changes in milk proteins in high-carbohydrate media.
T. Huppertz and H. G. Patel, NIZO food research, Ede, Netherlands, South Dakota State University, Brookings

12:00 PM 272 Effects of pH on the Morphology and Mechanical Property of Heat-induced Whey Protein Aggregates.
12:15 PM 273 Strengthening interfacial whey protein films by conjugation with gellan.  
B. Cai* and S. Ikeda, The University of Wisconsin-Madison, Madison

12:30 PM 274 Enhancement of Radical Quenching Ability of Sweet Whey and Casein Hydrolyzate: Mutual Supplementation with Thermally Generated Maillard Reaction Products.  
Z. Z. Haque1,2 and D. Mukherjee2, 1Food Science, Nutrition & Health Promotion, Mississippi State University, Miss. State, 2Food Science, Nutrition and Health Promotion, Mississippi State University, Miss. State

12:45 PM 275 Impact of heat treatments on the functionalities of milk protein concentrate 80.  
R. M. Horak1,2, J. A. Lucey2 and M. Molitor3, 1University of Wisconsin - Madison, Madison, 2University of Wisconsin, Madison

Extension Education Symposium: Decision Support Tools in Extension  
Chair: Amy E. Radunz, University of Wisconsin-River Falls
2102A

10:30 AM 292 History and development of the Bovine Estrus Synchronization Planner.  
S. K. Johnson1, G. Dahlie2 and D. R. Strohbehn3, 1Kansas State University, Colby, 2Iowa State University, Ames

11:00 AM 293 Impact of decision support tools available for dairy farm management.  
V. Cabrera1, University of Wisconsin-Madison, Madison

11:30 AM 294 Assessing the need, project development and impact of the National Swine Reproduction Troubleshooting and Management Guide.  
D. Levis1, M. Estienne2, W. Flowers3, R. Baker2, R. Knox4, K. Stalder5, T. Safranski6, M. Knauer7, W. Singleton8, D. Meisinger9, C. Branderhorst10 and W. Winkelman11, 1Levis Worldwide Swine Consultancy, Lincoln, NE, 2Virginia Tech, Suffolk, VA, 3North Carolina State University, Raleigh, 4Iowa State University, Ames, 5University of Illinois, Urbana, 6University of Missouri, Columbia, 7Purdue University, Lafayette, IN, 8US Pork Center of Excellence, Clive, IA, 9National Pork Board, Clive, IA

12:00 PM  
Discussion

Food Safety: Advances in Food Safety  
Chair: Michaela G. Alewynse, Center for Veterinary Medicine
3501D

10:30 AM 299 Effectiveness of a mycotoxin binder to minimize transfer of aflatoxin from feed to milk in Nili-Ravi buffaloes.  
N. Aslam1, I. Rodrigues2, A. ul Haq3, A. Cowling1, H. M. Warriach1, D. M. McGill1 and P. C. Wynn2, 1Graham Centre for Agricultural Innovation, Charles Sturt University, Wagga Wagga, Australia, 2BIOMIN –Singapore Pte Ltd, Singapore, Singapore, 3Buffalo Research Institute, Bhanniy, Pakistan

10:45 AM 300 Use of Silage Bacteria as Enterosorbents to Reduce Aflatoxin Contamination.  

11:15 AM 301 Effect of starter culture as a source of microbial contamination on the quality and safety of yogurt products in Egypt.  
M. M. Motawee1, W. E. D. I. Saber2 and S. A. Ibrahim3, 1National Organization for Drug Control and Research, Giza-Egypt, 2Department of Microbiology, Giza, Egypt, 3Food Microbiology and Biotechnology Laboratory, North Carolina A&T State University, Greensboro

11:30 AM 302 Effectiveness of Pulsed Light Treatment on the Inactivation of Pathogenic and Spoilage Bacteria on Cheese Surface.  
J. Proulx1, L. Hsu1, B. Miller2, G. Sullivan1, K. Paradis1 and C. I. Moraru1, 1Cornell University, Ithaca, NY, 2McGill University, Montreal, QC, Canada

11:45 AM 303 Evaluation of heavy metals, phenol and polycyclic aromatic hydrocarbons on singed skin-on red Sokoto buck goats.  
O. A. Babatunde1, O. O. Olusola2, O. J. Aremo2 and W. Y. Akweley1, 1Kwame Nkrumah University Of Science And Technology, Kumasi, Ghana, 2University of Ibadan, Ibadan, Nigeria

Forages and Pastures II: Forages for livestock systems  
Chair: Karla H Jenkisns, University of Nebraska
2102B

10:30 AM 317 Interseeding bermudagrass pastures with alfalfa or clovers for growing calves.  
P. Beck1, D. S. Hubbell, III2, T. Hess3 and J. Jennings4, 1University of Arkansas SWREC, Hope, AR, 2University of Arkansas Livestock and Forestry Research Station, Batesville, 3Department of Animal Science, University of Arkansas, Little Rock
11:45 AM 318 Grazing Novel Endophyte-infected Fescue Following Grazing Endophyte-infected Fescue to Alleviate Fescue Toxosis in Beef Calves. T. B. Wilson1, M. R. Milhamow1, M. A. West, D. B. Faulkner, F. A. Ireland and D. W. Shike, University of Illinois, Urbana

11:00 AM 319 Metagenomic analysis of the rumen microbiome in wheat-induced frothy bloat among steers. D. W. Pitta1, W. E. Pinchak2, B. Veichcarrelli3, R. Sinha3 and D. Fullford4, 1University of Pennsylvania, Kennett Square, 2Texas A&M AgriLife Research, Vernon, TX, 3University of Pennsylvania, Kennett Square, 4University of Pennsylvania, Philadelphia, 2Texas AgriLife Research, Vernon, TX

11:15 AM 320 Stocking density effects in short duration grazing systems on botanical composition and soil characteristics of grasslands. J. J. Bisinger3, Iowa State University, Ames

11:30 AM 321 Seasonal changes in DM, CP, NDF, and NDF digestibility of pasture forage in grazing production systems. J. Paulson1, B. J. Heins2 and D. G. Johnson3, 1University of Minnesota, Hutchinson, 2University of Minnesota West Central Research and Outreach Center, Morris

11:45 AM 322 Relationship between pasture nutritive measurements and plasma urea nitrogen in lambs grazing silvopasture or open pasture. J. P. S. Neel1 and D. P. Belesky2, 1USDA-ARS, El Reno, OK, 2West Virginia University, Morgantown

12:00 PM 323 Effect of organic grain supplementation on production, body weight, body condition score, and fatty acid profiles of organic dairy cows. B. J. Heins1, M. I. Endres2, J. Paulson3 and R. D. Moon4, 1University of Minnesota West Central Research and Outreach Center, Morris, MN, 2University of Minnesota, Saint Paul, 3University of Minnesota, Hutchinson, MN, 4University of Minnesota, St. Paul

12:15 PM 324 Chemical composition and in vitro gas production of forage cereals associated with common vetch (Vicia sativa), M. Gonzalez Ronquillo1, E. Y. Aguilar Lopez2, A. Morales2, M. G. Gutierrez2 and O. Castelan Ortega2, 1Universidad Autonoma del Estado de Mexico, Toluca, Mexico, 2Universidad Autonoma del Estado de Mexico, Toluca, Mexico

### Growth and Development

Chair: Gordon K Murdoch, University of Idaho

2502

10:30 AM 370 Whole or Ground Oats in Calf Starters: Effects on Rumen Fermentation and Rumen Development. F. X. Suarez-Mena1, A. J. Heinrichs1, C. M. Jones1, T. M. Hill2 and J. D. Quigley2, 1The Pennsylvania State University, University Park, 2Provimi North America, Brookville, OH

10:45 AM 371 Rumen Epithelial Gene Expression in Periruminant Holstein Bull Calves Fed a Fermentation Extract of Aspergillus oryzae. T. T. Yohe1, K. M. O’Diam and K. M. Daniels, Department of Animal Sciences, The Ohio State University, Wooster

11:00 AM 372 Performance and rumen development of artificially reared calves to dietary butyrate supplementation. A. K. Kelly1, J. V. O’Doherty1, D. A. Kenny1, T. M. Boland2 and K. M. Pierce3, 1School of Agriculture and Food Science, University College Dublin, Dublin, Ireland, 2Teagasc Grange, Meath, Ireland, 3School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland


11:30 AM 374 Effects of recombinant bovine somatotropin on performance and biological activity of skeletal muscle over the finishing phase of feedlot heifers. J. E. Hergenreder1, J. O. Baggerman1, A. J. Thompson1, M. A. Jennings1, K. S. Spivey1, W. C. Burson1, A. J. Laurent1, G. J. Vogel1 and B. J. Johnson1, 1Texas Tech University, Lubbock, 2Elanco Animal Health, Greenfield, IN

11:45 AM 375 Identification of Potential Serum Biomarkers for Feed Efficiency in Young Pigs. J. K. Grubbs1, S. M. Lonergan, J. C. M. Dekkers and C. K. Tuggle, Iowa State University, Ames

12:00 PM 376 Enhanced Protein Acretion and Vital Organ Growth with Intermittent Bolus Compared to Continuous Feeding in Neonatal Pigs. S. W. El-Kadi1,2, C. Boutry1, A. Suryawan1, M. C. Gazzanino1, R. A. Orellana1, N. Srivastava1, H. V. Nguyen1, S. R. Kimball3, M. L. Fiorotto2 and T. A. Davis1, 1USDA/ARS - Children’s Nutrition Research Center, Baylor College of Medicine, Houston, TX, 2Animal and Poultry Sciences, Virginia Tech, Blacksburg, 3Cellular and Molecular Physiology, Penn State College of Medicine, Hershey
International Animal Agriculture Symposium: Global prospective of livestock production systems to meet the growing need for animal protein in human diets: impacts on production and human health.

Chair: Fernando R. Valdez, Kemin Industries, Inc.

