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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Sunday, July 20, 2014

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 Boi, 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 774 Utilizing ‘omic’ techniques to understand energy balance in the lactating dairy cow.
J. R. Roche¹, C. V. Phyn², T. M. Grala², C. G. Walker², M. A. Crookenden², S. Meier¹, J. K. Kay¹ and J. J. Loor², ¹DairyNZ, Hamilton, New Zealand, ²DairyNZ, Auckland, New Zealand, ³University of Illinois, Urbana

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

10:10 AM Break

10:30 AM 776 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 777 Nutrigenomics in dairy cows.
M. Bionaz¹ and J. J. Loor², ¹Oregon state University, Corvallis, ²University of Illinois, Urbana

12:00 PM Lunch Break

1:30 PM 778 Systems biology and the role of nutrition in coordinating adaptations to lactation.
J. J. Loor¹ and M. Bionaz, ¹University of Illinois, Urbana, ²Oregon state University, Corvallis

2:15 PM 779 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 780 Nutritional effects on immunology and inflammation in dairy cattle.
E. Trevisi¹, 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.
M. Olsen1, J. Laporta, A. P. Prichard, S. A. E. Moore, B. P. Schnell, S. R. Weaver, C. R. Cronick and L. L. Hernandez, University of Wisconsin-Madison, Madison

788 M002 Inhibitory Factors Of Casein Synthesis In Mammary Tissue Of Lactating Dairy Cows.
R. L. Garnett1, A. Felock1, W. K. Ray1, R. F. Helm1, S. I. Arriola Apelo1 and M. D. Hanigan2, 1Virginia Tech, Blacksburg, 2Virginia Polytechnic Institute and State University, Blacksburg

789 M003 Health of Holstein Bull Calves Fed a Fermentation Extract of Aspergillus Oryzae.
R. M. Townsley2, 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. Kittell2, 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 in Brazil.

792 M006 Behavioral L Laterality, Facial Hair Whorls, and Heart Rate Variability in Horses.
C. B. Shively2, T. Grandin and M. Deessing, 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. Chang2, 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. Bezas and C. E. Ferguson1, McNeese State University, Lake Charles, LA

795 M009 Effect of social housing on pre- and post-weaning intake of dairy calves.
E. K. Miller-Cushon1,2, R. Bergeron1, K. E. Leslie3, G. J. Mason2 and T. J. DeVries3, 1University of Guelph, Kemptville, ON, Canada, 2University of Guelph, Alfred, ON, Canada, 3University of Guelph, Guelph, ON, Canada

796 M010 Associations of Stall Design, Behavior, and Hygiene of Lactating Dairy Cows.
M. A. Overvest1 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. Overvest1, 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.
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

799 M013 Effect of stall size, tie-rail position, and chain length on cow injuries and cleanliness in Eastern Canadian tie-stall farms.
V. Bouffard1,2, A. M. de Passille1, J. Ruschen1, E. Vasseur1, D. B. Haley and D. Pellerin1, 1Université Laval, Québec, QC, Canada, 2Valacta, Sainte-Anne-de-Bellevue, QC, Canada

800 M014 Evaluation of cow cleanliness and fly avoidance behaviors among cows with docked, switch-trimmed, and switch-intact tails.
E. A. Morabito1, 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. Curtis1, B. Scharf, W. J. Sexten and D. E. Spiers, University of Missouri, Columbia

16 | DRAFT 2014 JAM SCIENTIFIC PROGRAM
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. Cherian*, Oregon State University, Corvallis

828 M017 Sandwich enzyme-linked immunosorbent assay for detection of Fasciola gigantica excretory secretary in goats sera.
H. R. Metawi* and E. M. Ouda*, Animal 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 stocked piled fescue.
M. S. Gadberry*, D. S. Hubbell, III2, J. D. Tucker2, T. Hess2, P. A. Beck2, J. Jennings1, J. G. Powell2 and E. A. Backes2,
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. Garcia*, D. Biswas1, T. H. Elsasser2 and K. M. Moyes*, 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. Oh*, H. J. Boermans1, H. V. L. N. Swamy1, T. K. Smith* 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. Lein*, 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*, D. J. McLean1, N. E. Forsberg1, S. A. Armstrong1, T. H. Schell2 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. Gfiner2, B. Ecker1 and K. Eder1, 1Institute of Animal Nutrition and Nutrition Physiology, Universität Gießen, Gießen, Germany, 2Dr. Ecker 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. Gressly, 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. Ekwemalor1, North Carolina Agricultural and Technical State University, Greensboro

839 M028 Current colostrum management practices on Jersey farms in Vermont and New York State.
K. M. Morrill*, M. M. Spring1 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. Bionaz*, K. M. Moyes2 and P. Sørensen3, 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. Roval, G. Caja, A. Salama, A. Hubert, B. Lazaro, M. Lazaro and G. Leitner, 1 Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellaterra, Barcelona, Spain, 2Animal Production Research Institute, Dokki, Giza, Egypt, 3Laboratori Interprofessional Lliet 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. Roval, C. E. Such, A. Salama, C. L. Manuelian, T. H. Schell, and G. Bobe, 1 Group 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. Kahl, 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. Elsasser, S. Kahl, D. E. Kerr, E. Zudaire and F. Cuttita, 1 USDA, Agricultural Research Service, Beltsville, MD, 2University of Vermont, Burlington, 3NIH-NCI, Bethesda, MD

A. Yannikouris, 1 Center for Animal Nutrigenomics and Applied Animal Nutrition, Alltech, Nicholasville, KY

847 M036 Identification Of Immune Response Markers To Omnigen-AF® Supplementation In A Rat Model.
J. A. Branson, D. J. McLean, N. E. Forsberg, S. A. Armstrong, T. H. Schell and G. Bobe, 1 OmniGen 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.

849 M038 Vitamin D Signaling Enhances Expression of Antibacterial β-Defensin Genes in Bovine Monocytes.
C. D. Nelson, K. E. Merriman and J. D. Lippolis, 1 University of Animal Sciences, University 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. Sales, M. Ata, B. Williamson, K. P. Coffey, M. L. Looper, and C. F. Rose, 1 University 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, México.
S. S. Gonzalez and I. Vitela-Mendoza, 1 Colegio 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 Quarters from Cows with Clinical Mastitis.
A. Lago and N. Silva-del-Río, 1 DairyExperts, Tulare, CA, 2VMTRC, University of California, Tulare

853 M042 Effect of early feed restriction programs on IgY production of broiler chickens.
M. L. Moraes, 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. Silva, J. T. Pádua, J. J. R. Fernandes, R. Z. Taveira, R. L. Missio, P. S. Pacheco, D. A. Fausto and J. Restle, 1 Universidade Estadual de Goiás, São Luís de Montes Belos, Goiás, Brazil, 2Universidade Federal de Goiás, Goiânia, Goiás, Brazil, 3FAPEG, Goiânia, Goiás, Brazil, 4Universidade Federal de Goiás, Goiânia, Brazil, 5Universidade federal de Goiás, Goiânia, Goiás, Brazil, 6Universidade Tecnológica Federal do Paraná, Pato Branco, Paraná, Brazil, 7Universidade 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. Sorbolini 1, C. Gruber 2, C. Dimaro 3, G. Gaspa 3, M. Celletti 3, A. Valentini 4, and N. P. P. Macciotta 1, 4, 1 Università di Sassari, Sassari, Italy; 2 Dipartimento per l’Innovazione dei sistemi biologici, agroalimentari e forestali, Viterbo, Italy

932 M046 Estimation of Genetic Parameters for Reproductive Traits in a Multibreed Population of Beef Cattle.
S. O. Peters 1, 2, K. Kizilkhakya 3, D. J. Garrick 4, R. L. Fernando 1, E. J. Pollak 4, M. Enns 5, and I. G. Inumori 6, 1 Berry College, Mount Berry, GA; 2 Adnan Menderes University, Aydın, Turkey; 3 Iowa State University, Ames, 4 USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE; 5 Colorado State University, Fort Collins; 6 Cornell University, Ithaca, NY

933 M047 Copy number variation in the genome of Nellore cattle.
M. V. A. Lemos 1, 4, M. P. Berton 1, C. Aboujauzde 2, F. Feitosa 3, G. C. Venturini 1, R. L. Tonussi 1, R. Espigolan 4, H. N. Oliveira 1, 4, L. G. Albuquerque 1, 4, and F. Baldi 3, 4, 1 State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil; 2 State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil; 3 Jaboticabal, Brazil; 4 Jaboticabal, Brazil; 5 Sao Paulo State University (UNESP), Jaboticabal, Brazil; 6 State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil; 7 Universidade Estadual Paulista “Júlio de Mesquita Filho”, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil

934 M048 Seasonality and fresh semen quality from Pantaneira and Nellore bulls raised in Brazilian Pantanal.
L. E. S. Silva 1, L. K. Katamoto-Zervoudakis 2, A. F. Ramos 3, P. P. Tsumeda 4, F. M. Wingert 5, M. F. Duarte Junior 6, T. B. Castaldelli 2, R. D. Almeida 2, and J. D. O. Moraes 7, 1 Federal University Of Mato Grosso, Cuiaba, Brazil; 2 Embrapa - Cenargen, Brasilia, Brazil

935 M049 Sliding Window methods to detection of regions under selection in Nellore cattle.
D. F. Cardoso 1, 2, 3, G. C. Venturini 1, D. J. A. Santos 3, R. R. Aspilcueta Borquis 4, A. A. Stella 4, F. Baldi 1, 3, L. G. Albuquerque 1, 3, M. E. Z. Mercadante 1, 3, and H. Tonhati 1, 3, 4, 1 State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil; 2 Bolsista - Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP), São Paulo, Brazil; 3 Sao Paulo State University (UNESP), Jaboticabal, Brazil; 4 UNESP Univ Estadual Paulista, Jaboticabal, Brazil; 5 Universidade Estadual Paulista “Júlio de Mesquita Filho”- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil; 6 Centro APTA Bovinos de Corte, Instituto de Zootecnia, Sertãozinho, Brazil; 7 Universidade Estadual Paulista “Júlio de Mesquita Filho”, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil

936 M050 Association between copy number variation regions in the Nellore cattle genome and meat tenderness.
M. P. Berton 3, M. V. A. Lemos 1, C. Aboujauzde 2, G. M. de Camargo 3, F. Feitosa 3, C. M. Venturini 4, R. L. Tonussi 1, R. Espigolan 4, D. M. Goda 1, 4, A. S. C. Pereira 1, H. N. Oliveira 3, L. G. Albuquerque 1, 3, and F. Baldi 3, 1, 3 State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil; 2 Jaboticabal, Brazil; 3 Jaboticabal, Brazil; 4 Universidade Estadual Paulista “Júlio de Mesquita Filho”- UNESP, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil; 5 State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil; 6 Sao Paulo State University (UNESP), Jaboticabal, Brazil; 7 State University of São Paulo, Jaboticabal, Brazil

937 M051 An Evaluation of six years of carcass and feedlot performance in Brahman and Brahman influenced steers tested by the American Brahman Breeders Association (ABBA) National Carcass Evaluation Program.
A. Royer* and M. D. Garcia, Louisiana State University, Baton Rouge

938 M052 Relationship of physical characteristics and reproductive status in crossbred Angus replacement heifers.
J. E. Thames 1, C. M. Turner 2, A. H. Brown, Jr. 3, C. F. Rosenkrans 4, K. Anschutz 2, and J. G. Powell 1, 1 University of Arkansas, Fayetteville; 2 Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville; 3 University of Arkansas, Fayetteville

939 M053 Signature of selection reveals large difference in selection traits.
X. Zhang 1, J. Misztal 1, M. Heidaritabar 2, J. W. M. Bastiaansen 3, R. Hawken 4, R. Okimoto 4, R. L. Sapp 4, H. H. Cheng 4, D. A. L. Lourenco 1 and W. M. Muir 1, 1 University of Georgia, Athens; 2 Wageningen University, Wageningen, Netherlands; 3 Animal Breeding and Genomics Centre, Wageningen University, Wageningen, Netherlands; 4 Cobb-Vantress Inc., Siloam Springs, AR; 5 USDA, ARS, ADOL, East Lansing, MI; 6 Purdue University, West Lafayette, IN

940 M054 Weighted single-step genomic BLUP: an iterative approach for accurate calculation of breeding values and SNP effects.
X. Zhang 1, 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. Martinez 1, 2, K. Khare 2, and M. A. Elzo 3, 1 Department of Animal Sciences, University of Florida, Gainesville; 2 Department of Statistics, University of Florida, Gainesville

D. Lourenco 1 and I. Misztal, University of Georgia, Athens
CSAS Graduate Student Poster Competition

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-Awemu1, 1Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 2Northwest A&F University, Xi’an, China, 3McGill University, St Ann De Bell, PQ, Canada

Effect of co-expression of Lc and C1 flavanoid regulatory genes in alfalfa on nutritive value and ruminal methane production.
R. G. Heendehnyiya Vidanaratna1, M. Y. Gruber2, Y. Wang1, D. A. Christensen1, J. J. McKinnon1, B. Coulman1 and P. Yu1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Predicting milk fat concentration from nutrient content and DCAD of the diet.
L. Fadul-Pacheco1, D. Pellerin, P. Y. Chouinard and E. Charbonneau, Université Laval, Québec, QC, Canada

Evaluation of methane prediction equations for beef cattle fed high forage or high concentrate diets.
P. Escobar1,2, K. A. Beauchemin1 and M. Oba3, 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

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

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

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. Gowen1, J. A. Small1 and D. M. W. Barrett1, 1Faculty of Agriculture, Dalhousie University, Truro, NS, Canada, 2Agriculture and Agri-Food Canada, Truro, NS, Canada

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

A prepartum diet supplemented with rolled canola seed reduced pituitary sensitivity to GnRH in dairy cows during second week postpartum.
R. Salehi1, M. G. Colazo2, M. Oba1 and D. J. Ambrose2, 1University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Rural Development, Edmonton, AB, Canada

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

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. Khalil, National Research Center, Cairo, Egypt

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

Investigating the Impact of Distiller's dried grains with Solubles on the Quality of Milk and Swiss Cheese.
V. Manimanna Sankarlal1, E. D. Testroet and S. Clark, Iowa State University, Ames

Evaluation of unidentified structural features in hard, aged cheeses and soft, washed rind cheeses by powder X-ray diffractometry.
G. F. Tansman1, P. S. Kindstedt1 and J. M. Hughes2, 1Department of Nutrition and Food Sciences, University of Vermont, Burlington, 2Department of Geology, University of Vermont, Burlington

Quality of milk and minas freshcheese of pasture cows suplemented with licuri cake.
A. C. C. Ferreira1,2, R. L. Oliveira2, J. F. Vieira2, T. M. Silva2, 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 Reconcavol da Bahia - UFRB, Cruz das Almas, Brazil
J. harvest. Production response of lactating cows to diets based on corn or forage sorghum silage produced from first or second

Agricultural Research Institute, Chazy, NY, S. Y. Morrison

Lactational response of Holstein cows to brown midrib or leafy

State R. G. Christensen

Comparison of milk fatty acid profiles of dairy cows grazing cool

University, Harbin, China, L. Liu

The influence of wilting on the quality of Leucaena leucocephala silage.

T. Clavero1,2 and R. Razz, 1Universidad Del Zulia, Maracaibo, Venezuela, 2Universidad del Zulia, Maracaibo, Venezuela

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. Christensen1, J. S. Eun1, V. Fellner2, A. J. Young1 and J. W. MacAdam1, 1Utah State University, Logan, 2North Carolina State University, Raleigh

Lactational response of Holstein cows to brown midrib or leafy-floury corn silage.

S. Y. Morrison1, K. W. Cotanch1, C. S. Ballard2, H. M. Dunn3, E. O. Young4, R. J. Grant1 and C. I. Key5, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Healthy Herd Genetics & Nutrition, LLC, Oneida, NY

Production response of lactating cows to diets based on corn or forage sorghum silage produced from first or second harvest.

J. K. Bernard1, University of Georgia, Tifton
Feeding Strategy and Pasture Quality Relative to Nutrient Requirements of Grazing Dairy Cows in the Northeastern U.S.  
A. N. Hafla, K. J. Soder, A. F. Brito, R. Kersbergen, F. Benson, H. Darby and M. D. Rubano, USDA-Agricultural Research Service, University Park, PA; University of New Hampshire, Durham, University of Maine Cooperative Extension, Waldo, ME; Cornell University Extension, Cortland, NY; The University of Vermont, Albans

Use of biological additives to improve lactic fermentation tropical silages.  
L. Bernal, R. Herrera, P. Avila, H. Jimenez and M. Cuchillo, La Salle University, Bogotá, Colombia; International Center for Tropical Agriculture, Cali, Colombia; Corpoica, Bogotá, Colombia

Quality evaluation of five varieties of corn for silage production in crop-livestock-forest integration system in the Cerrado Region.  
M. C. A. Santana, A. A. Pinheiro, V. A. Silva, J. T. C. Pacheco, A. C. Fernandes, I. D. Carneiro, V. C. Modesto and J. Cavali, Emater, Goiânia, Brazil; UNESP, Jaboticabal, Brazil; Universidade Federal de Rondônia - Unir, Rondonia, Brazil

Impact of hybrid and growing location on yield and composition of corn plants harvested for silage.  
D. Bolinger, L. Nuzback and F. N. Owens, DuPont Pioneer, Perrinton, MI; DuPont Pioneer, Johnston, IA

Impact of corn plant maturation and planting density on nutrient composition and potential milk yield.  
L. Brown, L. Nuzback, B. Redentus, P. M. Walker and F. N. Owens, DuPont Pioneer, Bloomington, IL; DuPont Pioneer, Johnston, IA; Illinois State University, Normal, IL

Gas production and volatile fatty acids of corn stover silage added with yeast culture and fermented apple pomace.  

Effect of a Chemical Additive on Fermentation and Aerobic Stability of High-Moisture Corn.  
T. C. Da Silva, M. L. Smith, S. A. Poluski, A. M. Barnard and L. Kung Jr., University of Delaware, Newark

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

Effect of Lactobacillus plantarum MTD1, Potassium Sorbate or their Combination on Production of Volatile Organic Compounds and Aerobic Stability of Corn Silage.  
M. C. Windle, C. Merrill, M. L. Smith, S. D. Haffner, F. M. Miltoehner, R. Franco and L. Kung Jr., University of Delaware, Newark; Hafner Consulting LLC, Washington, DC; University of California, Davis, CA

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. Savage, M. C. Windle, S. D. Johanningsmeier and L. Kung Jr., University of Delaware, Newark; USDA-ARS Food Science Research Unit, Raleigh, NC

Isolation and identification of lactic acid bacteria in forage peanut silage.  
L. D. Rufino, E. S. Leandro, K. G. Ribeiro, H. C. Mantovani, T. C. Silva and O. G. Pereira, Universidade Federal de Vícosa, Vícosa, Minas Gerais, Brazil; Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

Evaluating top losses in Argentine corn silages.  
L. O. Abdelhadi, G. Marley and J. M. Barneix, Est. El Encuentro, Research & Extension in Ruminant Nutrition, Brandsen, Buenos Aires, Argentina; Sil-All Global Product Manager, Gloucestershire, United Kingdom; Sil-All Argentine Product Manager, Lincoln, Buenos Aires, Argentina

Corn Silage Analysis as Influenced by Sample Size.  
I. M. Malehana, D. J. R. Cherney and W. J. Cox, Agricultural Research Council, Pretoria, South Africa; Cornell University, Ithaca, NY

In Situ Degradation Characteristics of Sorghum Silage Treated with Fibrolytic Enzymes.  
A. Coronado, K. C. McCuiston, J. L. Foster, G. Schuster and Z. Lopez, Texas A&M University - Kingsville, Kingsville; Texas A&M AgriLife Research-Beeville Station, Beeville, TX; Dow AgroSciences, Knoxville, TN

Effect of ensiling time on fermentation profile and starch digestibility in whole plant corn silage from two different hybrid types.  
L. F. Ferrareto, R. D. Shaver, S. Massie, R. Singo, D. M. Taysom and J. P. Broutillette, University of Wisconsin, Madison; Renaissance Nutrition Inc, Roaring Springs, PA; Dairyland Laboratories Inc, Arcadia, WI; Dow AgroSciences, Mycogen Seeds, Indianapolis, IN

Fermentation profile, chemical composition and microbial population in silages of Stylosanthes Campo Grande with microbial inoculant and pelleted citrus pulp.  
W. F. D. Souza, K. G. Ribeiro, S. A. Santos, T. C. Silva, V. P. Silva and O. G. Pereira, Universidade 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, ¹US. 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. Ruiz², C. Rodríguez-Muela, D. Díaz-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. Kim¹ 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. Mutavhatsindi¹ and I. M. Malebana¹, ¹ARC-Animal Production Institute, Irene, South Africa, ²Oukeniua 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. Solórzano¹ and A. A. Rodriguez³, ¹Lankin, 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. Marcondes³, 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. Park⁴ 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. Ortakci¹, J. R. Broadbent¹, C. J. Oberg¹, ² and D. J. McMahon³, ¹Department of Nutrition, Dietetics, and Food Sciences, Western Dairy Center, Utah State University, Logan, ²Department of Microbiology, Weher 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. Patel¹ and S. G. Satyirya¹, 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. Banach⁴, 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. Marella³, A. C. Biswas¹ and L. Metzger², 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, ²Midwest Dairy Foods Research Center, South Dakota State University, Brookings

MANAGEMENT AND INFORMATION, FARMING SYSTEMS, AND ECONOMICS PAPER SESSIONS
1153

Graduate Student Competition: ADSA Production Poster, MS

1155

Graduate Student Competition: ADSA Production Poster, PhD

1157

1138  M121  Effect of titanium dioxide, annatto and homogenisation on the translucency of reduced-fat cheddar cheese.
R. A. Ibanez1,2 and P. L. H. McSweeney1, 1University College Cork, Cork, Ireland, 2University of Wisconsin-Madison, Madison

1139  M122  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

1140  M123  Development of an application for touch-screen devises to capture defined calving-related events in dairy herds.
J. D. Workman and G. M. Schuenemann, Department of Veterinary Preventive Medicine, The Ohio State University, Columbus

1141  M124  Effects of dietary crude protein levels during a twelve-week period on late-lactation dairy cow performance.
M. A. Quaasgaard1, T. Barros2, J. J. Olmos Colmenero2, M. J. Aguerre1, S. J. Bertics1 and M. A. Wattiaux1, 1University of Wisconsin-Madison, Madison, 2University of Guadalajara, Tepatlan, Mexico

1142  M125  Patterns of circulating serotonin (5-HT), calcium, and glucose in lactating Jersey and Holstein dairy cows.
S. A. E. Moore*, J. L. Porta and L. L. Hernandez, University of Wisconsin-Madison, Madison

1143  M126  Ruminal degradability and intestinal digestibility of protein and amino acids in canola meal.
N. Jayasinghe*, South Dakota State University, Brookings

1144  M127  Estimate of serum immunoglobulin G concentration in Jersey calves using refractometry.
M. M. Spring1, K. M. Morrill1, A. L. Robinson1 and H. D. Tyler1, 1Iowa State University, Ames, 2Cornell University, Ithaca, NY

1145  M128  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

1146  M129  The effects of feeding an algae supplement on milk yield, milk components, and dry matter intake.
M. A. Weatherly1*, A. M. Gehman1, A. M. Lisembee1, J. D. Clark1, D. L. Ray1 and J. M. Bewley1, 1University of Kentucky, Lexington, 2Alltech, Inc., Nicholasville, KY

1147  M130  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

1148  M131  Response of dairy cows supplemented with antioxidants and/or chelated trace minerals to intra-mammary bacterial challenge.
R. O. Rodriguez1, M. O. Caldeira1, G. I. Zanton2 and M. R. Waldron1,2, 1University of Missouri, Columbia, 2Novus International, Inc., St. Charles, MO, 3Nutrition Professionals, Inc., Chilton, WI

1149  M132  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

1150  M133  Propionate is a dominant inducer of bovine cytosolic phosphoenolpyruvate carboxykinase gene expression.
Q. Zhang*, S. L. Kosser and S. S. Donkin, Purdue University, West Lafayette, IN

1151  M134  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. Giallongo1, H. Sadr2, A. N. Hristov2, J. Werner2, C. Parys2, B. Saremri2, H. Sauwein2 and C. Lang2, 1Department of Animal Science, The Pennsylvania State University, University Park, 2Institute of Animal Science, Physiology & Hygiene Unit, University of Bonn, Bonn, Germany, 3Animal Resource Program, The Pennsylvania State University, University Park, 4Eviron Industries AG, Hanau, Germany, 5Department of Cellular and Molecular Physiology, Penn State College of Medicine, Hershey

M. L. Stock1, R. Gehring2, S. T. Millman1, C. Wang1, L. W. Wulf1, L. A. Barth1 and J. F. Coetzee1, 1Iowa State University, Ames, 2Kansas State University, Manhattan, 3Pharmacology Analytical Support Team, Iowa State University College of Veterinary Medicine, Ames

1153  M136  Effect of storage temperature on the bacterial growth and pH levels of bovine coostrum.
C. Cummins1,2, I. Lorenz2 and E. Kennedy2, 1Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, 2School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, 3Teagasc, 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. Miltenburg1 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. Iwaniuk1 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. Shahzad1, J. S. Osorio2, D. N. Luchini3 and J. J. Loor3, 1University of Illinois, Urbana-Champaign, 2University of Illinois, Champaign, 3Adisseo 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.
A. E. Sterrett1, B. A. Wadsworth1, R. J. Harmon1, M. Arnold1, J. D. Clark1, E. P. Aalseth2, D. L. Ray1 and J. M. Bewley1, 1University of Kentucky, Lexington, 2Earl F. Aalseth, Jr. Dairy Consulting, PLLC, Lake Stevens, WA

1159 M142 Effects of stage of gestation and feeding regime on intake and apparent total tract digestibility in Holstein × Gyr dairy cows.
P. P. Rotta1, S. C. Valadares Filho1, T. E. Engle1, L. F. Costa e Silva2, M. I. Marcondes2, F. S. Machado2, T. R. Gionbelli2, B. C. Silva2 and F. A. S. Silva2, 1Colorado State University, Fort Collins, 2Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Minas Gerais, Brazil, 3Universidade Federal de Vícosa, Viçosa, Brazil, 4EMBRAPA, Juiz de Fora, Brazil, 5Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

1160 M143 Description of High Cow Premix Recipes in California Dairies.
Y. Trillo1, A. Lago2 and N. Silva-del-Río3, 1VMTRC, University of California, Tulare, 2DairyExperts, Tulare, CA

Lactation Biology Poster I

1161 M144 Relationship between dry period length and reproduction in grazing Jersey and Holstein cows in Costa Rica.
J. M. Sánchez1, A. Saborio-Montero1 and A. Córdoba-Roldán2, 1Centro de Investigaciones en Nutrición Animal y Escuela de Zootecnia, Universidad de Costa Rica, San José, Costa Rica, 2Programa de Transferencia Tecnológica, Cooperativa de Productores de Leche Dos Pinos, San José, Costa Rica