2505A

10:30 AM 400 Intensifying beef production to meet human nutrition needs.
D. Grace, International Livestock Research Institute, CGIAR Program, Nairobi, Kenya

10:45 AM 401 Introduction: Not just nutrition and management: We need a Total Nutrition and Management Program.
F. R. Valdez, Kemin Industries, Inc., Des Moines, IA

10:55 AM 402 Parallel comparisons of intensive meat production in developed and developing countries. What can we learn from each other's systems?
R. Barajas Cruz, Universidad de Sinaloa, Culiacan, Mexico

11:25 AM 403 Methods to Improve Nutrient Intake in Grazing Cattle: Pasture management and Supplementation.
F. A. P. Santos, J. R. R. Dórea, F. Batissel and D. F. A. Costa, University of São Paulo, Piracicaba, Brazil

11:55 AM Food safety. What efforts are underway internationally to improve food safety? FDA’s Office of International Programs or CVM

12:30 PM Panel Discussion

Physiology and Endocrinology: Novel Approaches to Improving Reproductive Success in Domestic Animals

Chair: José E.P. Santos, Department of Animal Sciences, University of Florida

2104A

10:30 AM 521 Ovarian and endocrine responses and efficacy associated with three ovulation synchronization strategies (Heatsynch, Doublesynch and Estradoublesynch) in Murrah buffaloes.
R. Mirmahmoudi1 and B. S. Prakash2, 1Department of Animal Science, Faculty of Agriculture, University of Jiroft, Jiroft, Iran, 2National Dairy Research Institute, Karnal, India

10:45 AM 522 CLC improves the post thaw semen quality but not the fertility in Sahiwal bulls.
A. Sattar1, A. G. Tarin1, N. Ahmad1, K. Javed1, M. Ahmad2, A. Razzaaq1, K. Ahmed2 and M. Younis3, 1Department of Theriogenology, University of Veterinary and Animal Sciences, Lahore, Pakistan, 2Department of Livestock Production, University of Veterinary and Animal Sciences, Lahore, Pakistan, 3Livestock Experiment Station, Fazilpur, Rajaipur, Pakistan, 4Semen Production Unit, Qadirabad, Sahiwal, Pakistan

11:00 AM 523 Effects of administration of prostaglandin F2α (PGF) at initiation of the 7-day CO-Synch+CIDR estrus synchronization protocol for replacement beef heifers.
V. R. G. Mercadante1, L. E. Kozicki2, F. M. Ciriaco3, D. D. Henry1, C. R. Dahlen4, R. N. Funston4, J. E. Larson5, G. A. Perry6, T. L. Steckler7 and G. C. Lamb8, 1University of Florida, Marianna, FL, 2Pontifical Catholic University (PUCPR), Curitiba, Brazil, 3North Dakota State University, Fargod, 4University of Nebraska, North Platte, NE, 5Mississippi State University, Mississippi State, 6South Dakota State University, Brookings, 7University of Illinois, Simpson, IL

P. D. Carvalho1, M. J. Fuenzalida2, A. Ricci2, M. Luchterhand3, J. M. Mulcahy4, R. V. Barletta2, G. M. Baez5, V. G. Santos2, M. C. Amundson2, J. N. Guenther2, A. H. Sousa1,2,3, M. C. Wilthbank4 and P. M. Fricke2, 1University of Wisconsin, Madison, 2Department of Dairy Science, University of Wisconsin-Madison, Madison, 3University of California Cooperative Extension, Tulare, CA

11:30 AM 525 The effects of prenatal stress and postnatal temperament on age and body weight at first sperm, puberty and sexual maturity in Brahman bulls.
M. C. Roberts1, R. C. Vann1, D. A. Neuendorff6, B. P. Littlejohn4, D. G. Riley4, J. A. Carroll6, T. H. Welsh, Jr.5 and R. D. Randel1, 1Texas A&M AgriLife Research, Overton, TX, 2MAFES - Brown Loam Experiment Station, Mississippi State University, Raymond, MS, 3Texas A&M AgriLife Research, Overton, TX, 4Texas A&M AgriLife Research, College Station, TX, 5USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 6Texas A&M University Department of Animal Science, College Station

11:45 AM 526 Equine chorionic gonadotropin (eCG) improves follicular dynamics, estrus expression, ovulation and pregnancy rate in CIDR based estrus synchronization protocol in Nili-Ravi buffalo.
12:00 PM  527  Effects of prenatal transportation stress on endogenous and exogenously-induced LH secretion in sexually mature Brahman bulls.
B. P. Littlejohn*,1,2, M. C. Roberts1,2, M. N. Bedenbaugh1, A. W. Lewis2, D. A. Neuendorff2, D. G. Riley1,3, J. A. Carroll2, R. C. Vann2, M. Amstalden1, T. H. Welsh, Jr.1,3 and R. D. Randel1,1Texas A&M University Department of Animal Science, College Station, TX, 2Texas A&M AgriLife Research, Overton, TX, 4USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 5MAFES - Brown Loam Experiment Station, Mississippi State University, Raymond

12:15 PM  528  Effects of artificial insemination and natural service breeding systems on calving characteristics and weaning weights of resultant progeny.

12:30 PM  529  Impact of Manipulation of Progesterone Concentrations during Follicular Development on Ovulatory Follicle Growth and Timed AI Pregnancy Rate in Beef Cows.
F. M. Abreu1,2, M. A. Coutinho da Silva1, L. H. Cruppe2, M. L. Mussard1, B. R. Harstine1, G. A. Bridges2, T. W. Geary3 and M. L. Day2, 1The Ohio State University, Columbus, 2University of Minnesota, Grand Rapids, 3USDA ARS Fort Keogh, Miles City, MT

12:45 PM  530  Reproductive Performance of Lactating Dairy Cows after Resynchronization with Ovsynch or a Program Aimed to Maximize Artificial Insemination in Estrus and Fertility of Timed Artificial Inseminations based on Ovarian Structures.
J. O. Giordano1*, R. D. Watters2, R. Wijma1 and M. L. Stangaferro1, 1Department of Animal Science, Cornell University, Ithaca, NY, 2Quality Milk Production Services, Cornell University, Ithaca, NY

Production, Management, and the Environment: Nutrition and Management
Chair: TBA
2104B

10:30 AM  559  Zilpaterol Hydrochloride Repartitions Chemical Components of the Empty Body of Holstein Steers.
T. J. McEvers3, N. D. May1, L. A. J. Walter1, J. P. Hutcheson* and T. E. Lawrence1, 1West Texas A&M University, Canyon, 2Merck Animal Health, DeSoto, KS

10:45 AM  560  Effect of organic grain supplementation on activity and ruminating time of organic dairy cows.
L. S. Sjostrom1, B. J. Heins2, M. I. Endres1, R. D. Moor1 and J. Paulson1, 1University of Minnesota, West Central Research and Outreach Center, Morris, MN, 2University of Minnesota West Central Research and Outreach Center, Morris, MN, 3University of Minnesota, Saint Paul, 4University of Minnesota, St. Paul, 5University of Minnesota, Hutchinson, MN

11:00 AM  561  Effect of feeding kelp on growth and profitability of group-fed dairy calves in an organic production system.
B. J. Heins1 and H. Chester-Jones2, 1University of Minnesota West Central Research and Outreach Center, Morris, MN, 2University of Minnesota Southern Research and Outreach Center, Waseca, MN

11:15 AM  562  Reproductive performance of Bariki ewes in Siwa Oasis as affected by including date seeds in the concentrate ration.
E. B. Abdalla1, Faculty of Agriculture, Ain Shams University, Cairo, Egypt

11:30 AM  563  Impact of heifer development system on subsequent ADG and reproduction in two different breeding seasons.
H. R. Nielsen1, J. D. Harms1, A. F. Summers1, R. A. Vraspir* and R. N. Funston1, 1University of Nebraska, West Central Research and Extension Center, North Platte, NE, 2University of Nebraska, Lincoln

11:45 AM  564  A comparison of serum metabolic profiles of dairy cows that maintained or lost body condition score 15 days before calving.
M. R. Sheehy1,2, F. J. Mulligan1 and A. G. Fahey1, 1School of Veterinary Medicine, University College Dublin, Dublin, Ireland, 2Devenish Nutrition Ltd, Belfast, Northern Ireland, 3School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland

12:00 PM  565  Comparison of methods for isolation of miRNA from bovine milk whey.
X. L. Jin1, H. Y. Liu1, L. Liu1, Z. H. Wei1 and J. X. Liu2, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Zhejiang University, Hangzhou, China
Ruminant Nutrition VII

Chair: TBA
2103A

10:30 AM 667 Effect of reduced energy density of close-up diet on ruminal fermentation parameters in multiparous Holstein cows. W. M. Huang1, A. Simayi, A. Yasheng, Z. H. Wu, Z. J. Cao and S. L. Li, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China

10:45 AM 668 Prepartum dietary energy strategies for Holstein dairy cows: Effects on markers of negative energy balance and performance. S. Mann1, F. A. Leal Yepes2, T. R. Overton3, J. J. Wakshlag4 and D. V. Nydam4, 1Cornell University, Department of Population Medicine and Diagnostic Sciences, Ithaca, NY, 2Cornell University, Department of Animal Science, Ithaca, NY, 3Cornell University, Department of Clinical Sciences, Ithaca, NY

11:00 AM 669 Hepatic Acetyl CoA Concentration Decreases following Feeding in Early-postpartum but not in Late-lactation Dairy Cows. P. Piantoni1, C. M. Ylioja and M. S. Allen, Michigan State University, East Lansing

11:15 AM 670 Overconditioned Prepartum Cows Exhibit a Greater Magnitude of Insulin Resistance and Mobilize More NEFA Earlier Compared with Lean Cows. J. E. Rico1 and J. W. McFadden2,3, 1West Virginia University, Morgantown, WV, 2Johns Hopkins University, Baltimore, MD

11:30 AM 671 Identifying Biomarkers for Pre-Onset Insulin Resistance Using Mass Spectrometry-Based Metabolomics: Plasma Ceramides are Elevated in Overconditioned Transition Dairy Cows. J. E. Rico1 and J. W. McFadden2,3, 1West Virginia University, Morgantown, WV, 2Johns Hopkins University, Baltimore, MD

11:45 AM 672 Effects of yeast product supplementation on production, feeding behavior, and metabolism in transition dairy cows. K. Yuan1,2, T. Liang2, M. Muckey3, L. Mendonca4, L. Hulbert2, L. Mamedova4, C. C. Elrod1 and B. Bradford3, 1Kansas State University, Manhattan, 2GM Powertrain, Pontiac, MI, 3Vi-COR, Inc., Mason City, IA