1162 M145 Effect of insulin on mRNA expression of genes related to milk synthesis in primary bovine mammary epithelial cells cultured in vitro.
T. Qin1, H. Y. Wang1, D. P. Bu1 and H. B. Zhu1, 1Embryo Biotechnology and Reproduction Laboratory, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1163 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. Oliveira1, D. E. Bauman4 and K. J. Harvatine3, 1Santa Catarina State University, Lages, SC, Brazil, 2Cornell University, Ithaca, NY, 3Penn State University, State College, PA

1164 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. Ticianit1, M. Urio1, A. P. Povaluk1, M. V. Camara1, R. Ferreira2, L. C. Miletti1, K. J. Harvatine3 and D. E. Oliveira11, 1Santa Catarina State University, Lages, SC, Brazil, 3Santa Catarina State University, Chapecó, SC, Brazil, 4Penn State University, State College, PA

1165 M148 Effect of different hormones on α-casein and lactoferrin expression in mammary epithelial cells.
W. Q. Li1, J. Q. Wang2, D. P. Bu1 and X. M. Nan1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, 2College of Life Science, Henan Agricultural University, ZhengZhou, China

1166 M149 Effects of methionyl-methionine on milk protein synthesis in bovine mammary gland.
J. X. Yang1, H. Y. Liu1, C. H. Wang2, Q. B. Xu1 and J. X. Liu1, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Zhejiang University, Hangzhou, China

1167 M150 Effect of bta-miR-145 over-expression and down-expression on the other microRNA expression in primary bovine mammary epithelial cells.
W. Q. Li1, D. P. Bu1, J. Q. Wang2 and X. M. Nan1, 1State Key Laboratory of Animal Nutrition, Institute of Animal Science,
Stearic Acid Alters microRNA Profiles in Bovine Mammary Gland Epithelial Cells.
Y. G. Chai\textsuperscript{1}, X. M. Nan\textsuperscript{1}, D. P. Bu\textsuperscript{2}, J. J. Loor\textsuperscript{1} and J. Q. Wang\textsuperscript{1}, \textsuperscript{1}State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, \textsuperscript{2}University of Illinois, Urbana

The peroxisome proliferator-activated receptor gamma (PPAR\gamma) 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. Sandri\textsuperscript{1}, E. M. Sandri\textsuperscript{2}, M. V. Camara\textsuperscript{1}, A. P. Povaluk\textsuperscript{1}, M. Urlo\textsuperscript{1}, E. Ticiani\textsuperscript{1}, K. J. Harvatine\textsuperscript{3} and D. E. Oliveira\textsuperscript{4}, \textsuperscript{1}Santa Catarina State University, Lages, SC, Brazil, \textsuperscript{2}Santa Catarina State University, Chapecó, SC, Brazil, \textsuperscript{3}Penn State University, State College, PA

Fatty acid synthase is essential for milk fat formation in goat mammary gland.
J. Zhu\textsuperscript{1}, J. Luo\textsuperscript{2}, Y. Sun\textsuperscript{1} and H. Shi\textsuperscript{1}, \textsuperscript{1}Northwest A&F University, Yangling, China, \textsuperscript{2}Northwest 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 Ohlusa\textsuperscript{1}, A. Victor O\textsuperscript{2}, O. Bayonle O\textsuperscript{2} and O. Olumuyiwa Jacob\textsuperscript{2}, \textsuperscript{1}Osun State University, Osogbo, Nigeria, \textsuperscript{2}Osun State University, College of Agriculture, Osogbo, Nigeria

Carcass and organ characteristics of broilers fed varying levels of honey.
A. Victor Olabisi\textsuperscript{1}, F. Patience Ohlusa\textsuperscript{1}, 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 Freitas\textsuperscript{1,2}, D. S. Lucas\textsuperscript{1}, D. A. Fausto\textsuperscript{1}, S. F. N. Pertile\textsuperscript{1}, E. F. Delgado\textsuperscript{1}, N. S. Jantzantti\textsuperscript{2} and E. T. F. Silveira\textsuperscript{1}, \textsuperscript{1}UNESP, São José do Rio Preto, São Paulo, Brazil, \textsuperscript{2}UFF, Rio de Janeiro, Rio de Janeiro, Brazil, \textsuperscript{3}ESALQ / USP, Piracicaba, São Paulo, Brazil, \textsuperscript{4}UNESP, São José do Rio Preto - São Paulo, Brazil, \textsuperscript{5}ITAL, Campinas, São Paulo, Brazil

Analysis of Porcine Myosin Heavy Chain Isoforms by Liquid Chromatography and Mass Spectrometry.
G. D. Kim\textsuperscript{1}, E. Y. Jung\textsuperscript{2}, H. W. Seo\textsuperscript{3}, J. Y. Jeong\textsuperscript{2}, S. T. Joo\textsuperscript{3} and H. S. Yang\textsuperscript{1}, \textsuperscript{1}Department of Food Science and Biotechnology, Kyungnam University, Changwon, South Korea, \textsuperscript{2}Division of Applied Life Science, Gyeongsang National University, Jinju, South Korea, \textsuperscript{3}Department of Animal Science, Gyeongsang National University, Jinju, South Korea, \textsuperscript{4}Division 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. Schwarm\textsuperscript{1}, M. Kreuzer\textsuperscript{2}, F. Leiber\textsuperscript{3}, S. Ortmann\textsuperscript{2} and M. Clauss\textsuperscript{3}, \textsuperscript{1}ETH Zurich, Institute of Agricultural Sciences, Zurich, Switzerland, \textsuperscript{2}ETH Zurich, Zurich, Switzerland, \textsuperscript{3}Research Institute of Organic Agriculture (FiBL), Frick, Switzerland, \textsuperscript{4}Leibniz Institute for Zoo and Wildlife Research, Berlin, Germany, \textsuperscript{5}University 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. Young\textsuperscript{1}, 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-Valle\textsuperscript{1}, L. P. Cevallos-Velastegui\textsuperscript{1}, A. Morales-delaNuez\textsuperscript{2}, N. Castro\textsuperscript{3}, A. Argüello\textsuperscript{4} and D. Sánchez Macías\textsuperscript{1}, \textsuperscript{1}Agroindustrial Engineering, Universidad Nacional de Chimborazo, Riobamba, Ecuador, \textsuperscript{2}Facultad de Ciencia Pecuarias, Escuela Superior Politécnica de Chimborazo, Riobamba, Ecuador, \textsuperscript{3}Department 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-Velastegui\textsuperscript{1}, D. Núñez Valle\textsuperscript{1}, A. Morales-delaNuez\textsuperscript{2}, N. Castro\textsuperscript{3}, A. Argüello\textsuperscript{4} and D. Sánchez Macías\textsuperscript{1}, \textsuperscript{1}Agroindustrial Engineering, Universidad Nacional de Chimborazo, Riobamba, Ecuador, \textsuperscript{2}Facultad de Ciencia Pecuarias, Escuela Superior Politécnica de Chimborazo, Riobamba, Ecuador, \textsuperscript{3}Department 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. Davin1, S. A. Guzmán-Pino1, D. Solá-Oriol2, E. G. Manzanilla1 and J. F. Pérez1, 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

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. Adhikari1, L. I. Chiba1, S. D. Brotzge1, M. D. S. Vieira1, S. P. Rodning1, W. G. Bergen1, C. L. Bratcher2 and E. G. Welles1, 1Auburn University, Auburn, AL, 2Federal University of Rio Grande do Sul, Porto Alegre, Brazil

1290 M164 Effects of supplementation with a commercial source of selenium in a laying hens feeding system.
L. Betancourt, 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. Chen1,2, Z. Zhang1, X. Huang2 and P. Yu3, 1Department of Animal Science, Tianjin Agricultural University, Tianjin, China, 2Department 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. Pokharel1, C. M. Nyachoti2 and W. K. Kim3, 1Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 2University of Manitoba, Winnipeg, MB, Canada, 3University 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. Parr1, 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. Lee1, K. S. Kim1, J. C. Park2 and D. Y. Kil3, 1Chung-Ang University, Anseong-si, South Korea, 2Rural Development Administration, Cheonan-si, South Korea

Q. Hu1, 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. Jang1, J. Y. Ma2, J. S. Monegue2, H. J. Monegue2, R. L. Stuart2 and M. D. Lindemann1, 1University of Kentucky, Lexington, 2Stuart 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. Curry1, J. K. Htoo2, H. Y. Masey O’Neill3 and H. H. Stein1, 1University of Illinois at Urbana-Champaign, Urbana, 2Evonik Industries AG, Hanau-Wolfgang, Germany, 3AB Vista Feed Ingredients, Marlborough, United Kingdom

1299 M173 The Determination of the Amino Acid Requirements of Pigs in the Nursery Phase.
E. A. Vermillion1, C. R. Dove and M. J. Azain, University of Georgia, Athens

1300 M174 Effect of dietary energy level and weaning weight on body composition and efficiency of energy utilization in weaning piglets.
M. D. S. Vieira1, A. M. L. Ribeiro1, A. D. M. Kessler1, L. I. Chiba2, M. L. Somensi1, L. Bockor1 and L. G. Teixeira1, 1Federal University of Rio Grande do Sul, Porto Alegre, Brazil, 2Auburn University, Auburn, AL

1301 M175 Effect of dietary energy level and weaning weight on body composition and efficiency of energy utilization in weaning piglets.
M. D. S. Vieira1, A. M. L. Ribeiro1, A. D. M. Kessler1, M. L. Somensi1, L. I. Chiba2,3, L. Bockor1 and C. S. Marcolla1, 1Federal University of Rio Grande do Sul, Porto Alegre, Brazil, 2Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, 3University 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. Moraes1, C. C. Pizzolante1, A. P. O. Saccomani2, E. A. D. Oliveira1, S. K. Kakimoto1, J. C. Dadalt4 and M. A. D. T. Neto5, 1APTA - Unidade de Pesquisa de Brotas-SAA-SP, Brotas, Brazil, 2Instituto de Zootecnia - APTA -SAA-SA, Nova Odessa, Brazil, 3Secretaria de agricultura de Brotas, Brotas, Brazil, 4Granja Kakimoto, Bastos, Brazil, 5University of São Paulo - USP, Pirassununga, Brazil
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

Effects of dietary tryptophan:lysine ratio and sanitary conditions on performance of weaned pigs fed antibiotic-free diets.
B. Jayaraman1, J. K. Hoo2 and C. M. Nyachoti2,1, University of Manitoba, Winnipeg, MB, Canada, 1Evonik Industries AG, Hanau-Wolfgang, Germany

Egg quality of brown layers fed with different levels of threonine and chelate zinc.
J. E. D. Moraes1, C. C. Pizzolante1, A. P. O. Saccomani2, E. A. D. Oliveira3, S. K. Kakimoto4, J. C. Dadalt5* and M. A. D. T. Neto,1,6 APTA - Unidade de Pesquisa de Brotas-SAA-SP, Brotas, Brazil, 3Instituto de Zootecnia - APTA - SAA-SA, Nova Odessa, Brazil, 5Secretaria de agricultura de Brotas, Brotas, Brazil, 4Granja Kakimoto, Bastos, Brazil, 2University of São Paulo - USP, Pirassununga, Brazil

Tryptophan:Lysine ratio for pigs from 15 to 30 kg of body weight.
T. J. Pasquetti1, P. C. Pozza1, I. Moreira1, L. M. Diaz Huen2, L. D. Castilha2, M. R. Fachinello2, L. A. C. Esteves2, V. R. C. Paula1 and S. W. Kim1, Universidade Estadual de Maringá, Bolsista CAPES, Maringá, PR, Brazil, 2Universidade Estadual de Maringá, Maringá, PR, Brazil, 3North Carolina State University, Raleigh

Energy intake and nutrient digestibility in heavy finishing swine fed varying levels of soluble fiber.
D. J. Rodrigues1, M. C. Thomas1, U. D. S. Ruiz2, M. M. Lima1, M. S. F. Oliveira1, M. V. Marujo1, F. F. Castro1 and E. Daniel1, 1São Paulo State University, Jaboticabal/SP, Brazil, 2Univ. Estadual Paulista - UNESP, Dracena, Brazil, 3Department of Animal Science - FCAV/UNESP, Jaboticabal/SP, Brazil

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

Lysine and tryptophan levels in diets for gilts from 15 to 30 kg of body weight.
T. J. Pasquetti1, P. C. Pozza2, I. Moreira2, T. C. D. Santos3, D. Perondi1, C. D. L. Costa Filho4, W. Tanamati2, P. L. D. O. Carvalho5 and C. F. Muniz5, Universidade Estadual de Maringá, Bolsista CAPES, Maringá, PR, Brazil, 2Universidade Estadual de Maringá, Maringá, PR, Brazil, 3Department of Animal Science - FCAV/UNESP, Jaboticabal/SP, Brazil, 4Universidade Estadual do Oeste do Paraná, Marechal Cândido Rondon, PR, Brazil

Effects of mineral supplementation on the performance of nulliparous and multiparous does fed forage containing diets.
L. Verjel-Trigos1, I. Rodriguez-Carrascal2 and C. Ordoñez-Gomez3, Universidad Francisco de Paula Santander-Ocaña, Ocaña, Colombia, 2Universidad Nacional de Colombia, Bogotá, Colombia

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

Standardized total tract digestibility of phosphorus in oilseed meals fed to growing pigs.
C. S. Park1, Y. D. Jeong1, B. G. Kim1 and S. K. Park1, Konkuk University, Seoul, South Korea, 2Rural Development Administration, Suwon, South Korea

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. Park1, Rural Development Administration, Suwon, South Korea, 2Konkuk University, Seoul, South Korea

Physiology and Endocrinology I

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. Prakash2,1, Department of Animal Science, Faculty of Agriculture, University of Jiroft, Jiroft, Iran, 2National Dairy Research Institute, Karnal, India

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

Maternal Dietary Effects on Embryonic Ovarian Development in Cattle.