12:00 PM 673 Milk production performance of autumn-calving Holstein Friesian cows managed under flat-rate or feed-to-yield concentrate feeding systems. D. C. Lawrence1,2, E. Kennedy3, M. O’Donovan1, T. M. Boland4, A. Lawless5 and J. Patton6, 1School of Agriculture and Food Science, University College Dublin, Belfield, Dublin 4, Ireland, 2Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, 3Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, 4School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland, 5Teagasc, Johnstown Castle, Co. Wexford, Ireland, 6Teagasc, Grange, Dunsaney, Co. Meath, Ireland

12:15 PM 674 Does concentrate allocation pattern affect the milk production of autumn calving cows at high and low feeding levels? D. C. Lawrence1,2, M. O’Donovan1, T. M. Boland4, E. Lewis3 and E. Kennedy3, 1Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, 2School of Agriculture and Food Science, University College Dublin, Belfield, Dublin 4, Ireland, 3Teagasc, Moorepark, Fermoy, Co. Cork, Ireland, 4School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland

Ruminant Nutrition VIII

Chair: TBA
2103B

10:30 AM 675 Characterization of rumen microbial community composition of buffalo fed diets varying in forage:concentrate ratio. B. Lin1,2, C. Zou3, F. Cox3, G. Henderson1, P. H. Janssen1, X. Liang4 and G. Attwood5, 1Buffalo Research Institute, The Chinese Academy of Agricultural Sciences, Nanning, China, 2AgResearch Limited, Grasslands Research Centre, Palmerston North, New Zealand

10:45 AM 676 Bacterial diversity associated with different primer pairs on different diets in the rumen microbiome of Kankrej cattle. D. W. Pitta1, N. Indugu2, S. Kumar3, K. B. Prajapati4, A. K. Patel4, N. Parmar5, A. B. Patel6, B. Reddy7 and C. Joshi8, 1University of Pennsylvania, Kennett Square, 2University of Pennsylvania, Kennett Square, 3Sardharkrushinagar Dantiwada Agricultural University, Sardharkrishinagar, India, 4Anand Agriculture University, Anand, India

11:00 AM 677 Development of rumen microbiota in dairy calves: impact of weaning and different weaning strategies. S. C. Li1, M. A. Steele2, P. Azevedo1, M. Carson2, J. C. Plaizier1, H. Derakhshani1 and E. Khaipour1,3, 1Department of
The potential benefit of corn dried distillers' grain (co)products (DDG) in the mitigation of methane production in cattle: An in vitro analysis.

M. A. Fonseca, D. K. A. Silva, H. D. Naumann, T. R. Callaway and L. O. Tedesco, Texas A&M University, College Station; Federal Rural University of Pernambuco, Garanhuns, Brazil; University of Missouri, Columbia; USDA-ARS, College Station, TX

Use of avian antibodies against lipopolysaccharides to improve gastrointestinal function in early lactation dairy cows.

L. Ibarbia, F. Cunha, K. N. Galvão, F. Mannsell, A. Donovan and N. Di Lorenzo, Department of Large Animal Clinical Sciences; University of Florida, Gainesville; University of Florida, Marianna, FL

Large-subunit rDNA based differentiation of anaerobic rumen fungi using restriction fragment length polymorphism.

D. Sumit, S. Kumar, D. W. Pitta, J. Edwards, T. Callaghan, G. Griffith, P. Mudgil and A. Puniya, Aberystwyth University, Aberystwyth, United Kingdom; National Dairy Research Institute, Karnal, India; Agharkar Research Institute, Pune, India; University of Pennsylvania, Kennett Square, PA

Responses in rumen microbiomes of Bos taurus and Bos indicus steers fed rice straw and supplemented protein.

E. A. Latham, J. C. McCann, K. Weldon, T. A. Wickersham, J. Coverdale and W. E. Pinchak, Texas A&M University, College Station; University of Illinois, Urbana; Texas A&M AgriLife Research, Vernon, TX

Effects of dietary fat source and monensin on methane to carbon dioxide ratio, VFA profile, and performance of finishing steers.

A. C. Pesta, A. K. Watson, R. G. Bondurant, S. C. Fernando and G. E. Erickson, University of Nebraska-Lincoln, Lincoln; University of Nebraska, Lincoln

Swine Species Symposium: Procedures and Methodology for Determining SID Amino Acid Digestibility and Energy of Feedstuffs

Chair: TBA

Procedures and methodology for determining SID amino acid digestibility of feedstuffs.

H. H. Stein, University of Illinois at Urbana-Champaign, Urbana, IL

Procedures and methodology for determining the net energy content of feedstuffs.

C. M. Nyachoti, University of Manitoba, Winnipeg, MB, Canada

Procedures for determining digestible and metabolizable energy contents of feedstuffs.

O. Adeola, Department of Animal Sciences, Purdue University, West Lafayette, IN

Panel Discussion

ADSA Multidisciplinary and International Leadership Keynote (MILK) Symposium: Water: Consideration for the Future of Animal and Food Production and Processing

Chair: Barry Bradford, Kansas State University and Susan Duncan, Virginia Tech

Drought: Lessons to Learn in Agriculture.

R. Stillman, ERS, USDA, Washington, DC

Water Sources and Chemical Quality Considerations for Animal Production and Food Processing.

A. M. Dietrich, Virginia Tech, Blacksburg


Y. Wang, A. D. Henderson and O. Jolliet, Innovation Center for U.S. Dairy, Rosemont, IL; University of Texas, Houston, TX; University of Michigan, Ann Arbor, MI

Rethinking the dairy supply chain: Innovative opportunities for creating value, efficiency and sustainability.

R. T. Strolit, Cargill Dairy Enterprise Group, Windsor, CO

Water usage at cattle feedlots and the potential for water conservation.

K. D. Casey, J. M. Sweeten and R. Hagevoort, Texas A&M AgriLife Research, Amarillo, TX; New Mexico State University, Clovis, NM
Animal Behavior & Well-Being III

Chair: Peter D Krawczel, The University of Tennessee

2505A

2:00 PM 47 Breeding may simultaneously reduce pig aggressiveness at regrouping and in stable social groups but management may not.
S. P. Turner1, S. Desire1, R. B. D'Eath1, L. Canario2 and R. Roehl1, 1SRUC, Edinburgh, United Kingdom, 2INRA UMR1388, F-31326 Castanet-Tolosan, France

2:30 PM 48 Effect of concentrate feeder design on performance, animal behavior, and ruminal health in Holstein bulls fed high-concentrate diets.
M. Verdu1, A. Bach2 and M. Devant3, 1IRTA-Department Ruminant Production, Caldes Montblui-Barcelona, Spain, 2Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 3IRTA - Department of Ruminant Production, Caldes De Montbui, Spain

2:45 PM 49 Impact of using an electrified crowding gate on milk yield and milk flow.
I. Guasch1, A. Pinto2 and A. Bach3,4, 1Blanca, Hostalets de Tost, Spain, 2Department of Ruminant Production, IRTA, Barcelona, Spain, 3Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 4ICREA, Barcelona, Spain

3:00 PM 50 Using designer diets to reduce aggression in pregnant sows.
A. Sapkota1, J. N. Marchant-Forde2, B. T. Richert3 and D. C. Lay Jr.3, 1Purdue University, West Lafayette, IN, 2USDA-ARS, West Lafayette, IN, 3U.S. Dept of Agriculture, West Lafayette, IN

3:15 PM 51 Selection and Breeding for Improved Feed Efficiency Alters Gilt Behavioral Responsiveness to a Novel Object.
J. D. Colpoys1,2, N. K. Gabler3, C. E. Abell4, A. F. Keating5, S. T. Millman6, J. M. Siegford7 and A. K. Johnson7, 1Iowa State University, Ames, 2DNA Genetics, Columbus, NE, 3Michigan State University, East Lansing

Animal Health III: Periparturient and Lactation Health

Chair: Troy J. Wistuba, Prince Agri Products

2104A

2:00 PM 91 Milk Quality and Milk Components in Lactating Dairy Goats Fed OmniGen-AF® from Dry Off Through the Entire Lactation.
A. D. Rowson7, T. J. Boyle, D. J. McLean, S. A. Armstrong and S. B. Puntenney, Prince Agri Products, Inc, Quincy, IL

2:15 PM 92 Modulation of innate immune function and phenotype in bred dairy heifers during the periparturient period induced by feeding an immunostimulant 60 days prior to delivery.

2:30 PM 93 Restriction in energy or protein affects differentially behavior of lactating dairy cows.
V. Fischer1, E. Forgiarini Vizzotto1, F. Andrés Schmid1, D. Werncke1, A. Süssenbach de Abreu1 and A. Thaler Neto2, 1Universidad Federal do Rio Grande do Sul, Porto Alegre, Brazil, 2Universidade Estadual de Lages, Lages, Brazil

2:45 PM 94 Dynamics of Culling for Jersey, Holstein, and Crossbred Cows in Large Multi-breed Dairy Herds.
P. J. Pinedo1, A. M. Daniels2, J. Shumaker3 and A. De Vries3, 1Texas A&M AgriLife Research, Amarillo, TX, 2Circle H Headquarters LLC, Dalhart, TX, 3Magnolia Veterinary Services, Amarillo, TX, 4University of Florida, Gainesville

3:00 PM 95 Effect of an Organic Certified Treatment (Optimum Uterflush®) for Toxic Puerperal Metritis on Cure and Reproductive Performance of Dairy Cows.
P. J. Pinedo1, J. S. Velez2, H. Bothe2, D. Merchant1, J. M. Piñeiro3 and C. A. Risco4, 1Texas A&M AgriLife Research, Amarillo, TX, 2Aurora Organic Farms, Boulder, CO, 3Aurora Organic Dairy, Boulder, CO, 4College of Veterinary Medicine, University of Florida, Gainesville

3:15 PM 96 Effects of yeast product supplementation on immunity and uterine inflammation in transition dairy cows.
K. Yuan1, I. Mendonca1, L. Hulbert1, L. Mamedova1, M. Muckey1, Y. Shen1, C. C. Elrod2 and B. Bradford1, 1Kansas State University, Manhattan, 2Vi-COR, Inc., Mason City, IA

3:30 PM 97 Hyperketonemia in early lactation dairy cattle: component and total cost per case.
J. A. A. McArt1, D. V. Nydam2 and M. W. Overturf1, 1Colorado State University, Fort Collins, 2Cornell University, Department of Population Medicine and Diagnostic Sciences, Ithaca, NY, 3Elanco Animal Health - Dairy, Athens, GA

3:45 PM 98 The effects of grain-induced subacute ruminal acidosis on interleukin-6 and acute phase response in dairy cows.
S. C. Li1, A. M. Danscher2, P. H. Andersen3, E. Khatipour4, N. B. Kristensen5 and J. C. Plaizier6, 1Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 2Department of Large Animal Sciences, University of
ASAS Graduate Student Symposium: Research Ethics: What Are They and Why Are They Needed?