Effects of excessive energy intake and supplementation with chromium propionate on insulin resistance parameters in lactating dairy cows: I. Longitudinal and weekly physiological measurements.
T. Leiva1, R. F. Cooke2, F. G. Dantas3, F. P. Santos4, A. P. Brandao5, J. Ranches6, A. C. Aboin1 and J. L. M. Vasconcelos7, 1UNESP - FMVZ, Botucatu, Brazil, 2Oregon State University - EOARC Burns, Burns, OR
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, 4, C. Sacré3, P. Friedrichs3, S. Dänicke3 and H. Sauerwein1, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 7Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 9Institute 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, 5, 5, D. Nakov, 5, S. Dänicke3, U. Meyer3, R. Tienken6 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. Shafii 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, 3, L. Locher2, J. Winkler3, U. Meyer3, J. Rehage2, S. Dänicke3, H. Sauerwein4 and S. Häussler1, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 7University for Veterinary Medicine, Foundation, Hannover, Germany, 9Institute 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, 3, L. Locher2, J. Winkler3, U. Meyer3, J. Rehage2, S. Dänicke3, H. Sauerwein4 and S. Häussler1, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 7University for Veterinary Medicine, Foundation, Hannover, Germany, 9Institute 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. Azevedo4, J. B. Solak4, O. Corso4, S. Soriano3, M. C. Witbank6 and R. M. Ferreira2, 1MSD Animal Health, São Paulo, Brazil, 2Departamento de Reprodução Animal, USP, São Paulo, Brazil, 3Qualy Calf Consultoria Ltda, Fencelas, 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, 3, L. Locher2, J. Winkler3, U. Meyer3, J. Rehage2, S. Dänicke3, H. Sauerwein4 and S. Häussler1, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 7University for Veterinary Medicine, Foundation, Hannover, Germany, 9Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany


1383 M200 Bedding surface does not alter circulating patterns of cortisol, corticosteroid-binding globulin, or free cortisol index in preweaned Jersey calves. H. G. Kantesh7, C. A. Kurnan, 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-Behroozyar2, 3, H. Sauerwein4 and M. Mielenz2, 3, 4Institute of Animal Science, Physiology & Hygiene Unit, University of Bonn, Bonn, Germany, 3Department of Animal Science, Urmia University, Urmia, Iran, 4University 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, 4, L. Laubenthal1, L. Locher2, J. Winkler3, U. Meyer3, J. Rehage2, S. Dänicke3 and H. Sauerwein4, 1University of Bonn, Institute of Animal Science, Bonn, Germany, 7University for Veterinary Medicine, Foundation, Hannover, Germany, 9Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany

1386 M203 Rumen-protected methionine, histidine, and slow-release urea: Effects on plasma 3-methylhistidine and ubiquitin proteasome-related gene expression in skeletal muscle of dairy cows receiving a diet deficient in metabolizable protein. H. Sadri1, 4, F. Giallongo2, A. N. Hristov3, C. Lang4, J. Werner5, C. Parys5, B. Sarem2 and H. Sauerwein4, 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
1387 M204 **Antioxidant supplementation during in vitro maturation increased oocyte mitochondrial membrane potential and bovine embryo development.**
B. C. D. S. Leão, N. A. D. S. Rocha Frigon, P. C. Dall'Acqua and G. Z. Mingoti, University of Sao Paulo State (UNESP), Araçatuba, Brazil

1388 M205 **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. Sadri, J. Rehage and H. Sauwerwein, Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany; Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany; University for Veterinary Medicine, Foundation, Hannover, Germany

1389 M206 **Effect of melatonin (MEL) or maternal nutrient restriction on vascularity of the ovine placenta.**
K. A. Vonnahme, M. E. Wilson, S. Romero, S. T. Dorsam, J. Haring, P. P. Borowicz, D. A. Redmer and C. O. Lemley, North Dakota State University, Fargo; West Virginia University, Morgantown, WV; Mississippi State University, Mississippi State

1390 M207 **Follicle-stimulating hormone stimulates beta-catenin via protein kinase B in granulosa cells.**
B. I. Gomez, C. A. Gifford, D. M. Hallford and J. Hernandez Gifford, Oklahoma State University, Stillwater; New Mexico State University, Las Cruces, NM

1391 M208 **Ileal Tight Junction Gene Expression in Glucagon-like Peptide 2-treated Dairy Bull Calves with and without Coccidiosis.**
M. P. Walker, E. E. Connor, R. L. Baldwin and S. Kahal, USDA-ARS, BFGL, Beltsville, MD; USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD

1392 M209 **Effects of heat stress on the metabolic transcriptional profile of peripheral tissues in growing pigs.**

1393 M210 **Effect of feeding high or low proportions 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. Friedrichs, M. Weber, L. Locher, S. Dänicke, U. Meyer, R. Tienken, H. Sauwerwein and M. Mielzen, Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany; University for Veterinary Medicine, Foundation, Hannover, Germany; Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany; Leibniz Institute for Farm Animal Biology (FBN), Institute of Nutritional Physiology, Dummerstorf, Germany

1394 M211 **HEAT STRESS AFFECTS INSULIN SENSITIVITY IN PRIMARY BOVINE ADIPOCYTES.**
P. P. Faylon, L. H. Baumgard, R. P. Rhoads and D. M. Spurlock, Iowa State University, Ames; Virginia Tech, Blacksburg

1395 M212 **mRNA expression of chemerin and its receptor in a subcutaneous and a visceral fat depot of dairy cows fed with high or low proportions of concentrate during the transition period.**
P. Friedrichs, H. Khalilivandi-Behroozvar, L. Locher, S. Dänicke, U. Meyer, R. Tienken, H. Sauwerwein and M. Mielzen, Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany; Department of Animal Science, Urmia University, Urmia, Iran; University for Veterinary Medicine, Foundation, Hannover, Germany; Institute of Animal Nutrition, Friedrich-Loeffler-Institute (FLI), Braunschweig, Germany; Leibniz Institute for Farm Animal Biology (FBN), Institute of Nutritional Physiology, Dummerstorf, Germany

1396 M213 **Individual trans Monounsaturated Fatty Acids Have Distinct Effects on Lipogenesis in 3T3-L1 Adipocytes.**
P. Vahmani, T. D. Turner, P. D. Duff, D. C. Rolland, C. Mapiye, W. J. Meadows and M. E. R. Dugan, Agriculture & Agri-Food Canada, Lacombe, AB; University of Illinois, Urbana-Champaign, Italy

1397 M214 **Modeling Diurnal Variation in Ruminal Temperature of Beef Cows.**
B. H. Boehmer and R. P. Wettermann, Oklahoma Agricultural Experiment Station, Stillwater, OK

1398 M215 **beta-hydroxybutyrate profile of high-yielding dairy cows of a Brazilian intensive system.**
C. Bespalhok Jacometo, J. Oliveira Feijó, P. Mattei, A. Marangon Oliveira, E. Schmidt, V. Coitinho Tabeleão, C. Cassal Brauner, F. B. Del Pino, S. Soriano and M. Nunes Corrêa, Federal University of Pelotas, Pelotas, Brazil; Embrapa, Porto Velho - RO, Brazil; Facenda Colorado, Araras, Brazil

1399 M216 **Analysis of transcription regulator gene networks in peripartal bovine liver during summer and spring seasons.**
K. Shahzad, A. Akbar, L. Basiricò, P. Morera, U. Bernabucci and J. J. Loo', University of Illinois, Urbana-Champaign, Italy

**Production, Management, and the Environment: Influence of Diet and Management on Health and Performance**
**MONDAY, JULY 21, 2014**

**M217** A six year study evaluating health, milk and milk quality in 427 dairy herds fed OmniGen-AF to dry and lactating cows. O. Bewley\(^1\), T. Boyle\(^1\), M. Brady\(^1\), K. Brubaker\(^1\), J. D. Chapman\(^1\), T. Elliott\(^1\), L. O. Ely\(^1\), S. Fitzner\(^1\), A. E. Holland\(^1\), D. Larson\(^1\), R. Shaw\(^1\) and J. Ydstie\(^1\), \(^1\)Prince Agri Products, Inc., Quincy, IL, \(^2\)UGA, Athens, GA

**M218** Crude Glycercin as a Replacement for Dry Ground Corn in Finishing Diets for Beef Cattle: Economic Analysis. P. Del Bianco Benedetti\(^1,2\), P. V. R. Paulino\(^1\), M. I. Marcondes\(^1\), A. Faciola\(^1\), I. Franca Smith Maciel\(^1\) and M. Custódio da Silva\(^1\), \(^1\)Federal University of Vicsosa, Vicsosa, Brazil, \(^2\)University of Nevada, Reno, \(^3\)Nutron Alimentos Ltda, Campinas, Brazil

**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. Seradj\(^1\), J. Crespo\(^2\), D. Villalba\(^1\) and J. Balcells\(^1\), \(^1\)University of Lleida, Lleida, Spain, \(^2\)Interquim S. A. (Ferrer Health Tech), Barcelona, Spain

**M220** Effects of Trace Mineral-Fortified, Limit-Fed Creep Supplements on Performance of Beef Calves (Pre-Weaning). A. Saran Neto\(^1\), L. S. Caramalac\(^2\), P. G. M. D. A. Martins\(^2\), P. Moriel\(^2\), H. J. Fernandes\(^2\) and J. D. Arthington\(^2\), \(^1\)University of São Paulo, Pirassununga, Brazil, \(^2\)UF/IFAS Range Cattle Research and Education Center, Ona, FL, \(^3\)State University of Mato Grosso do Sul, Aquidauana, Brazil

**M221** The effect of a maternal yeast cell wall supplement during gestation on cow performance and calf growth and immunity. M. C. Roberts\(^1,5\), S. E. Schmidt\(^1\), D. A. Neendorf\(^6\), R. C. Vann\(^4\), N. C. Burdick Sanchez\(^7\), J. R. Corley\(^8\), J. A. Carroll\(^7\), T. H. Welsh, Jr\(^9\) and R. D. Randel\(^1\), \(^1\)Texas A&M AgriLife Research, Overton, TX, \(^2\)Texas A&M University, College Station, \(^3\)Texas A&M University, College Station, \(^4\)MAFES - Brown Loam Experiment Station, Mississippi State University, Raymond, MS, \(^5\)USDA-ARS, Lubbock, TX, \(^6\)Fisher Feed Additives, Milwaukee, WI, \(^7\)USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, \(^8\)Texas A&M University Department of Animal Science, College Station, TX

**M222** Effect of restricted feeding on body weight, some hematological and biochemical parameters in sheep and goats raised under semi-arid conditions. E. B. Abdalla\(^1\), Faculty of Agriculture, Ain Shams University, Cairo, Egypt

**M223** Effects of Trace Mineral-Fortified, Limit-Fed Creep Supplements on Performance of Beef Calves (Post-Weaning). A. Saran Neto\(^1\), L. S. Caramalac\(^2\), P. G. M. D. A. Martins\(^2\), P. Moriel\(^2\), H. J. Fernandes\(^2\) and J. D. Arthington\(^2\), \(^1\)University of São Paulo, Pirassununga, Brazil, \(^2\)UF/IFAS Range Cattle Research and Education Center, Ona, FL, \(^3\)State University of Mato Grosso do Sul, Aquidauana, Brazil

**M224** Young Beef Calves Preferentially Consume Supplements Fortified with Hydroxy vs. Organic and Sulfate Sources of Cu, Zn, and Mn. L. S. Caramalac\(^1\), H. J. Fernandes\(^2\) and J. D. Arthington\(^1\), \(^1\)UF/IFAS Range Cattle Research and Education Center, Ona, FL, \(^2\)State University of Mato Grosso do Sul, Aquidauana, Brazil

**M225** Predicting dry matter intake of steers and heifers in the feedlot by using categorical and continuous variables. O. Koskan\(^1\), H. Koknaroglu\(^1\), D. D. Loy\(^2\) and M. P. Hoffman\(^2\), \(^1\)Suleyman Demirel University, Isparta, Turkey, \(^2\)Iowa State University, Ames

**M226** Comparison of High-performance Dairy Cows fed Concentrates vs. those fed no Concentrates over a Period of 10 Years. P. L. Knez\(^1\), M. Buergisser\(^2\) and M. Furger\(^2\), \(^1\)Bern University of Applied Sciences, Zollikofen, Switzerland, \(^2\)Agricultural Education and Advisory Centre Plantahof, Landquart, Switzerland

**M227** Effect of Leukostocitealxirum 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. Jung\(^1\), J. H. Cho and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

**M228** Effects of probiotics supplementation on growth performance, nutrient digestibility, carcass characteristics, meat quality, intestinal microflora and fecal oxysulf gas emission in broilers. I. H. Kim\(^1\), Y. Lei and S. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

**M229** Effects of a symbiotic feed additive on milk quality and calving interval in Brazilian dairy herds. R. D. Sainz\(^1\), E. A. Filgueiras\(^2,3,4\), C. U. Magnabosco\(^5\), P. H. Medes\(^6\) and K. S. Mendanha\(^7\), \(^1\)University of California - Davis, Davis, CA, \(^2\)Universidade Federal de Goiás, Goiânia-GO, Brazil, \(^3\)Bioformula Ltda, Goiânia-GO, Brazil, \(^4\)CAPES, Brasilia-DF, Brazil, \(^5\)Embrapa Cerrados, Brasilia, Brazil

**M230** Effects of Injectable Trace Minerals at the Start of the Breeding Season on Attainment of Pregnancy in Commercial Beef Cows. J. D. Arthington\(^1\), P. G. M. D. A. Martins\(^1\), P. Moriel\(^1\) and L. Havenga\(^2\), \(^1\)UF/IFAS Range Cattle Research and Education Center, Ona, FL, \(^2\)MultiMin USA, Ft. Collins, CO
1470 M231 Does the method of feeding milk replacer affect calf performance?
M. Terre, J. M. Pont, P. Martinez, L. Villa and A. Bach, IRTA, CALDES DE MONTBUI, SPAIN, Granja San Jose, S.A., Tamarite de Litera, Spain, 2Department of Ruminant Production, IRTA, CALDES DE MONTBUI, SPAIN

1471 M232 Cost analysis of feeding bermedagrass (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. Martin, R. J. Pruitt, B. Buttry and R. Walker, LSU 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. Martins, O. F. R. Cunha, G. P. Caputti, A. Saran Nero, J. M. B. Vendramini and J. D. Arrington, UF/IFAS Range Cattle Research and Education Center, Ona, FL, 2University of Sao Paulo, Pirassununga, Brazil

1473 M234 Comparison of camelina meal and DDGS in the diet of replacement beef heifers.
E. E. Grings, A. Sackey 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.