Chair: Casey L. Maxwell, Oklahoma State University
2102A

Breeding and Genetics: Applications and Methods in Animal Breeding - Livestock II

Chair: Richard Tait, USDA, ARS, U.S. Meat Animal Research Center
2505B

Chair: Greg Aldrich, Kansas State University

3501D

2:00 PM  Introductory Remarks

2:10 PM  Challenges In Training Companion Animal Biologists: Missing The Research Component, How To Overcome It?  
J. P. McNamara*, Washington State University, Pullman

L. Karr-Lilienthal*, University of Nebraska-Lincoln, Lincoln

3:10 PM  Break

3:25 PM  A circuitous route: Preparing for a career in the companion animal industry.  
A. K. Shoveller*, The University of Guelph, Guelph, ON, Canada

K. Koppel*, Kansas State University, Manhattan

4:25 PM  Round table discussion - all speakers.  
G. Aldrich*, Kansas State University, Manhattan

Dairy Foods Symposium: Dairy Foods Consumption, Gut Microbiota and Human Health

Chair: TBA

3501C

2:00 PM  Probiotics and health benefits with reference to synthesis of gamma-aminobutyric acid (GABA) by selected probiotic bacteria.  
N. Shah* and Q. Wu, The University of Hong Kong, Hong Kong, Hong Kong

2:30 PM  Gut microbiota, probiotics, bioactives (such as CLA, USFA), trans-fatty acids and their relationship to health.  
H. Gill*, RMIT University, Melbourne, Australia

3:00 PM  Overview of whey protein based bioactivities (including colostrum) in gut and health promotion.  
A. M. Pihlanto* and R. M. Tahvonen, MTT Agrifood Research Finland, Jokioinen, Finland

3:30 PM  Milk fat globule membrane components and gut health effects.  
R. Ward* and K. Hintze, Utah State University, Logan

4:00 PM  Human gut microbiota, diet and health.  
M. Lefevre*, N. Hergert and G. Rompato, Utah State University, Logan


Chair: Gordon Murdoch, University of Idaho

2503

2:00 PM  Welcome and Opening Remarks

2:10 PM  Proteomics in Fat Metabolism and Development  
L. Guan, University of Alberta

2:45 PM  Use of Proteomics for Livestock Improvement  
E. Huff-Lonergan, Iowa State University

3:20 PM  Use of Proteomics in Animal Health and Disease Research  
D. Eckersall, University of Glasgow

3:55 PM  Proteomics in Animal Science  
J. Lippolus, National Animal Disease Center
Nonruminant Nutrition: Fat, Fiber, Fermentation, and Residual Feed intake

Chair: Zach J Rambo, Purdue University

2:00 PM 463 Changing the Dietary Omega-6 to Omega-3 Fatty Acid Ratio Impacts Nursery Pig Performance More Than Increasing Omega-3 Intake Alone.
L. Eastwood and D. Beaulieu, Prairie Swine Centre, Inc., Saskatoon, SK, Canada

2:15 PM 464 The Dietary Omega-6 to Omega-3 Fatty Acid Ratio Impacts the Inflammatory Response in Nursery Pigs More Than Increasing Omega-3 Intake.
L. Eastwood and D. Beaulieu, Prairie Swine Centre, Inc., Saskatoon, SK, Canada

2:30 PM 465 Effect of fiber and fat on calculated values for standardized total tract digestibility of calcium in fish meal.
J. C. Gonzalez-Vega1, C. L. Walk2, and H. H. Stein1, 1University of Illinois, Urbana, 2AB Vista Feed Ingredients, Marlborough, United Kingdom, 3University of Illinois at Urbana-Champaign, Urbana, IL

2:45 PM 466 Response of pigs in ileal endogenous amino acid losses to different dietary fiber types determined using the regression method.
S. A. Adedokun and O. Adeola, Purdue University, West Lafayette, IN

3:00 PM 467 Starch and fiber characteristics of barley influence site of energy digestion in ileal-cannulated grower pigs.
J. M. Foulse1, S. Moehn2, J. Gao3, T. Vasanthan4, M. Izydorczyk5, A. D. Beattie2 and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, Canada, 2Canadian Grain Commission, Winnipeg, MB, Canada, 3University of Saskatchewan, Saskatoon, SK, Canada

3:15 PM 468 Effects of three types of dietary microalgal inclusions on n-3 and n-6 fatty acid profiles in egg yolks of laying hens.
J. Kim, A. Magnuson and X. Lei1, Cornell University, Ithaca, NY

3:30 PM Break

3:45 PM 469 Dose-dependent effect of a defatted green microalgal biomass on enriching omega-3 fatty acids in broiler chicken.
S. K. Gatrell1, J. Kim, T. J. Derksen, E. V. O'Neil and X. G. Lei, Cornell University, Ithaca, NY

4:00 PM 470 In Vitro Digestion and Fermentation Characteristics and In Vivo digestibility of Canola Co-Products in the Pigs.
T. A. Woyengo1, R. Jha2, E. Beltranena1 and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, Canada, 2University of Hawaii at Manoa, Honolulu, HI

4:15 PM 471 In vitro pig cecal fermentation with different inoculum source with diets content Acrocomia aculeata.
S. L. S. Cabral Filho1, L. S. Murata1, C. A. Silva Júnior2, H. dos Santos Sena2, F. Lopes da Silva2, F. Nishimoto Gomes da Costa1, T. F. Braga3 and J. F. Athayde Oliveira2, 1University of Brasilia, Brasilia, Brazil, 2Universidade de Brasilia, Brasilia, Brazil

4:30 PM 472 Residual feed intake in pigs is associated with organ weight, nutrient digestibility and intestinal nutrient transporter gene expression.
S. Vigors1, T. Sweeney2, A. K. Kelly1, C. J. O'Shea1, D. N. Doyle1 and J. V. O'Doherty1, 1School of Agriculture and Food Science, University of College Dublin, Dublin, Ireland, 2College of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland

4:45 PM 473 The effect of divergent selection for residual feed intake on cytokine gene expression in pigs following an ex vivo lipopolysaccharide challenge.
S. Vigors1, J. V. O'Doherty1, C. J. O'Shea1 and T. Sweeney2, 1School of Agriculture and Food Science, University of College Dublin, Dublin, Ireland, 2College of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland

Physiology and Endocrinology Symposium: Reproductive Success in Ruminants: A Complex Interaction Between Endocrine, Metabolic and Environmental factors

Chair: Kyle C. Caires, Berry College

2:00 PM 531 Recent advances in the hypothalamic control of reproduction.
I. Clarke1, Monash University, Clayton, Victoria 3800, Australia

2:35 PM 532 Influence of Stress on Male Reproductive Physiology.
T. H. Welsh, Jr.1, N. H. Ing2 and R. D. Randel1, 1Texas A&M University Department of Animal Science, College Station,
3:10 PM  533  Mechanisms linking infection and innate immunity in the female genital tract with infertility in dairy cattle.  
I. M. Sheldon*, Swansea University, Singleton Park, Swansea, United Kingdom

3:45 PM  534  Influences of Heat Stress and Uterine Diseases on Reproduction of Dairy Cows.  
J. E. P. Santos1*, E. S. Ribeiro1, E. Karakayan1, K. N. Galvão2*, F. S. Lima3*, Department of Animal Sciences, University of Florida, Gainesville, 1University of Florida, Gainesville, 2Department of Large Animal Clinical Sciences; University of Florida, Gainesville, 3Cornell University, Ithaca, NY

4:20 PM  535  Cellular and molecular mechanisms of heat stress related to bovine ovarian function.  
Z. Roth*, The Hebrew University of Jerusalem, Rehovot, Israel

Production, Management, and the Environment: Economics of different management practices

Chair: TBA  
2104B

2:00 PM  566  Effects of technology use in feedlot production systems on feedlot performance and carcass characteristics.  
C. L. Maxwell1, B. C. Bernhard1, C. F. O’Neill1, B. K. Wilson1, C. Hixon1, C. Haviland1, A. Grimes1, M. S. Calvo-Lorenzo1, D. L. VanOverbeke1, G. G. Maj1, C. J. Richards1, D. L. Step1, B. P. Holland2 and C. R. Krehbiel1, Oklahoma State University, Stillwater, 1Mercer Animal Health, DeSoto, KS

2:15 PM  567  The effects of technology use in feedlot production systems on the health status of finishing steers.  
B. C. Bernhard1, C. L. Maxwell1, C. F. O’Neill1, B. K. Wilson1, C. G. Hixon1, C. Haviland1, A. Grimes1, M. S. Calvo-Lorenzo1, C. J. Richards1, D. L. Step1, B. P. Holland2 and C. R. Krehbiel1, Oklahoma State University, Stillwater, 1Merck, Volga, SD

2:30 PM  568  Survey of BQA Cattle Handling Practices That Occurred During Processing Feedlot Cattle.  
R. Woiwode1 and T. Grandin, Colorado State University, Fort Collins

2:45 PM  569  The effects of technology use in feedlot production systems on cattle behavior and mobility.  
B. C. Bernhard1, C. L. Maxwell1, C. F. O’Neill1, B. K. Wilson1, C. G. Hixon1, C. Haviland1, A. Grimes1, M. S. Calvo-Lorenzo1, C. J. Richards1, D. L. Step1, B. P. Holland2 and C. R. Krehbiel1, Oklahoma State University, Stillwater, 1Merck, Volga, SD

3:00 PM  570  Predicting dry matter intake by growing and finishing beef cattle: Evaluation of current methods and equation development.  
U. Y. Anele1, E. M. Domby2 and M. L. Galyean1, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Cargill Animal Nutrition, Amarillo, TX, 3Texas Tech University, Lubbock

3:15 PM  571  Optimizing concurrently dairy farm profitability and environmental performance.  
D. Liang1, D. Lefevre2, 1University of Wisconsin-Madison, Madison, 2University of Wisconsin-Madison, Madison

3:30 PM  572  Economics of transition cow management of dairy herds.  
G. M. Schuennemann1 and K. N. Galvão2, Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, 1Department of Large Animal Clinical Sciences; University of Florida, Gainesville

3:45 PM  573  The impact of selected milking, feeding, and housing management systems on the profitability of traditional dairy herds.  
H. A. Delgado1*, R. I. Cue2, A. Sewalem3, R. Lacroix1, D. Lefevre1, E. Bouchard1, D. Haine6 and K. Wade1, McGill University, Sainte Anne de Bellevue, QC, Canada, 1McGill University, Department of Animal Science, Ste-Anne-de-Bellevue, QC, Canada, 1Agriculture and Agri-food Canada AAFC, Guelph, ON, Canada, 1Valacta, Ste-Anne-de-Bellevue, QC, Canada, 1Valacta, Ste-Anne de Bellevue, QC, Canada, 1University of Montreal, Saint-Hyacinthe, QC, Canada

4:00 PM  574  Grazing Alfalfa as an alternative to reduce production costs in intensive milk production systems.  
F. A. Kiwahara1, A. M. Pedrosa2, G. B. Souza3 and R. P. Ferreira1, 1UNESP/FMVZ, Botucatu, Brazil, 2EMBRAPA, São Carlos, Brazil

4:15 PM  575  Comparison of Productivity and Management Practices on Dairy Herd Improvement Association (DHIA) and Non-DHIA Herds in the United States.  

4:30 PM  576  Optimization of Reproductive Management Programs using Lift Chart Analysis and Cost-Sensitive Evaluation of Classification Errors.  
S. Shahinfar1, J. N. Guenther2, D. Page3, A. Samaia- Kalantari1, V. Cabrera4, P. M. Fricke3 and K. A. Weigel3, 1Department of Dairy Science University of Wisconsin, Madison, 2Department of Dairy Science, University of Wisconsin-Madison,
Ruminant Nutrition IX

Chair: TBA

2013A

E. Rollin1, and M. W. Overton2, 1University Of Georgia College of Veterinary Medicine, Athens, GA, 2Elanco Animal Health - Dairy, Athens, GA

2:00 PM 683 Effects of supplemental zinc, copper, and manganese concentration and source on performance and carcass characteristics of feedlot steers.
E. Caldera1, J. J. Wagner1, K. Sellins1, T. E. Engle1, S. B. Lauder2 and J. Spears3, 1Colorado State University, Fort Collins, 2Micronutrients, Indianapolis, IN, 3North Carolina State University, Raleigh, NC

2:15 PM 684 Decreasing Dietary Calcium to Potentiate Changes in Beef Tenderness with Zilpaterol Hydrochloride Supplementation.
C. L. Van Bibber-Krueger1, K. A. Miller and J. S. Drouillard, Kansas State University, Manhattan

2:30 PM 685 Optimizing phosphorus utilization by dairy cows.
J. C. Platzer1, K. H. Ominsni and E. J. McGeough, University of Manitoba, Winnipeg, MB, Canada

2:45 PM 686 Effect of supplementary copper source on copper status in growing beef heifers offered a diet naturally high in copper antagonists.
S. J. Whelan1, T. M. Boland1, V. P. Gath2, J. C. Jacquier3 and K. M. Pierce4, 1School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland, 2Veterinary School of Medicine, University College Dublin, Belfield, Dublin 4, Ireland

3:00 PM 687 Evaluation of liver mitochondrial oxygen consumption of lactating Holstein dairy cows supplemented with Cobalt, Copper, Manganese and Zinc in organic and inorganic forms.

3:15 PM 688 Cobalt-lactate inclusion in a high forage total mixed ration fed to late lactation dairy cows.
J. P. Pretz1, H. T. Purvis2, D. Davis2, B. Trautman3, J. L. Anderson4, K. F. Kalscheur5 and D. Casper6, 1South Dakota State University, Brookings, 2Ralo Nutrition, Marshall, MN

3:30 PM 689 Supplemental trace minerals (Zn, Cu, and Mn) as sulfates, organic amino acid complexes, or hydroxy trace mineral sources for shipping-stressed calves.
A. W. Ryan1, E. B. Kegley1, J. Hawley1, J. A. Hornsby1, J. L. Reynolds1 and S. B. Lauder2, 1Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, 2Micronutrients, Indianapolis, IN

3:45 PM 690 Effect of inorganic or organic selenium supplementation during gestation and lactation on cow and pre-weening calf performance.
C. R. Muegge1, K. M. Brennan2, R. P. Lemener3 and J. P. Schoonmaker4, 1Purdue University, West Lafayette, IN, 2Alltech Inc., Nicholasville, KY

4:00 PM 691 Effects of calf age at weaning on cow and calf performance and feed utilization in an intensive production system.
J. M. Warner1, K. H. Jenkins2, R. J. Rasby3, M. K. Luebbe4, G. E. Erickson1 and T. J. Klopfenstein5, 1University of Nebraska, Lincoln, 2University of Nebraska, Scottsbluff, NE, 3University of Nebraska-Lincoln, Lincoln

4:15 PM 692 Can treatments of barley grain with lactic and citric acid improve performance of male calves.
K. Rezayazadi1, M. Nemapatool2 and M. Dehghan Banadaky3, 1Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, 2University of Tehran, Karaj, Iran, 3Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran

4:30 PM 693 Starter crude protein concentrations on growth and intake of dairy calves.
S. A. McCullough1, B. Houiri2 and T. D. Nennich3, 1Purdue University, West Lafayette, IN, 2Homestead Dairy, Plymouth, IN

4:45 PM 694 Influence of dietary carbohydrate fractions on growth and development of prepubertal dairy heifers.
T. S. Dennis1, J. E. Tower, A. M. Mossman and T. D. Nennich, Purdue University, West Lafayette, IN
Ruminant Nutrition: The Glen Broderick Symposium – Improving Nitrogen Utilization in Dairy Cows
Chair: Antonio Faciola, University of Nevada
2103B

2:00 PM  695  Opening remarks and overall impact of Dr. Glen Broderick on research around the world.
         A. Faciola*, University of Nevada, Reno, NV
2:30 PM  696  Conundrums of Protein and Peptide Metabolism in the Rumen.
         R. J. Wallace*, Rowett Institute of Nutrition and Health, Aberdeen, United Kingdom
3:00 PM  697  Dr. Glen Broderick's contributions to in vivo quantification of ruminal nitrogen metabolism using the omasal
         sampling technique.
         P. Huhtanen*, Swedish University of Agricultural Sciences (SLU), Umea, Sweden
3:30 PM  698  Glen Broderick's contributions to improving in vitro methodologies for assessing ruminal microbial growth and
         ruminal protein degradation.
         P. Udén*, Swedish University of Agricultural Sciences, Uppsala, Sweden
4:00 PM  699  Dr. Glen Broderick's Contributions to Protein and Amino Acid Nutrition of the Dairy Cow.
         A. N. Hristov*, Department of Animal Science, The Pennsylvania State University, University Park
         M. A. Wattiaux* and P. M. Crump, University of Wisconsin-Madison, Madison

Small Ruminant Symposium: Sustainable Small Ruminant Production Strategies to Meet Global Demands
Chair: Roy Reid Redden, North Dakota State University
2102B

2:00 PM  735  Welcoming Remarks
2:05 PM  736  Pasture Development and Sustainable Grazing Management.
         S. P. Hari*, American Institute for Goat Research, Langston University, Langston, OK
2:25 PM  737  Internal parasite anthelmintic resistance and control.
         J. E. Miller*, Louisiana State University, Baton Rouge
2:45 PM  738  Genetic selection for enhanced production efficiency.
         D. F. Waldron*, Texas A&M AgriLife Research, San Angelo, TX
3:05 PM  739  Efficiency of Small Ruminant Reproductive Management.
         M. Knights*, West Virginia University, Morgantown, WV
3:40 PM  740  Managerial Steps to Alleviate the Effects of Heat Stress, Water Deprivation and Low Pasture Quality in Small
         Ruminants.
         P. Y. Aud1,2 and S. Abi Saab1,1 Notre Dame University, Zouk Mosbeh, Lebanon, 2Lebanese University, Faculty of
         Agricultural Sciences, Dekwaneh, Lebanon
4:00 PM  741  Global Demand for Small Ruminant Products.
         G. W. Williams* and D. Anderson, Texas A&M University, College Station
4:20 PM  742  Panel Discussion
Swine Species: Nutrition

Chair: TBA
3501B

2:00 PM 752  Apparent and standardized ileal amino acids digestibility for different protein feedstuffs fed at two dietary protein levels for growing pigs.
A. O. Adebiyi1, D. Ragland2, L. Adeola2 and O. A. Olukosi1,1 Scotland’s Rural College, Ayr, United Kingdom, 2Purdue University, West Lafayette, IN

2:15 PM 753  Effects of high levels of nicotinic acid on growth, carcass traits, and meat quality of finishing pigs.
J. R. Flohr1, J. M. DeRouchey1, J. C. Woodworth1, M. D. Tokach1, S. S. Dritz2, R. D. Goodband1, T. A. Houser1, C. A. Fedler2 and K. J. Prusa2,1 Kansas State University, Manhattan, 2Iowa State University, Ames

2:30 PM 754  Effects of sugar beet pulp and expansion on performances of lactating sows and nursery piglets.
Z. Cheng1, D. Yuan, D. Hou, Y. Chen, H. Zhang, Y. Wang, W. Jin, B. Wang, H. Lei, Q. Li, S. Jiang, S. Bai and Z. Zhang, Animal Nutrition & Feed Center, COFCO Nutrition and Health Institute, Beijing, China