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

1476 M237 Evaluating on-farm methods for measuring dry matter content of potatoes.
R. J. Norell, J. B. Glaze Jr., M. Chahine and N. L. Olsen, 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. Norell, J. B. Glaze Jr., M. Chahine and N. L. Olsen, 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. Ghorbani, 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. Morris, K. Hard, M. M. Spring, A. L. Robinson and H. D. Tyler, 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. Pitta, S. Kumar, N. Indugula, R. Sinha, B. Veiccharelli, B. Bhukya and J. Ferguson, 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. Osorio, P. J, J. K. Drackley, D. N. Luchini and J. J. Loor, 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

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

1530 M244 Effects of Supplementing Rumen-Protected Met and Lys on Diets Containing Soybean Meal or Canola Meal in Lactating Dairy Cows.
G. A. Broderick and A. Faciola, 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.
M246  Impacts of feeding ruminantly 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

M247  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-Lopez7, T. J. Klopfenstein1 and P. J. Kononoff2, 1University of Nebraska-Lincoln, Lincoln, 2University of Saskatchewan, Saskatoon, SK, Canada, 3University of Nebraska, Lincoln

M248  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. Pereira1, C. G. Schwab2, I. Shinzato1 and M. Miura3, 1University of New Hampshire, Durham, NH, 2Schwab Consulting, LLC, Boscobel, WI, 3Ajinomoto Heartland Inc., Chicago, IL, 4Ajinomoto Co., Inc., Kawasaki, Japan

M249  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. Zhang1 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

M250  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. Zhang1 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

M252  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. Liu1 and J. J. Loor1,2, 1Zhejiang University, Hangzhou, China, 2University of Illinois, Urbana, 3Northwest A & F University, Yangling, China, 4University of Bonn, Bonn, Germany

M253  Changes in plasma methionine concentrations after administration of two different doses of rumen protected methionine.
P. D. Carvalho1, N. E. Lobos2, M. Z. Toledo2, E. Trevisoi2, V. G. Santos2, R. V. Barletta2, G. M. Baez2, A. Garcia-Guerra2, J. N. Guenther2, A. H. Sousa2, D. Luchini3, P. M. Fricke2, R. D. Shaver3 and M. C. Witbank1, 1University of Wisconsin, Madison, 2Department of Dairy Science, University of Wisconsin-Madison, Madison, 3Adisseo, Alpharetta, GA

Y. Miyazawa1, M. Miura2, T. Fujieda1, I. Shinzato2, S. W. Fessenden1 and M. D. Stern1, 1Ajinomoto Co., Inc., Kawasaki, Japan, 2University of Minnesota, St Paul

M255  Histidine requirement of dairy cows determined by the indicator amino acid oxidation (AAO) technique.
D. R. Ouellet1, G. E. Lobley2 and H. Lapierre3, 1Agriculture & 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

M256  Estimation of histidine requirement in lactating dairy cows.
H. Lapierre1, D. R. Ouellet2 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

M257  Effects of different protein sources on milk performance and amino acid profile in early lactating dairy cows.
X. Q. Zhou1,2, D. P. Bu1, 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

M258  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. Zhao1,3, A. Hosseini4, J. X. Liu1 and J. J. Loor4, 1University of Illinois, Urbana, 2Zhejiang University, Hangzhou, China, 3Northwest A & F University, Yangling, China, 4University of Bonn, Bonn, Germany

M259  Rumen-protected methionine and choline supplementation during the transition period enhance the proinflammatory cytokine response of whole blood.
M. Vailati Riboni1,2, Z. Zhou1, D. N. Luchini2, A. Minuti1, E. Trevisi1 and J. J. Loor2, 1Università Cattolica del Sacro Cuore, Piacenza, Italy, 2University of Illinois, Urbana, 3Adisseo S.A.S., Alpharetta, GA

M260  Amino Acid Analysis in Dairy Cow Plasma by Chloroformate Derivatization and Gas Chromatography.
N. E. Lobos1, G. A. Broderick1, P. D. Carvalho1, D. N. Luchini2, R. D. Shaver3, A. H. Sousa2 and M. C. Witbank1, 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
Effects of Supplementing Limiting Amino Acids inDiets with Reduced CP on Nitrogen Excretion.
M. A. C. Danes1, G. A. Broderick2 and C. Parys1, 1University of Wisconsin-Madison, Madison, 2Broderick Nutrition & Research, LLC, Madison, WI, 3Eönvik Industries AG, Hanau, Germany

Effects of rumen-protected ß-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

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. Grisswo1d, 1South Dakota State University, Brookings, 2Kemin Nutritional Inc., Des Moines, IA, 3Eönvik Industries AG, Hanau, Germany

Canola meals from different plants over two production years differ in rumen-undegraded protein.
G. A. Broderick1, S. Colombini1, A. Faciola1 and M. A. Karsli1, 1Broderick Nutrition & Research, LLC, Madison, WI, 2University of Milan, Milan, Italy, 3University of Nevada, Reno, 4Kirikkale University, Kirikkale, Turkey

Rumen-undegradable protein in 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 Manzano1,2, T. J. Klufenstein1 and P. J. Kononoff1, 1University of Nebraska-Lincoln, Lincoln, 2University of Nebraska, Lincoln

Sources of protein and protected methionine on situ ruminal degradability of crude protein of feed ingredients.
F. D. O. Scarpino van Cleef1,2,3, J. M. Bertocco Ezqueuid1, E. Neves Muniz1, R. L. Galati1 and E. H. C. B. Van Cleef1,2, 1UNESP, Jaboticabal, Brazil, 2CNPq, Brasilia, Brazil, 3Embrapa Tabuleiros Costeiros, Aracaju, Brazil, 4Federal University of Mato Grosso, Cuiaba, Brazil, 5Kemin Animal Nutrition & Health, Des Moines, IA

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. Slanson and C. M. M. Bittar, University of Sao Paulo, Piracicaba, Brazil

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. Schwab, M. C. Blais1, A. F. Brito1 and B. K. Sloan1, 1University of New Hampshire, Durham, NH, 2Schwab Consulting, LLC, Boscobel, WI, 3Adisseo, Alpharetta, GA

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

Effects of Maternal Nutrition and Arginine Supplementation on Characteristics of Wool Quality in Offspring.
J. L. Peine1,2, P. P. Borowicz, J. S. Caton and R. R. Redden, North Dakota State University, Fargo

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Ultrasonography for investigating the effect of supplementing whole milk with plant-derived complex carbohydrates on curd clearance through the abomasum of dairy calves.
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Relationship between non-protein nitrogen and true dry matter degradation of supplements during the post-weaning phase of Nellore steers in the dry-wet season transition.
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Sulfur sources in protein supplements and their influence upon amino acid profiles.
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Slow-release urea in diets of crossbred lactating cows.
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M.276 1562  Passage rate and efficiency of microbial protein synthesis in buffaloes fed increasing levels of crude protein.
E. Machado, L. M. Zeoula, E. H. Yoshimura, R. B. Samensani, N. W. Santos, B. C. Agostinho, L. D. M. Pereira and S. C. Aguiar, Universidade Estadual de Maringá, Maringá, Brazil

M.277 1563  Effects of test weight and processing method on in vitro intestinal digestibility of barley grain.
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M.278 1564  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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M.279 1565  Effects of forage intake to minimize the risk of subacute ruminal acidosis on performance of feedlot finishing cattle.
K. M. Koenig, G. E. Chibisa, G. B. Penner and K. A. Beauchemin, 1Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada, 2University of Saskatchewan, Saskatoon, SK, Canada

M.280 1566  Saliva Production and Short-chain Fatty Acid Absorption in Beef Cattle Fed a Low- or High-forage Diet.
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M.281 1567  Interactions between levels and source of energy supplementation in beef cattle.
J. R. R. Dória, L. R. Dell Agostinho Neto, V. N. Gouveia, D. A. Fleury, A. V. Pires and F. A. P. Santos, 1University of São Paulo, Piracicaba, Brazil, 2University of São Paulo - FMVZ/USP, Pirassununga, Brazil, 3University of São Paulo, Piracicaba, Brazil

M.282 1568  Digestibility and nitrogen efficiency of growing beef cattle fed diets containing different proportions of Stylosanthes Campo Grande and corn silages.
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M.283 1569  Influence of Macleaya cordata preparation on feedlot performance and carcass characteristics of finishing bulls.
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M.284 1570  Supply levels of multiple supplements for beef heifers on pasture during the dry season: ruminal pH and ammonia nitrogen.

M.285 1571  Comparison of commercially available lick tubs to daily by-product supplementation of calves grazing corn residue.
M. Jones, University of Nebraska-Lincoln, Lincoln

M.286 1572  Dry matter intake of supplemented cattle under grazing during the dry season.

M.287 1573  Interaction between grazing management and energy supplementation on behavior of grazing beef cattle.
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M.288 1574  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.
T. A. Morsy and S. Kohlf, National Research Center, Cairo, Egypt

1581 M295 Effect of Two Exogenous Fibrolytic Enzyme Preparations on Rumen Fermentation and In Situ Degradability Kinetics in Dairy Cattle.
J. J. Romero1, E. G. Macias1, Z. Ma1, R. M. Martins1, C. R. Staples1 and A. T. Adesogan1, 1Dept. of Animal Sciences, University of Florida, Gainesville, 2Dept. de Zootecnia, Universidad Nacional Agraria La Molina, Lima, Peru, 3Dept. de Zootecnia, Universidade Federal de Viçosa, Minas Gerais, Brazil

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.
H. A. Ramirez Ramirez1 and P. J. Kononoff, University of Nebraska, Lincoln

1587 M301 Impact of Forage Inclusion Rate in a Dry Total Mixed Ration on the Behavior and Growth of Growing Dairy Cattle.
M. J. Groen3, M. A. Steele1 and T. J. De Vries1, 1University of Guelph, Kemptville, ON, Canada, 2Wageningen University, Wageningen, Netherlands, 3Nutreco Canada, Guelph, ON, Canada

1588 M302 Assessment of feeding high moisture corn grain with different qualities of alfalfa hay in high-forage lactation dairy diets.
A. W. Kelley, K. Neal, A. J. Young and J. S. Eun, Utah State University, Logan

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.
C. J. Cabrera1, S. H. Ward and A. J. Geiger, Mississippi State University, Mississippi State

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.
M. D. Sellers, C. R. Nightingale and M. A. Ballou, Texas Tech University, Department of Animal and Food Sciences, Lubbock, TX

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 ruminant 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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1605 M319 Extruded Soybean Meal Increases Feed Intake and Milk Production in Dairy Cows.
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1606 M320 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.
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1607 M321 Analysis of dipeptidyl peptidase IV from microbial metagenomic library in the rumen of dairy cow.
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1608 M322 Modification of the Feeding Behavior of Dairy Cows through Live Yeast Supplementation.
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1609 M323 The effect of supplementing dairy cows with a hydrolyzed yeast product (ProGut™Rumen) on milk production and somatic cell scores.
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1610 M324 Effect of live yeast vs. sodium sesquicarbonate supplementation on milk yield and milk components in dairy cows.
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1611 M325 Milk production of dairy cows fed sugar cane silage based diets.
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1612 M326 Fecal sample starch content deteriorates over time after sampling.
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1613 M327 Effects of pH and incubation duration on the stability of the endoglucanase activity of seventeen exogenous fibrolytic enzyme preparations.
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1614 M328 Evaluation of a source of α-amylase and a protease in the diet of lambs on nutrient intake and digestibility and blood parameters.
B. Quintana1, L. C. Solorzano2 and A. A. Rodriguez1, 1University of Puerto Rico, Mayaguez, PR, 2DSM Nutritional Products, Parsippany, NJ

1615 M329 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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1616 M330 Utilization of industrial enzymes in the evaluation of neutral detergent insoluble fiber content in high-starch samples.
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1617 M331 In situ degradation and fermentation of a diet with an exogenous phytase for lambs.
L. H. Vallejo-Hernandez1, G. Buendia-Rodríguez2, J. E. Ramirez-Bribiesca3, L. A. Miranda-Romero4, M. M. Crosby-Galvan3, and S. S. Gonzalez5, 1Universidad Autonoma del Estado de Mexico, Toluca, Mexico, 2CENIDFyMA INIFAP, Queretaro, Mexico, 3Colegio de Postgraduados, Montecillo, Mexico, 4Universidad Autonoma de Chapingo, Chapingo, Mexico, 5Colegio de Postgraduados, Montecillo Estado de Mexico, Mexico

1618 M332 Sources of sulfur in protein supplements and fiber degradability.
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1620 M334 Nutritional Evaluation of Forage Koecha (Koecha Prostrata) as an Alternative Forage For Beef Cattle Using a Dual-Flow Continuous Culture System.