2:45 PM 755  The evaluation of narasin in grow-finish swine diets.
L. Greiner1, R. Barrett1, A. Graham1 and J. Connor1,1 Carthage Innovative Swine Solutions, Carthage, IL, 2Carthage Veterinary Service, Ltd, Carthage, IL

3:00 PM 756  Replacement value of maize offal in diets of weaned pigs supplemented with chicken offal meal.
A. O. K. Adesehinwa1, E. O. Akinfala1 and O. O. Adee1,1 Institute of Agricultural Research &Training, Obafemi Awolowo University, Ibadan, Nigeria, 2Department of Animal Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria, 3Federal University of Agriculture, Abeokuta, Nigeria

3:15 PM 757  The effects of standardized ileal digestible lysine level with or without tribasic copper chloride on growth performance, carcass characteristics, and fat quality in finishing pigs.
K. F. Coble1, S. S. Dritz2, J. L. Usry1, J. E. Nemechek1, M. D. Tokach1, J. M. DeRouchey1, R. D. Goodband1, J. C. Woodworth1 and G. M. Hill1,1 Kansas State University, Manhattan, 2Micronutrients, Social Circle, GA, 3Michigan State University, East Lansing

3:30 PM 758  Effects of hard red winter wheat particle size on finishing pig growth performance and caloric efficiency.
J. A. De Jong1, J. M. DeRouchey, M. D. Tokach, R. D. Goodband and S. S. Dritz, Kansas State University, Manhattan

3:45 PM 759  The effects of dietary zinc oxide and chlortetracycline on nursery pig growth performance.

4:00 PM 760  Efficacy of Biomin® BBSH 797 to biotransform deoxynivalenol to the metabolite de-epoxy-deoxynivalenol in serum of pigs.
S. Schaumberger1,1 and U. Hofstetter2,1 BIOMIN Holding GmbH, Herzogenburg, Austria, 2Biomin Holding GmbH, Herzogenburg, Austria

4:15 PM 761  The effect of superdosing phytase on inositol and phytate concentration in the gastrointestinal tract and its effect on pig performance.
P. Wilcock1, C. L. Bradley1,1, J. J. Chewning2 and C. L. Walk1,1 AB Vista Feed Ingredients, Marlborough, United Kingdom, 2Swine Research Services, Inc., Springdale, AR
Thursday, July 24, 2014

SYMPOSIA AND ORAL SESSIONS

Animal Behavior & Well-Being IV

Chair: Amy L Stanton, University of Wisconsin-Madison

3501B

8:30 AM  52  Sprinkler flow rate affects dairy cattle physiological and behavioral responses.
J. M. Chen1, K. E. Schütz1 and C. B. Tucker1, 1University of California, Davis, CA, 2AgResearch, Hamilton, New Zealand

8:45 AM  53  Short-term increases in stocking density did not alter feeding behavior of lactating Holstein dairy cattle.
R. A. Black1, R. J. Grant2 and P. D. Krawczenz3, 1University of Tennessee, Knoxville, “William H. Miner Agricultural Research Institute, Chazy, NY

9:00 AM  54  Evaluation of prepartum lying behavior as an indicator of health disorders in transition dairy cows.
K. Lobeck-Luchterhand1, P. Basso Silva1, R. C. Chebel2 and M. I. Endres1, 1University of Minnesota, Saint Paul, 2Dep. Veterinary Population Medicine, University of Minnesota, St. Paul

9:15 AM  55  Effect of stocking density on social and feeding behavior of prepartum dairy cows.
K. Lobeck-Luchterhand1, P. Basso Silva1, R. C. Chebel2 and M. I. Endres1, 1University of Minnesota, Saint Paul, 2Dep. Veterinary Population Medicine, University of Minnesota, St. Paul

9:30 AM  56  Using prepartum feeding behavior to identify dairy cows at risk for transition health disorders.
K. Lobeck-Luchterhand1, P. Basso Silva1, R. C. Chebel2 and M. I. Endres1, 1University of Minnesota, Saint Paul, 2Dep. Veterinary Population Medicine, University of Minnesota, St. Paul

9:45 AM  57  Eating and Drinking Behavior Prediction by use of Tri-Axial Accelerometers in Dairy Cattle.
K. J. Haerr1 and F. C. Cardoso, University of Illinois, Urbana

10:00 AM  58  Herding Cows with a Robot: The Behavioral Response of Dairy Cows to an Unmanned Ground Vehicle.
C. E. Clark, S. C. Garcia1, K. L. Ker2, J. P. Underwood, J. I. Nieto, M. S. Calleija, S. Sukkarieh and G. M. Cronin, University of Sydney, Sydney, Australia

10:15 AM  59  Responses to rectal and uterine palpation for assessment of visceral pain associated with metritis in dairy cows.
J. Stojkov1, D. M. Weary2 and M. A. G. von Keyserlingk3, 1Animal Welfare Program, Faculty of Land and Food Systems, The University of British Columbia, Vancouver, BC, Canada, 2University of British Columbia, Vancouver, BC, Canada

ASAS Cell Biology Symposium: Long-Term Consequences of Maternal and Neonatal Nutrition for Pregnancy and Postnatal Outcomes

Chair: Lawrence P. Reynolds, North Dakota State University

2502

8:30 AM  106  Lactocrine programming of postnatal reproductive tract development.
F. F. Bartol1 and C. A. Bagnell2, 1Auburn University, Auburn University, AL, 2Rutgers University, New Brunswick, NJ

D. G. Burrin1 and B. Stolf2, 1USDA-ARS Children's Nutrition Research Center, Houston, TX, 2Baylor College of Medicine, Houston, TX

10:20 AM  108  The epigenetic landscape of the beta-cell in IUGR rats.
S. Pinney and R. A. Simmons1, Perelman School of Medicine, University of Pennsylvania, Philadelphia

Breeding and Genetics: Applications and Methods - Molecular Biology

Chair: Alan G Fahey, School of Agriculture and Food Science, University College Dublin

2501A

8:30 AM  174  Variation in Toll-like Receptor Genes and Susceptibility to Clinical Mastitis in Holstein cows.
C. M. Seabury1, K. N. Galvao1, K. Lager2 and P. J. Pinedo3, 1Department of Veterinary Pathobiology, College of Veterinary Medicine & Biomedical Sciences, Texas A&M University System, College Station, TX, 2Department of Large Animal Clinical Sciences and D. H. Barron Reproductive and Perinatal Biology Research Program, College of Veterinary
8:45 AM 175 Experimental Intramammary Challenge with Staphylococcus chromogenes in Dairy Heifers with Specific CXCR1 Genotypes.
J. Verbeke*, K. Piccart, S. Piepers, M. Van Poucke, L. Peelman and S. De Vliegher, Ghent University, Ghent, Belgium

9:00 AM 176 Association of CXCR1 Gene Polymorphisms with Incidence Rate of Clinical Mastitis, Somatic Cell Count and Milk Production in Dairy Cattle.
J. Verbeke*, M. Van Poucke, L. Peelman, S. Piepers and S. De Vliegher, Ghent University, Ghent, Belgium

9:15 AM 177 Calpastatin and μ-calpain differ in their control of genotype specific residual variance of beef tenderness in Angus and MARC III steers.
R. G. Tait, Jr1, S. D. Shackleford2, T. L. Wheeler2, D. A. King2, E. Casas1,4, T. P. L. Smith1 and G. L. Bennett1, 1USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 2USDA/ARS, Clay Center, NE, 3USDA. ARS, National Animal Disease Center, Ames, IA, 4USDA, ARS, National Animal Disease Center, Ames, IA

9:30 AM 178 Investigation of polymorphisms at the MUC4, MUC13, MUC20 and TFRC candidate genes for F4ab/ac resistance in South African pig populations.
N. S. Chaora*, Agricultural Research Council, Pretoria, South Africa

9:45 AM 179 Buffalo and cattle sequence diversity and molecular evolution.
M. Moaeen-ud-Din* and G. Bilal, PMAS-Arid Agriculture University, Rawalpindi, Pakistan

EAAP Equine Symposium: Know-how and future challenges for developing the horse sector in Europe: the activity of the EAAP Horse Commission
Chair: Nicoletta Miraglia, Molise University

3501C

8:30 AM 281 Recent aspects in stallion sperm preservation for Artificial Insemination.
M. Magistrini*, INRA, Nouzilly, France

9:00 AM 282 The growth of social sciences in equine research: essential to create new understandings of the horse industry's growth and evolution.
C. Via1 and R. Evans1,2, INRA Montpellier, Montpellier, France, 1Norwegian University College of Agriculture and Rural Development, Jaeren, Norway

9:45 AM 283 Equids contribution to sustainable development in Europe: modern aspects and transfer of knowledge.
N. Miraglia*, Molise University, Campobasso, Italy

10:30 AM 284 Genomic research in horses in Europe.
K. Stock*, Vereinte Informationssysteme Tierhaltung, Verden, Germany

11:15 AM Concluding Remarks

Nonruminant Nutrition: Feed Additives, Enzymes, and Dietary Supplements
Chair: Kari L. Saddoris-Clemons, Boehringer Ingelheim Vetmedica

2503

8:30 AM 474 Effects of a blend of essential oil compounds, feed-grade antibiotics, and their combination on the growth performance of nursery pigs.
M. J. Azain1,2, R. Dove1, C. W. Parks2 and J. R. Bergstrom2, 1University of Georgia, Athens, 2DSM Nutritional Products, Inc., Parsippany, NJ

8:45 AM 475 Impact of zinc and arginine dietary supplements on antioxidant capacity and oxidative status in weanling piglets under conditions of commercial production.
F. Guay3 and N. Bergeron1,2, 1Univessite Laval, Quebec, Quebec City, QC, Canada, 2Univessite Laval, Quebec City, QC, Canada