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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. Batista1, E. Detmann1, D. I. Gomes2, L. M. A. Rufino2, A. R. Lopes2, S. C. Valadares Filho1, M. F. Paulino1 and E. C. Tittgemeyer3, 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 forage quality and supplemented soybean meal.

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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.

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1626 M340 Use of modulators additives 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.

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1628 M342 Within Laboratory Repeatability of the In Situ Nylon Bag Method.

H. V. Laar1 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 Filho1, L. O. Tedeschi2, M. A. Fonseca2 and L. F. L. Cavalcanti3, 1Universidade Federal de Vícosa, Vícosa, 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. Casper1 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. Bu*, 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. López1,2, J. F. Vázquez-Armijo1, A. F. Z. M. Salem1, J. Hernández1,2, R. Rojo1 and J. Cedillo1, Centro Universitario UAEU Temascaltepec, Temascaltepec, Mexico, 1Universidad Autónoma de Tamaulipas, Ciudad Victoria, Mexico, 2Universidad Autónoma del Estado de México, El Cerrillo Piedras Blancas, Mexico

1633 M347 In vitro ruminal fermentation with three sources of inoculum in diets containing Acrocomia aculeata.
S. L. S. Cabral Filho1, L. S. Murata1, R. A. Mandarino1, C. Eufrásio de Souza1, D. Leomarad Migotto1, F. Lopes da Silva1, J. Artemio Marin Belfraim1 and J. H. Bernardes Pereira1, 1University of Brasilia, Brasilia, Brazil, 2Universidade Federal de Minas Gerais, Brasilia, Brazil, 3Universidade de Brasilia, Brasilia, Brazil, 4Universidade Federal de Mato Grosso do Sul, Campo Grande, Brazil

1637 M251 Plasma L-Methionine and Supplemental L-Methionine Precursor Responses to Rumen Administration of a Rumen Protected DL-Methionine Source or Different Levels of 2-Hydroxy-4-Methylthio-Butanoic Acid.
G. I. Zanton1, S. E. Bettis and M. Vázquez-Anon, Novus International, Inc., St. Charles, MO

1638 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. Peng1,2, N. A. Khan1, Z. Wang1, X. Huang1 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. Peng1,2, X. Huang1, Z. Wang1 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-Ibargüengoitia2, G. D. Mendoza-Martinez3 and S. S. Gonzalez-Muñoz3, 1Universidad Nacional Autonoma de Mexico, Mexico D.F., Mexico, 2CEIENDFyMA INIFAP, Queretaro, Mexico, 3Universidad Autonoma Metropolitana, Unidad Xochimilco, Mexico D.F., Mexico, 4Colegio de Postgraduados, Montecillo Estado de Mexico, 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. Metcalf2 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. Lima1,2, H. J. Fernandes1, E. P. Rosa1, L. S. Caramalac2, K. A. Silveira3, G. C. Silva3, B. D. D’auria1 and A. Aguilar3, 1Federal University 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. Lopes2, J. M. Leão2 and M. H. F. Mourthé2, 1PUC Minas, Betim, Brazil, 2UFMG, 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 Propionate Concentration in Alfalfa Hay Based Diets Evaluated in a Dual-Flow Continuous Culture System.
J. Bunkers*, E. Marrogetan de Paula, L. Galoro da Silva, T. Shenkoru, 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 reticularomural contractions.
A. M. Eger1,2, K. R. McLeod1, J. L. Klotz1 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. Zanetti1, S. C. Valadares Filho1, M. V. C. Pacheco1, L. F. Prados2, E. Detmann2, L. A. Godoi2, F. C. Rodrigues1, R. C. D. O. Ribeiro1, J. M. D. Silva Junior1 and S. A. Santos2, 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. Steele1,2, F. Garcia3, 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. Taassoli, 1 Raz University, Kermanshah, Iran

Effects of zinc and phosphorous on feedlot performance and carcass characteristics of hair-breed ram lambs.
A. Mendoza-Garcia1, R. Rojo-Rubio2, U. Macías-Cruz3, L. Avendaño-Reyes4, A. F. Z. M. Salem5, M. A. Jaime6 and J. F. Vázquez-Armijo1, 1Universidad Autónoma del Estado de México, Toluca, Mexico, 2Universidad Autónoma Metropolitana-Iztapalapa, Mexico, 3Universidad Autónoma Metropolitana-Iztapalapa, Mexico, 4Universidad Autónoma de Baja California, Mexicali, Mexico, 5Universidad Autónoma De Baja California, Calexico, CA, 6Universidad 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. Esparrza1, R. Rodríguez, G. Veliz1, C. Meza-Herrera1 and P. Robles-Trillo1, 1Universidad Autónoma Agraria Antonio Narro, Torreon, Mexico, 2Universidad Autónoma Chapingo, Unidad Regional Universitaria de Zonas Aridas, Bermejillo, Mexico

Milk composition of Murrah buffalo grazing on pasture in the Municipality of Taipau, 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. Rennô1, G. J. Melo1 and W. G. D. Nascimento1, 1Federal University of Viçosa, Viçosa, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 3Rural 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. Silva4, J. S. Lima4, G. J. Molo4, D. Zanetti2, T. D. S. Martins1, R. M. D. Paula1, L. C. Alves1 and L. N. Rennô1, 1Federal University of Viçosa, Viçosa, Brazil, 2Rural Federal University of Pernambuco, Garanhuns, Brazil, 3Rural Federal University of Pernambuco, Recife, Brazil, 4Universidade 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, N. Zheng1,2,3, D. P. Bu1, M. Zhao1, X. Q. Zhou1 and J. Wang1,2,3, 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

The use of favored or unfavored ingredients in starter feeds for preweaned calves.
M. Terre1 and A. Bach2, 1IRTA, Caudal de Montbui, Spain, 2Department of Ruminant Production, IRTA, Caudal de Montbui, Spain

Small Ruminant Poster I

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

Dermal Application of PGF2α for Estrus Synchronization in Goats: Preliminary Feasibility.
C. E. Fergusson1, D. J. Kester2, H. Nordberg2 and J. Veillon1, 1McNeese State University, Lake Charles, LA, 2University of Illinois, Urbana-Champaign

Longissimus muscle fatty acid profile of crossbred Boer goat kids fed diets containing crude glycérin.
M. O. M. Parente1, K. S. Rocha1, H. N. Parente1, E. M. Ferreira1, R. D. C. R. E. Queiroga1, A. S. M. Batista2, R. M. S. Gomez1, P. P. O. Silva1 and J. S. Araújo1, 1Universidade Federal do Maranhão, Chapadim, Brazil, 2Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil, 3Universidade Federal da Paraíba, João Pessoa, Brazil, 4Universidade do Vale do Açoaro, Sobral, Brazil

Performance and carcass characteristics of finishing goat kids fed diets containing crude glycérin.
M. O. M. Parente1, K. S. Rocha1, H. N. Parente1, E. M. Ferreira1, I. G. R. Aratijó1, R. C. Rodrigues1, R. M. S. Gomez1 and P. R. O. Silva1, 1Universidade Federal do Maranhão, Chapadim, Brazil, 2Escola Superior de Agricultura Luiz de Queiroz - ESALQ/USP, Piracicaba, Brazil

Effect of Decreasing 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 alphaSl-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. Hart2 and R. Heinemann3, 1American Institute for Goat Research, Langston University, Langston, OK, 2Kiamichi Forestry Research Station, Oklahoma State University, Idabel, OK
1906 M372 Model evaluation of methane emission from goats.  
M. H. M. R. F. Fernandes1, K. T. Resende2, 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. Rezayazd11, F. Mirzaei12 and M. Hosseinabadi13, 1Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Tehran, Karaj, 2Animal Science Research Institute, Karaj, Iran, 3University of Tehran, Tehran, Iran

1908 M374 Seasonal variation influences the semen characteristics and freezability in Xinong Saanen goat.  
W. Wang1, J. Luo2 and S. Sun3, 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. Leite5, F. O. M. Figueiredo5, M. M. Freire5, V. B. Carvalho5 and I. A. M. A. Teixeira5, 1UNESP, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, SP, Brazil, 2UFV, Universidade Federal de Viçosa, Department of Animal Science, Viçosa, MG, Brazil, 3Sao Paulo State University, Jaboticabal/SP, Brazil, 4UFAL, 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. Teixeira12, H. C. Bonfa1, 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, 3Sao 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. Enami1, M. Ganjkhani12, A. Zali1, A. Akhbari-Afjani1 and M. Dehghan-Banadakdy23, 1University of Birjand, Birjand, Iran, 2University of Tehran, Tehran, Iran, 3University of Zanjan, Zanjan, Iran

N. C. Whitley1, S. H. Ok, K. Moulton, R. Franco, S. B. Routh and C. Kyle, North Carolina A&T State University, Greensboro, USA

1913 M379 Pharmacokinetic processes of Lithium used for food aversion in sheep and goats.  
C. L. Manue1an1, E. Albanell1, M. Ro1val1, A. Salama1,2,2, G. Caja1 and R. Gu1tart1, 1Group of Ruminant Research (G2R), Universitat Autonoma de Barcelona, Bellatella, Barcelona, Spain, 2Animal Production Research Institute, Dokki, Giza, Egypt, 3Laboratory of Toxicology, Faculty of Veterinary, Universitat Autonoma de Barcelona, Bellatella, Barcelona, Spain

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. Gentil1, E. M. Ferreira1, R. A. Souza1, A. P. A. Freire1, J. A. Faleiro Neto2, A. V. Pires1 and I. Susin13, 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. Shanks, J. D. Caldwell, W. M. Haslag, J. D. Walker, K. M. Jones 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, A. V. Pires1, I. Susin1, M. V. Biech1, V. N. Gouveia1, M. V. C. Ferraz Jr1, M. L. Day2, L. H. Cruppe1, J. A. Faleiro Neto1 and J. P. C. Thieme1, 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, USA

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 blastocyst in vivo.  
D. Bueno Dalto112, S. Tso1, 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. Lopez-Vergé1, G. Ibanez2 and J. Gasa1, 1Animal Nutrition and Welfare Sciences, University Autonoma de Barcelona, Bellaterra, Spain, 2Globosuinos Agropecuaria S/A, Paraná, Brazil

1939 M385 Growth performance of Sarda purebreed suckling piglets reared in smallholder farms.  
C. Sulca1, S. Fele2, G. G. Fruttero2, S. B. Gasai2 and G. Battacone11, 1Dipartimento di Agraria, University of Sassari, Sassari, Italy, 2Agenzia LAORE Sardegna, Cagliari, Italy

42 DRAFT 2014 JAM SCIENTIFIC PROGRAM
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. Freking†1 and J. L. Valley‡, 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. Pettey, 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
2502

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

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. Baumgard†1, J. W. Ross†, N. K. Gabler†, S. M. Lonergan†, A. F. Keating†, J. T. Selsby† and R. P. Rhoads‡1, †Iowa State University, Ames, ‡Virginia 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
2101

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. Weaber, Kansas State University, Manhattan

B. J. Johnson*, Texas Tech University, Lubbock

11:00 AM 120  Economic Considerations Related to Rebuilding the U.S. Cowherd.  
G. T. Tonsor1 and L. L. Schulz2, 1Kansas State University, Manhattan, 2Iowa State University, Ames

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

Chair: Jennifer M. Bormann, Kansas State University

2505A

9:30 AM 152  Calculation and Delivery of US Genomic Evaluations for Dairy Cattle.  
G. R. Wiggins1, T. A. Cooper1, P. M. VanRaden2, D. J. Null3, J. L. Hutchinson3, O. M. Meland4, M. E. Tooker2 and H. D. Norman5, 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. Cole1 and P. M. VanRaden1, 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. Macciotta1, D. Vicario2, C. Dimaro1, G. Gaspa1, M. Cellesi1, A. Puledda3, S. Sorbolini1 and P. Ajmone-Marsan1, 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. VandeHaar1, Y. Lu1, D. M. Spurlock2, L. E. Armentano3, K. A. Weigel1, R. F. Veerkamp4, M. Coffey4, Y. de Haas5, C. R. Stables6, E. E. Connor7, M. D. Hanigan8 and R. J. Tempelman1, 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. Souza1, N. Silva-Del-Rio2, E. O. S. Batista2, W. VerBoort7, P. S. Baruselli3 and P. J. Ross2, 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. Jayaratna* 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. Formigoni3 and R. D. Shaver3, 1University of Wisconsin, Madison, 2Fencrest, LLC, Holderness, NH, 3Università 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. Behl2, 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, Blackstone

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. Ganjikhanyan2, M. Dehghan-Banadak2 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. Solórzano3 and A. A. Rodriguez3, 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. Coblenz1, R. E. Muck2, M. A. Borchardt1, W. E. Jokela1, M. G. Bertram2 and K. P. Coffey2, 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. Rezamand2 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 Ortega3 and J. Romero Bernal4, 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 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. Satariya1, 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. Satariya1, H. G. Patel2, 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.
H. Eshpari1*, P. S. Tong1 and M. Corredig4, 1University of Guelph, Guelph, ON, Canada, 2California Polytechnic State University, San Luis Obispo, CA, 3Dept. of Dairy Science, California Polytechnic State University, San Luis Obispo, CA, 4Dept Food Science, University of Guelph, Guelph, ON, Canada

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. Sparks2, 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. Young2 and K. Mjoun2, 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, S. Washburn1, S. Davidson1, G. Smith1, T. Earleywine2 and C. Ma3, 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, J. C. Amundson2, K. S. Hackberr2, A. R. Dresch2, L. M. Vieira2, J. N. Guenther2, R. R. Grummer3, R. D. Shaver1, P. M. Fricke1 and M. C. Wiltbank1, 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. Bas1, T. A. Brick2, 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.
11:15 AM  341  Effect of prophylactic and therapeutic antibiotic administration on fecal excretion of antibiotic resistance genes by dairy cows.

11:30 AM  342  Effects of oscillating the crude protein content in dairy cow rations.
A. N. Brown1, and W. P. Weiss2, 1The Ohio State University, Wooster, 2Department of Animal Sciences, The Ohio State University, Wooster

11:45 AM  343  Interaction among energy status, and retinoid status in periparturient dairy cows: production, milk retinoid, and metabolic response.
K. C. Ramsey1, J. D. Blickenstaff, C. Y. Tsai, C. M. Scholte, W. Price, M. A. McGuire and P. Rezamand, University of Idaho, Moscow

12:00 PM  344  Reproductive performance of timed artificial insemination and activity-based estrus detection.
K. A. Dolecheck1, W. J. Silvia, G. Heersche Jr. and J. M. Bewley, University of Kentucky, Lexington

12:15 PM  345  Energy content of reduced-fat distillers grains for lactating dairy cows.
A. Foth1, G. Garcia Gomez1, T. Brown-Brandl1, H. C. Freely1 and P. J. Kononoff1, 1University of Nebraska, Lincoln, 2ARS-USDA, Clay Center, NE, 3USDA, ARS, US MARC, Clay Center, NE

12:30 PM  346  Relationship Between Digestibility and Residual Feed Intake in Lactating Holstein Cows Fed High and Low Starch Diets.
S. E. Burczynski1, J. P. Boerman, A. L. Lock, M. S. Allen and M. J. VandeHaar, Michigan State University, East Lansing

Horse Species Symposium: Advances in Equine Stem Cell Biology
Chair: Josie Coverdale, Texas A&M University
3501F

9:30 AM  382  Developmental Progenitor Cells of Articular Chondrocytes.
J. N. MacLeod1, University of Kentucky, Lexington

10:20 AM  383  Understanding the Link Between Inflammation and Muscle Satellite Cells in the Horse.
S. A. Reed1, Department of Animal Science, University of Connecticut, Storrs

11:10 AM  384  Use of Mesenchymal Stem Cells in Bone Repair.
K. E. Govoni1, Department of Animal Science, University of Connecticut, Storrs

Meat Science and Muscle Biology
Chair: TBA
3501D

9:30 AM  419  Changes to the Muscle Proteome During Acute Heat Stress are Dependent on Predominant Fiber Type.

9:45 AM  420  Relationship of Fat Quality to Meat Quality Traits of Pork.
E. D. Testroet1, C. Yoder, C. Bustos, S. M. Lei, D. C. Beitz and T. J. Baas, Iowa State University, Ames

10:00 AM  421  Effects of dietary level of dried citrus pulp on growth, feed efficiency, carcass merit, and lean quality of finishing pigs.
C. M. Strong1, J. H. Brendemuhl, D. D. Johnson and C. Carr, University of Florida, Gainesville

10:15 AM  422  Effects of zilpaterol hydrochloride and implants in beef heifers I: feedlot performance, carcass characteristics, and intramyocellular lipid accumulation.
M. A. Vaughn1, S. M. Ebarb, K. J. Phelps, D. D. Burnett, J. S. Drouillard and J. M. Gonzalez, Kansas State University, Manhattan

10:30 AM  423  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. Ebarb1, K. J. Phelps, M. A. Vaughn, J. A. Noel, C. B. Paulk, J. S. Drouillard and J. M. Gonzalez, Kansas State University, Manhattan
Nonruminant Nutrition: Nutrient Requirements of Monogastrics and Amino Acid Digestibility of Feedstuffs

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

MONDAY, JULY 21, 2014

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. Xue¹, 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. Jayaraman¹*, J. K. Htoo² and C. M. Nyachoti¹, 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. Mathai¹ and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana, IL

10:15 AM 438 Homocysteineinemia, growth performance and immune responses in suckling and weaning piglets.
I. Audei, 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. Columbus¹, J. Steinhoff-Wagner¹, A. Surjawana², M. Kao¹, A. Hernandez-Garcia¹, C. Boutry¹, H. V. Nguyen¹, M. L. Fiorotto¹ and T. A. Davis¹, 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. Kahindi¹*, M. C. Nyachoti¹ and J. K. Htoo², 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. Jaworski¹, Y. Liu and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana, IL

48 | DRAFT 2014 JAM SCIENTIFIC PROGRAM
Amino acid digestibility in processed soybean products and rapeseed products fed to weanling pigs.  
D. M. D. L. Navarro\textsuperscript{1}, Y. Liu\textsuperscript{1}, T. S. Brunn\textsuperscript{1} and H. H. Steiner\textsuperscript{1}, \textsuperscript{1}University of Illinois at Urbana-Champaign, Urbana, IL, \textsuperscript{2}Danish Pig Research Centre, Copenhagen, Denmark

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

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

Dietary phosphorus requirement of 20-kg pigs – A cooperative study.  
O. Adeola\textsuperscript{1,2}, M. J. Azain\textsuperscript{1}, S. D. Carter\textsuperscript{1}, T. D. Crenshaw\textsuperscript{1}, M. J. Estienne\textsuperscript{1}, B. J. Kerr\textsuperscript{1}, M. D. Lindemann\textsuperscript{1}, C. V. Maxwell\textsuperscript{1}, P. S. Miller\textsuperscript{1}, M. C. Shannon\textsuperscript{11}, E. van Heugten\textsuperscript{11} and N. A. S-1061\textsuperscript{12}, \textsuperscript{1}Purdue University, West Lafayette, IN, \textsuperscript{2}University of Georgia, Athens, \textsuperscript{3}Oklahoma State University, Stillwater, \textsuperscript{4}University of Wisconsin, Madison, \textsuperscript{5}Virginia Tech Tidewater AREC, Suffolk, VA, \textsuperscript{6}USDA - ARS, Ames, IA, \textsuperscript{7}University of Kentucky, Lexington, \textsuperscript{8}Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, \textsuperscript{9}University of Nebraska, Lincoln, \textsuperscript{10}University of Missouri-Columbia, Columbia, MO, \textsuperscript{11}North Carolina State University, Raleigh, \textsuperscript{12}Swine 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. Beeson\textsuperscript{1}, C. L. Walk\textsuperscript{2} and O. Olukosi\textsuperscript{1}, \textsuperscript{1}SRUC, Ayr, United Kingdom, \textsuperscript{2}AB Vista Feed Ingredients, Marlborough, United Kingdom

**Physiology and Endocrinology: Pregnancy, Placentation and Reproductive Health in Ruminants**  
Chair: Gregoy Bedecarrats, University of Guelph  
2103C

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\textsuperscript{1}, D. E. Graignard\textsuperscript{1}, E. Trevisi\textsuperscript{1} and J. J. Loo\textsuperscript{1}, \textsuperscript{1}Università Cattolica del Sacro Cuore, Piacenza, Italy, \textsuperscript{2}University of Illinois, Urbana, \textsuperscript{3}University of Illinois, Urbana

The role of pH and progesterone on bovine uterine protein secretion in response to maternal recognition, interferon-tau.  
J. A. Spencer\textsuperscript{1}, K. J. Austin\textsuperscript{1}, K. G. Carnahan\textsuperscript{1} and A. Ahmadzadeh\textsuperscript{1}, \textsuperscript{1}University of Idaho, Moscow, \textsuperscript{2}Department 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\textsuperscript{1}, 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\textsuperscript{1}, 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\textsuperscript{1}, 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\textsuperscript{1,2}, A. Chapwanya\textsuperscript{1}, E. C. Webb\textsuperscript{1,3} and P. C. Irons\textsuperscript{1,2}, \textsuperscript{1}Department of Production Animal Studies, Faculty of Veterinary Sciences, University of Pretoria, Onderstepoort, South Africa, \textsuperscript{2}Institute of Food, Nutrition and Well-being University of Pretoria, Pretoria, South Africa, \textsuperscript{3}Department 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\textsuperscript{1}, J. J. Romero, C. Broechling 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. Graziul-Biliska, J. Haring and J. S. Caton, North Dakota State University, Fargo
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. Carpenter, C. M. Ylioja, C. F. Vargas Rodriguez, E. G. D. Mendonça, L. Mamedova, J. F. Coetzee, L. Hollis, R. Gehring, and B. Bradford, 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

Biology and molecular signatures of elongating preimplantation conceptuses in dairy cows.

E. S. Ribeiro, L. F. Greco, R. S. Bisinotto, F. S. Lima, W. W. Thatcher, and J. E. P. Santos, 1Department of Animal Sciences, University of Florida, Gainesville, 2University of Florida, Gainesville

Modulation of the immune system during post-partum uterine infection.

C. G. Walker, S. Meier, J. R. Roche, M. D. Mitchell and C. Burke, 1DairyNZ, Auckland, New Zealand, 2DairyNZ, Hamilton, New Zealand, 3University of Queensland, Queensland, Australia, 4Dairy NZ Ltd, Hamilton, New Zealand

Carryover effects of postpartum diseases on early conceptus development in dairy cows.

E. S. Ribeiro, 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

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. Russell, N. O. Minton, W. J. Sexton, M. S. Kerley, and S. L. Hansen, 1Iowa State University, Ames, 2University of Missouri, Columbia

Effects of processing of treated corn stover and distillers grains on intake and digestibility of feedlot diets.

J. L. Harding, M. L. Jolly, J. C. MacDonal and G. E. Erickson, University of Nebraska-Lincoln, Lincoln

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. Hales, A. P. Foote, T. Brown-Brandl, and H. C. Freethy, 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

Intake and digestibility of diets without forage in Nellore and Angus young bulls.

M. M. Ladeira, J. R. R. Carvalho, M. L. Chizzotti, D. R. Casagrande, P. D. Teixeira, M. C. L. Alves, and L. A. Silveira, 1Universidade Federal de Lavras, Lavras, Brazil, 2Universidade Federal de Viçosa, Viçosa, Brazil

A survey of dry-rolled corn particle size and fecal starch in U.S. feedlots.

E. Schwandi, Kansas State University, Manhattan

Effects of feeding zilpaterol hydrochloride on feedlot performance and carcass characteristics of Nellore bulls and steers.

A. L. Brichi, C. F. Costa, A. Perdigao, M. A. Factori, I. C. Pereira, D. D. Estevam, R. S. Goulart, C. L. Martins, D. D. Millen, and M. D. Arrigoni, 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

Effects of Next Enhance concentrations in finishing diets on performance and carcass characteristics of yearling feedlot cattle.

C. J. Bittner, G. E. Erickson, K. H. Jenkins, M. K. Luebbe, J. L. Harding, and M. A. Andersen, 1University of Nebraska-Lincoln, Lincoln, 2University of Nebraska, Scottsbluff, NE, 3Novus International, Inc., St. Charles, MO

Effects of plane of nutrition during late gestation and weaning age on transcriptome profiles of Longissimus muscle in Simmental x Angus offspring.

S. Moisa, L. M. Shoup, D. W. Shike and J. J. Loor, University of Illinois, Urbana

Post-natal nutritional management alters transcription regulator gene networks in Longissimus muscle of Angus x Simmental offspring.

S. Moisa, L. M. Shoup, D. W. Shike and J. J. Loor, University of Illinois, Urbana

Effect of Ractopamine hydrochloride and dietary protein content on performance and carcass traits of Nellore bulls.