9:00 AM 476 Effect of a 6-Phytase derived From Buttiauxella spp. expressed in Trichoderma reesei on Apparent Total Tract Digestibility of Ca and P, Bone Ash and Growth Performance in Weaning Piglets.
A. L. Wealleans1, Y. Dersjant-Li1, R. M. Bold1 and H. H. Stein1, 1Danisco Animal Nutrition, DuPont Industrial Biosciences., Marlborough, United Kingdom, 2Danisco Animal Nutrition, DuPont Industrial Biosciences, Marlborough, United Kingdom, University of Illinois at Urbana-Champaign, Urbana, IL
9:15 AM 477 Effect of supplementation of non-starch polysaccharide-degrading enzymes on nutrient digestibility of wheat and wheat millrun based diets in growing pigs.
Z. Nasir1, J. Broz2, D. Pettersson3 and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, Canada, 2DSM Nutritional Products, Basel, Switzerland, 3Novozymes, Bagsvaerd, Denmark

9:30 AM 478 Efficacy of novel 6-phytase derived from Butiauxella spp. expressed in Trichoderma reesei on ileal and total tract nutrient digestibility in growing pigs fed a corn-soy based diet.
D. E Velayudhan1, J. M Heo1, Y. Dersjant-Li2, A. Owusu-Asiedu2 and C. M. Nyachoti1, 1University of Manitoba, Winnipeg, MB, Canada, 2Danisco Animal Nutrition, DuPont Industrial Biosciences, Marlborough, United Kingdom, 3DuPont Industrial Biosciences - Danisco Animal Nutrition, Marlborough, Wiltshire, United Kingdom

9:45 AM 479 Nutrient Digestibility of Growing Pigs Fed Phytase- and Xylanase-Supplemented Wheat-Based Diets with Low, Medium or High Lysine Level.
T. A. Woyengo1, A. Owusu-Asiedu2 and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, Canada, 2DuPont Industrial Biosciences - Danisco Animal Nutrition, Marlborough, Wiltshire, United Kingdom

10:00 AM Break

10:15 AM 480 The effects of β-mannanase (Hemicell® HT) supplementation to nursery pig diets on nutrient digestibility and retention.
C. Vonderohe1, A. M. Jones1, B. T. Richert1, J. E. Ferrel2, P. D. Matzal2 and J. S. Radcliffe1, 1Purdue University, West Lafayette, IN, 2Elanco Animal Health, Greenfield, IN

10:30 AM 481 Nucleotide supplementation in the diet of farrowing sows and its effect on milk quality, litter weight gain, and mortality.
L. A. Vitagliano1, M. A. Bonato2, R. L. D. C. Barbalho2, G. D. Santos2 and L. F. Araújo1, 1Universidade de São Paulo, Pirassununga, Brazil, 2ICC Brazil, São Paulo, Brazil

10:45 AM 482 Evaluation of the efficacy of Bacillus licheniformis or sodium butyrate in front of a Salmonella Typhimurium oral challenge in piglets.
E. Barba-Vidal1, L. Castillejos2, V. F. Buttow Roll3, J. J. Mallo4 and S. Martin-Orue1, 1Animal Nutrition and Welfare Service Department of Animal and Food Sciences Universitat Autònoma de Barcelona, Bellaterra 08193, Spain, 2Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain, 3Department of Animal Science, Faculty of Agronomy Eliseu Maciel, Federal University of Pelotas, Pelotas, Brazil, 4Norel S.A., Madrid, Spain

11:00 AM 483 Effects of dietary supplementation of direct fed microbial on growth performance, nutrient digestibility, blood profiles, fecal microflora and noxious gas emission in nursery pigs.
J. H. Cho1, E. Kiarse2, S. Indrakumar3 and I. H. Kim3, 1Department of Animal Science, Dankook University, Cheonan, South Korea, 2DuPont Industrial Bioscience - Danisco Animal Nutrition, Waukesha, WI

11:15 AM 484 Tributyrin, a Source of Butyric Acid, Modulates the Intestinal Health of Weaning Pigs.
B. Tugnoli, M. Bertocchi, A. Piva, G. Sarli and E. Grilli3, DIMEVET University of Bologna, Ozzano Emilia BO, Italy

11:30 AM 485 Effects of salmonella inhibitors on growth performance, relative organ weight, meat quality, salmonella populations, fecal gas emission, and blood profiles in broilers.
A. Hosseindoust1, H. L. Li and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

Physiology and Endocrinology: Advances in Estrous Synchronization
Chair: G. C. Lamb, University of Florida
2505B

8:30 AM 536 Detrimental Effect of Long Term Progestin-based Protocol on Oocyte Quality and Embryonic Development in Indigenous Goats.
C. Navanukraw1, A. Kraissoon2, J. Thammasiri3, V. Khansuthaeng3 and S. Navanukraw2, 1Khon Kaen University, Khon Kaen, Thailand, 2Department of Animal Science, Khon Kaen University, Khon Kaen, Thailand

8:45 AM 537 Exogenous insulin effect on reproductive traits during a Heatsynch protocol in dairy cows.
C. C. Braunese1, M. E. Lima2, D. A. Velasco Acosta2, L. F. Mielke2, V. O. Freitas2, E. G. Xavier1, A. Schneider1, F. B. Del Pino1, V. R. Rabassa1 and M. Nunes Corrêa1, 1Federal University of Pelotas, Pelotas, Brazil, 2Universidade Federal de Pelotas, Pelotas, Brazil, 3Granjas 4 irmãos, Rio Grande, Brazil

9:00 AM 538 Effects of administration of prostaglandin F2a (PGF) at initiation of the 7-day CO-Synch+CIDR estrus synchronization protocol for suckled beef cows.
9:15 AM 539  
**Split-time AI: Delayed insemination of non-estrus beef heifers in timed artificial insemination following the 14-d CIDR-PG protocol.**

J. M. Thomas\(^1\), M. R. Ellersiek\(^1\), S. E. Poock\(^2\), M. F. Smith\(^1\) and D. J. Patterson\(^1\), \(^1\)University of Missouri, Columbia, \(^2\)University of Missouri-College of Veterinary Medicine, Columbia, MO

9:30 AM 540  
**Split-time AI: Delayed insemination of non-estrus beef cows in timed artificial insemination following the 7-d CO-Synch + CIDR protocol.**

J. M. Thomas\(^1\), M. R. Ellersiek\(^1\), S. E. Poock\(^2\), M. F. Smith\(^1\) and D. J. Patterson\(^1\), \(^1\)University of Missouri, Columbia, \(^2\)University of Missouri-College of Veterinary Medicine, Columbia, MO

9:45 AM 541  
**Effect of double ovulation on corpus luteum blood perfusion, peripheral progesterone, and hepatic steroid inactivating enzymes in dairy cattle.**

B. E. Voels\(^1\), C. G. Hart, G. F. Cline, C. O. Lemley and J. E. Larson, Mississippi State University, Mississippi State

10:00 AM 542  
**A novel procedure using a gonadotropin-releasing hormone agonist to increase pregnancy rates in lactating dairy cattle.**

A. Willmore\(^a\), C. Hammons\(^b\), J. Peak\(^b\), T. M. Net\(^b\) and T. L. Davis Dávila-Ramos\(^b\), \(^a\)University of Idaho, Moscow; \(^b\)Colorado State University, Fort Collins

10:15 AM 543  
**Effect of an automated estrous detection system during a timed AI program on first postpartum AI.**

T. A. Burnett\(^1\), A. M. L. Madureira, B. F. Silper, A. C. C. Fernandes and R. L. A. Cerri, Faculty of Land and Food Systems - University of British Columbia, Vancouver, BC, Canada

10:30 AM 544  
**Effects of progesterone supplementation on reproductive responses in dairy cows subjected to timed AI programs: a meta-analysis.**

R. S. Bisinotto\(^a\), N. Martinez, L. D. P. Sinedino, G. C. Gomes, L. F. Greco, W. W. Thatcher and J. E. P. Santos, Department of Animal Sciences, University of Florida, Gainesville

10:45 AM 545  
**Regimens of progesterone supplementation for lactating dairy cows according to the presence of corpora lutea (CL) at the initiation of the timed AI program.**


11:00 AM 546  
**The Effect of Preovulatory Concentration of Estradiol and Length of Proestrus on Pregnancy Rate to Timed-AI and Embryo Transfer in Beef Cows.**

L. H. Cruppe\(^1\), R. S. Cipriano\(^2\), F. M. Abreu\(^2\), M. L. Massard\(^3\), K. J. Wells\(^1\), G. E. Fogle\(^1\), B. R. Harstine\(^1\), M. D. Utt\(^1\), G. A. Bridges\(^4\) and M. L. Day\(^5\), \(^1\)The Ohio State University, Columbus, \(^2\)UniSallesiano, Araçatuba, Brazil, \(^3\)Select Sires Inc, Plain City, OH, \(^4\)University of Minnesota, Grand Rapids, MN

### Production, Management, and the Environment: Effects of Temperature on Performance

**Chair: TBA**

#### 3501D

8:30 AM 578  
**Urine metabolomics of heat-stressed dairy goats supplemented with soybean oil.**

A. Salama\(^1\), N. Nayim\(^1\), A. Contreras-Jodar\(^1\), S. Hamzaoui\(^1\) and G. Caja\(^1\), \(^1\)Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain, \(^2\)Animal Production Research Institute, Dokki, Giza, Egypt, \(^3\)Department of Animal Science, Faculty of Agriculture, University Putra Malaysia, 43400 UPM, Serdang, Malaysia

8:45 AM 579  
**Bovine Core Body and Scrotal Temperature Measured Using Surgically Implanted Temperature Sensitive Radio-transmitters, IButtons and Infrared Thermography.**

A. Wallage\(^1\), J. B. Gaughan\(^1\), A. Lisle\(^1\), L. Beard\(^1\), A. J. Cawdell-Smith\(^1\), C. W. Collins\(^1\) and S. Johnston\(^1\), \(^1\)The University of Queensland, Gatton, Australia, \(^2\)University of Queensland, St Lucia, Australia

9:00 AM 580  
**Rumen temperature of Brahman, Angus and Charolais steers with and without access to shade.**

A. M. Lees\(^1\), J. B. Gaughan, M. L. Sullivan, J. C. Lees and A. Lisle, The University of Queensland, Gatton, Australia

9:15 AM 581  
**The effect of shade on vaginal temperature of cows housed outside under subtropical summer conditions.**

J. C. Lees\(^1\), J. B. Gaughan, A. M. Lees and M. L. Sullivan, The University of Queensland, Gatton, Australia
Differences in panting score and shade usage between Brahman, Angus and Charolais steers with and without access to shade during summer.

Correlation between mean panting score and temperature humidity index in lactating dairy cows in a sub-tropical summer.
M. L. Sullivan*, J. B. Gaughan, N. Son, J. Lees and A. M. Lees, The University of Queensland, Gatton, Australia

Correlation between milk production, days in milk and temperature humidity index in lactating dairy cows in a sub-tropical summer.
M. L. Sullivan*, J. B. Gaughan, N. Son, J. Lees and A. M. Lees, The University of Queensland, Gatton, Australia

Effects of metabolizable energy intake on tympanic temperature and ADG of steers finished in southern Chile during wintertime.
R. A. Arias*,†, T. Brown-Brandt‡ and T. L. Mader*,¹ Universidad Católica de Temuco. Núcleo de Investigación en Producción Animal, Temuco, Chile, ²ARS-USDA, Clay Center, NE, ³Mader Consulting, LLC, Gretna, NE

Conductive cooling as an alternative to cool down dairy cows.
X. A. Ortiz*,†, J. F. Smith†, F. Rojano‡, C. Y. Choi‡, J. Bruer‡, T. Steele‡, N. Schuring§, J. D. Allen* and R. J. Collier*, ¹University of Arizona, Tucson, ²University of Wisconsin-Madison, Madison, ³Conco Technology Inc., Phoenix, AZ, ⁴GEA Farm Technologies, Naperville, IL, ⁵Northwest Missouri State, Maryville, MO, ⁶The University of Arizona, Tucson

Comparison of winter feeding systems for the evaluation of beef cow performance, reproductive efficiency and system costs.
D. Jose*, G. B. Penner*, J. J. McKinnon*, K. Larson* and B. Lardner†*,² University of Saskatchewan, Saskatoon, SK, Canada, ³Western Beef Development Centre, Humboldt, SK, Canada

Effect of two winter housing systems on production, body weight, somatic cell count, BCS, and dry matter intake of organic dairy cows.
L. S. Sjostrand*, B. J. Heins*, M. I. Endres†, R. D. Moon* and U. S. Sorge*,¹ University of Minnesota, West Central Research and Outreach Center, Morris, MN, ²University of Minnesota West Central Research and Outreach Center, Morris, MN, ³University of Minnesota, Saint Paul, ⁴University of Minnesota, Department of Veterinary Population Medicine, St. Paul, MN

Ruminant Nutrition X

Chair: TBA
2505A

Evaluation of 2013 Survey of Beef Producers in Nebraska.
M. Jones*, University of Nebraska-Lincoln, Lincoln

Meta-analysis of concentrate supplement effects on voluntary intake in high and low quality pastures.
J. R. R. Dórea* and F. A. P. Santos†*,¹ University of Sao Paulo, Piracicaba, Brazil, ²University of Sao Paulo, Piracicaba, Brazil

Determining the preference and in situ digestibility of a microalgae co-product for beef cattle.
M. L. Van Emon*, S. L. Hansen and D. D. Loy, Iowa State University, Ames

D digestibility of traditional and Adding Cellulosic Ethanol wet distillers grains in finishing lambs.
E. L. Lundy*, M. L. Van Emon, D. D. Loy and S. L. Hansen, Iowa State University, Ames

Effect of sugarcane fiber digestibility and mode of conservation on intake and ruminal short chain fatty acids of growing steers.
D. Sousa*, B. Mesquita†, J. Diniz-Magalhães†, F. Rodriguez‡, I. Bueno† and L. F. P. Silva†,¹ University of São Paulo, Pirassununga, Brazil, ²University of São Paulo, Pirassununga, Brazil

Evaluation of a mixture of crude glycerol and molasses as an energy supplement for beef cattle consuming bermudagrass hay.

The effects of dietary energy density and intake restriction on apparent maintenance energy requirements of beef cows.
L. A. Trubenbach*, T. A. Wickersham and J. E. Sawyer, Texas A&M University, College Station

Comparison of the effects of pectin and starch on the rumen fermentation, growth performance and microbial populations in sheep.
Effect of dietary starch at similar energy intake during backgrounding on subsequent finishing performance and carcass characteristics in beef cattle: a meta-analysis.

P. A. Lancaster¹, C. R. Krehbiel and G. W. Horn, Oklahoma State University, Stillwater

Evaluation of MegaFerm Fiber to enhance ruminal fermentation and nutrient digestibility of a total mixed ration using an in vitro gas production measurement system.

D. Casper¹, J. P. Acharya² and D. Miller³, South Dakota State University, Brookings, ²Miller-Casper Life Sciences, Brookings, SD

Application of fecal nirs profiling to predict diet characteristics and voluntary intake in beef cattle.

J. R. Johnson¹, G. E. Carstens¹, S. D. Prince², K. H. Ominski³, K. M. Wittenberg³, M. Undi⁴, J. A. Basarab⁵, T. D. Forbes⁶, A. N. Hafla⁷ and D. R. Tolleson⁸, ¹Texas A&M University, College Station, ²Texas A&M AgriLife Research, Temple, TX, ³University of Manitoba, Winnipeg, MB, Canada, ⁴Alberta Agriculture and Rural Development, Lacombe, AB, Canada, ⁵Texas A&M AgriLife Research, Uvalde, TX, ⁶USDA-Agricultural Research Service, University Park, PA, ⁷University of Arizona, Camp Verde, AZ

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Ruminant Nutrition XI

Chair: TBA

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A comparison between propylene glycol and a multiple component drench on energetic variables in early lactating Holstein cows.

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A comparative analysis of metabolomics and transcriptomics from prepartal liver of cows developing ketosis postpartum and healthy cows supplemented with Smartamine M and MetaSmart during the transition period.

K. Shahzad¹, J. S. Osorio¹, D. N. Luchini¹ and J. J. Loor¹, ¹University of Illinois, Urbana-Champaign, ²University of Illinois, Champaign, IL, ³Adisso S.A.S., Alpharetta, GA

The effect of subacute ruminal acidosis on milk fat synthesis and relative expression of key lipogenic enzyme genes in liver tissue in dairy cows.

Y. Guo¹,², S. L. Li¹, Z. J. Cao¹, X. Xu¹ and Y. Zou¹, ¹State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China, ²Shijiazhuang Academy of Agriculture and Forestry Science, Shijiazhuang, China

Effect of 2-hydroxy-4-(methylthio)butanoate (HMTBa) on risk of diet-induced milk fat depression.

M. Baldin¹, J. Y. Ying¹, G. I. Zanton¹ and K. J. Harvatine¹, ¹Penn State University, University Park, ²Novus International, Inc., St. Charles, MO

Time-course of changes in select ruminal microbes during induction and recovery from diet-induced milk fat depression in dairy cows.

D. E. Rico¹, S. H. Preston and K. J. Harvatine, Penn State University, University Park

The effect of length of adaptation to a high grain diet and acidosis challenge and recovery on rumen papillae mRNA expression of genes relating to barrier function, inflammation and short-chain fatty acid transport in beef heifers.

K. M. Wood¹,², T. Schweiger¹, J. C. Plazier¹, K. A. Beauchemin¹ and G. B. Penner¹, ¹University of Saskatchewan, Saskatoon, SK, Canada, ²University of Manitoba, Winnipeg, MB, Canada, ³Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Induction of Subacute Ruminal Acidosis Affects the Rumen Microbiome.

J. C. McCann¹, S. A. Alqarni, S. Luan, P. Cardoso and J. J. Loor, University of Illinois, Urbana

Effects of feeding a negative DCAD diet prepartum for varied lengths of time on serum metabolites and performance.

Z. Wu¹, J. K. Bernard¹, K. P. Zanzalari² and J. D. Chapman¹, ¹University of Georgia, Tifton, GA, ²Prince Agri Products, Inc., Franklin, IN, ³Prince Agri Products, Inc., Quincy, IL

Effect of Pre-calving Dietary Cation Anion Difference on Milk Production: A Meta-analysis.

I. J. Lean¹, R. Rodney¹, P. J. DeGaris¹, D. M. McNeill² and E. Block³, ¹SBScibus, Camden, Australia, ²Tarwin Veterinary Group, Leongatha, Australia, ³University of Queensland, Gatton, Australia, ⁴Church and Dwight Animal Nutrition, Ewing, NJ
Evaluation of choline metabolites in milk as potential biomarkers for choline absorption in the lactating dairy cow.
V. M. Artegoitia*1, C. L. Girard2, H. Lapierre2, S. R. Campagna1, F. Harte1 and M. J. de Veth1,2,1University of Tennessee, Knoxville, 2Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 3Balchem Corporation, New Hampton, NY

Association of plasma ghrelin concentrations with feed intake in beef cattle.
A. P. Foote1,2, K. E. Hales3, C. A. Lents3 and H. C. Freetly4, 1USDA, ARS, US Meat Animal Research Center, Clay Center, NE, 2USDA-ARS-MARC, Clay Center, NE, 3USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE, 4USDA, ARS, US MARC, Clay Center, NE

Effects of ruminal dose of sucrose, lactose and starch on ruminal fermentation and expression of genes in ruminal epithelial cells.
M. Oba*, J. Mewis and Z. Zhu, University of Alberta, Edmonton, AB, Canada

Workshops: Crafting USAID's Livestock Research Agenda – Animal Science Priorities Under Feed The Future
Chair: Saharah Moon Chapotin, U.S. Agency for International Development

Feed the Future Research Strategy and USAID’s global livestock investments.

Nutritional Value of Animal Source Foods.
L. Iannoti*, Institute for Public Health, Washington University, St. Louis, MO

Research Needs for Inclusive Livestock Markets in Developing Countries.
J. Yazman*, U.S. Agency for International Development, Washington, DC

The indispensable role of mixed small holder systems in global food and nutritional security.
J. Smith*, International Livestock Research Institute, Washington, DC

Africa Livestock Futures and One Health.
D. Carroll*, U.S. Agency for International Development, Washington, DC

The Role of New Technologies in Increasing Livestock Production.
D. Nkrumah*, Bill and Melinda Gates Foundation, Seattle, WA

Panel Discussion and Audience Q&A