N. R. B. Consolo, F. Rodriguez, M. O. Frasseto, R. A. P. Maciel, V. Rizzi and L. F. P. Silva, 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. Bitten*, 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. Nematpour*, K. Rezayazi* and M. Dehghan-Banadaky, *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. Oliveira¹, H. Kimball², J. P. McNamara³* and A. Fix*, *Sao Paulo State University, Sao Paulo, Brazil, ²Washington State University, Pullman, ³University of Hannover, Hannover, Germany

9:45 AM  602  A dynamic, mechanistic model of metabolism in adipose tissue of lactating dairy cattle.  
J. P. McNamara³*, K. Huber⁴ and A. Kenez⁵, *Washington State University, Pullman, ⁴University 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. Hall¹, T. D. Nennich² and P. H. Doane³, *U. S. Dairy Forage Research Center, USDA-ARS, Madison, WI, ²Purdue University, West Lafayette, IN, ³ADM 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. Boerman¹*, 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. Zou¹, 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. Klingensmith¹*, L. Harthan¹ and M. D. Hanigan¹, *Virginia Tech, Blacksburg, ²Virginia 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. Shi¹, 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. Sadrearhami, 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. Gao¹ 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. Wang¹, S. Y. Mao², H. J. Yang³, Y. M. Wu¹, J. K. Wang³, S. L. Li¹, Z. M. Shen¹ and J. X. Liu¹, *Institute of Dairy Science, Zhejiang University, Hangzhou, China, ²Nanjing Agricultural University, Nanjing, China, ³China Agricultural University, Beijing, China, ⁴State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China, ⁵Zhejiang 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. Zijlstra 1, T. A. Woyengo 1, Z. Nasir 1 and E. Beltranena 1,2, 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. Cai 1, 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-Oriol 1, S. López-Vergé 1, E. Varella 2, A. C. Barroeta 1 and J. Gasa 1, 1Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Tecnotagia & Vitaminas, S.L., Alforja, Spain

11:00 AM 744 Effects of sugar beet pulp on reproductive performance of gestation sows.
Z. Cheng 1, 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

11:15 AM 745 Utilizing meta-analyses to generate prediction equations for pork carcass back, belly, and jowl fat iodine value.
C. B. Paulk 1, J. R. Bergstrom 2, M. D. Tokach 1, S. S. Dritz 1, D. D. Burnett 1, J. M. DeRouchey 1, R. D. Goodband 1, J. L. Nelssen 1 and J. M. Gonzalez 1, 1Kansas State University, Manhattan, 2DSM Nutritional Products, Inc., Parsippany, NJ

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. Cobb 2, J. M. DeRouchey 1, M. D. Tokach 1, S. S. Dritz 1, B. Lawrence 2, J. Escobar 2, J. C. Woodworth 1, R. D. Goodband 1 and N. Boettger 2, 1Kansas State University, Manhattan, 2Novus International, St. Charles, MO

11:45 AM 747 Immunocastration affects testicular mass, serum concentrations of testosterone, and average daily gain of boars.
D. Lugar 1, S. Clark 2, S. Callahan 1, L. Wittish 1 and M. Estienne 3, 1Virginia Tech, Blacksburg, 2Virginia-Maryland Regional College of Veterinary Medicine, Blacksburg, VA, 3Virginia Tech, Suffolk, VA

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. Roubos 1, 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. Potts 1, B. A. Corl and D. R. Winston, Virginia Tech, Blacksburg

11:15 AM 15 Differences in bovine and caprine cheese production.
K. Wolf 1 and J. M. Bewley, University of Kentucky, Lexington

11:30 AM 16 Do current regulations for raw milk cheeses ensure consumer safety?
C. T. Redding 1, K. H. Ingawa and S. P. Washburn, North Carolina State University, Raleigh

11:45 AM 17 Applications for functional dairy starter cultures.
G. G. FitzPatrick 1 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: Cornelis 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, L. Dionisopoulos2, O. Al Zahali3, S. L. Greenwood3, M. A. Steele5 and B. W. McBride3, 1University of Guelph, Guelph, ON, Canada, 2Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada, 3University of Vermont, Burlington, 4Nutreco Canada, 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. Heendieniya Vidanaral1, M. Y. Gruber2, Y. Wang2, D. A. Christensen3, J. J. McKinnon1, B. Coulman1 and P. Yu1, 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. Li3, X. Sun2, G. Henderson2, F. Cox4, P. H. Janssen4 and L. L. Guan4, 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. McMillan3, B. Lardner1, J. J. McKinnon1, K. Larson4 and G. B. Penner1, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Western Beef Development Centre, Humboldt, SK, Canada

2:15 PM 217  **Transcriptomic Analysis of Rectal-anal Junction Tissue from Super-shedders vs Cattle Negative for E. coli O157:H7.**
O. Wang1, G. Liang2, X. Sun2, B. Selinger2, K. Stanford2, G. S. Plastow3, T. A. McAllister2 and L. L. Guan2, 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 weanling 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. Rosser2, 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. Hoo2 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. Jose2, G. B. Penner1, J. J. McKinnon1, K. Larson4 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
<table>
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<tr>
<th>Time</th>
<th>Number</th>
<th>Title</th>
<th>Authors and Affiliations</th>
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<tr>
<td>3:45 PM</td>
<td>223</td>
<td>The relationship between trailer motion and carcass bruising in market cows during transport.</td>
<td>C. E. Kehler, K. H. Ominski, L. L. Connor, T. G. Crowe and K. S. Schwartzkopf-Genswein, University of Manitoba, Winnipeg, MB, Canada, Agriculture and Agri-food Canada, Lethbridge, AB, Canada, University of Saskatchewan, Saskatoon, SK, Canada, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada</td>
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<tr>
<td>4:00 PM</td>
<td>224</td>
<td>Impact of reducing dietary crude protein concentration on serum lysine concentration and lysine utilization efficiency in lactating sows.</td>
<td>L. A. Huber, C. F. de Lange, U. K. Larsen, D. Chamberlin and N. L. Trotter, University of Guelph, Guelph, ON, Canada, Aarhus University, Foulum, Denmark, Michigan State University, East Lansing</td>
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<td>4:15 PM</td>
<td>225</td>
<td>Diurnal variations in enteric methane emissions from non-lactating dairy cows offered diets differing in forage to grain ratio.</td>
<td>A. J. Koiz, S. C. Li, E. J. McGeough, E. Khafipour and J. C. Plaizier, University of Manitoba, Winnipeg, MB, Canada, Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, Department of Medical Microbiology and Infectious Diseases, Winnipeg, MB, Canada</td>
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<tr>
<td>4:30 PM</td>
<td>226</td>
<td>Long-term supplementation of diets with 3-nitrooxypropanol resulted in a sustained reduction in methane production in beef cattle.</td>
<td>A. Romero-Perez, E. K. Okine, S. M. McGinn, L. L. Guan, M. Oba, S. M. Duval and K. A. Beauchemin, Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada, DSM Nutritional Products France, Research Centre for Animal Nutrition and Health, Saint Louis Cedex, France</td>
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<td>4:45 PM</td>
<td>227</td>
<td>Measuring animal productivity and rumen efficiency from extensively overwintered beef cows on the Canadian Prairies.</td>
<td>G. R. Donohoe, K. M. Wittenberg, B. D. Amiro and K. H. Ominski, University of Manitoba, Winnipeg, MB, Canada</td>
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<td>5:00 PM</td>
<td>228</td>
<td>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.</td>
<td>R. Salehi, A. Ruiz-Sanchez, M. G. Colazo, M. Oba, M. Dyec and D. J. Ambrose, University of Alberta, Edmonton, AB, Canada, Alberta Agriculture and Rural Development, Edmonton, AB, Canada, Alberta Agriculture and Rural Development, Livestock Research Branch, Edmonton, AB, Canada</td>
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**ADSA Southern Section Symposium: Strategies for Housing Dairy Animals in the Southeast**

Chair: Jeffrey M Bewley, University of Kentucky

2102A

2:00 PM

Photoperiod management of dairy cattle: considerations and applications.

G. E. Dahl, University of Florida, Gainesville

2:30 PM

Impacts of Heat Stress on Cow and Calf.

S. Tao, G. E. Dahl and J. K. Bernard, University of Georgia, Tifton, GA, University of Florida, Gainesville

3:00 PM

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

Managing Heat Stress in Dairy Calves and Heifers: Housing Considerations.

S. H. Ward, Mississippi State University, Mississippi State

4:00 PM

Compost bedded pack barns as a lactating cow housing system for the Southeast.

J. M. Bewley, R. A. Black, F. A. Damasceno, E. A. Eckelkamp, G. B. Day and J. L. Taraba, University of Kentucky, Lexington, University of Tennessee, Knoxville, Federal 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

Dairy Cow Welfare: Bridging the Gap.

E. A. Morabito and J. M. Bewley, University of Kentucky, Lexington
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>2:15 PM</td>
<td>19</td>
<td>The effects of overcrowding on the behavior of lactating dairy cows in free-stall housing systems.</td>
<td>S. F. Templeton¹, R. A. Black and P. D. Krawczel, University of Tennessee, Knoxville</td>
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<td>2:30 PM</td>
<td>20</td>
<td>A Polled Future.</td>
<td>M. Richard¹ and C. C. Williams², ¹Louisiana State University, Baton Rouge, ²LSU AgCenter, Baton Rouge, LA</td>
</tr>
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<td>2:45 PM</td>
<td>21</td>
<td>The future role of metabolomics in dairy science.</td>
<td>A. E. Kraus¹, K. J. Harvatine and D. R. Olver, Pennsylvania State University, University Park</td>
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<td>3:00 PM</td>
<td>Break</td>
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<tr>
<td>3:15 PM</td>
<td>22</td>
<td>Polled Genetics: Benefits, Detriments and Identification of Polled Dairy Cattle.</td>
<td>A. L. Patch¹,¹, R. R. Cockrum¹ and D. R. Winston¹,¹Virginia Tech, Blacksburg, ²Virginia Polytechnic Institute and State University, Blacksburg</td>
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<tr>
<td>3:30 PM</td>
<td>23</td>
<td>Crossbreeding- Is it a Good Option?</td>
<td>R. J. Yarbrough¹ and S. Washburn, North Carolina State University, Raleigh</td>
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<td><strong>ADSA-SAD Undergraduate Student Paper Competition: Original Research</strong></td>
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<td>2:00 PM</td>
<td>24</td>
<td>Weaning age impacts growth, feed intake and behavioral indicators of stress in Holstein calves fed a high plane of nutrition.</td>
<td>H. E. Brown¹,¹, E. C. Ecker¹, K. E. Leslie¹, T. J. DeVries¹ and M. A. Steele¹,¹University of Guelph, Guelph, ON, Canada, ²Nutreco Canada, Guelph, ON, Canada</td>
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<td>2:15 PM</td>
<td>25</td>
<td>Effects of AICAR, Rapamycin, and Non-essential Amino Acids on Cell Signaling in Bovine Mammary Tissue.</td>
<td>A. Felock¹,¹, S. I. Arriola Apelo¹,¹, R. L. Garnett¹ and M. D. Hanigan¹,¹Virginia Tech, Blacksburg, ²Virginia Polytechnic Institute and State University, Blacksburg</td>
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<td>2:30 PM</td>
<td>26</td>
<td>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.</td>
<td>B. C. Oglesby¹ and M. S. Allen, Michigan State University, East Lansing</td>
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<td>2:45 PM</td>
<td>27</td>
<td>Growth of Periruminant Holstein Bull Calves Fed a Fermentation Extract of Aspergillus oryzae.</td>
<td>E. M. Dudash¹,¹, 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</td>
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<td>3:15 PM</td>
<td>29</td>
<td>Case Study: Effect of alley floor scraping frequency on environmental mastitis-causing pathogen counts.</td>
<td>J. L. Lowe¹, K. A. Akers, A. E. Sterrett, J. D. Clark and J. M. Bewley, University of Kentucky, Lexington</td>
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<td>3:30 PM</td>
<td>30</td>
<td>Dry matter intake and efficiency in lactating Holstein cows grouped by direct genomic values for feed utilization.</td>
<td>I. W. Haagen¹ and C. D. Dechow, Pennsylvania State University, University Park</td>
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<td>3:45 PM</td>
<td>31</td>
<td>Can prior subjection to pre-heating enhance the heat tolerance of mesophilic bacterial cultures?</td>
<td>R. E. Brown¹ and K. J. Aryana¹,¹Louisiana State University, Baton Rouge, ²Louisiana State University Agricultural Center, Baton Rouge, LA</td>
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<td><strong>Animal Health I: Models of Disease and Stress</strong></td>
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<td>2:00 PM</td>
<td>64</td>
<td>Heat stress as a model to study the effect of a gut health concept (Presan-Fx) on the intestinal barrier function of weaning piglets.</td>
<td>P. J. Roubos¹ and Y. M. Han, Nutreco Research &amp; Development, Boxmeer, Netherlands</td>
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<td>2:15 PM</td>
<td>65</td>
<td>A dual challenge of corticotropin releasing hormone and vasopressin alters immune cell profiles in beef heifers.</td>
<td>J. A. Carroll¹,¹, N. C. Burdick Sanchez¹,¹, J. O. Buntyn¹,¹, S. E. Sieren¹, S. J. Jones¹ and T. B. Schmidt¹,¹USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, ²University of Nebraska, Department of Animal Science, Lincoln, NE, ³University of Nebraska, Lincoln</td>
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</table>
Investigating innate immune response differences between Angus and Holstein cattle with the dermal fibroblast model.
A. L. Benjamin1,*, W. J. Weber2, S. D. McKay3, B. A. Crooker4 and D. E. Kerr5, 1University of Vermont, Burlington, 2University of Minnesota, Saint Paul

Predictive models of lameness in dairy cows achieve high sensitivity and specificity with force measurements in three dimensions.
J. T. Dunthorn1,†, R. M. Dyer2,†, U. Tasch1,†, N. Neerchal1,†, P. Rajkondawar3 and G. Steingraber4, 1Step Analysis, Baltimore, MD, 2University of Delaware, Newark, 3University of Maryland, Baltimore County, Baltimore, MD, 4BouMatic, Madison, WI

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

Evaluation of a Brix Refractometer to Estimate Serum Immunoglobulin G Concentration in Neonatal Dairy Calves.
S. M. Deelen1, T. L. Ollivet1, D. M. Haines2 and K. E. Leslie3, 1University of Guelph, Guelph, ON, Canada, 2University of Saskatchewan, Saskatoon, SK, Canada

Associations of Serum Haptoglobin in Newborn Dairy Calves with Future Health, Growth and Mortality up to 4 Months of Age.
C. F. Murray1, C. Windeyer1, T. F. Duffield1, K. M. Waalderbos2 and K. E. Leslie3, 1University of Guelph, Guelph, ON, Canada, 2University of Calgary, Calgary, AB, Canada

Dynamics of culling for Jersey, Holstein, and crossbred cows in large multi-breed herds.
P. J. Pinedo1, A. Daniels2, J. Shumaker1 and A. De Fries2, 1Texas A&M AgriLife Research, Amarillo, TX, 2Circle H Headquarters LLC, Dalhart, TX, 3Magnolia Veterinary Services, Amarillo, TX, 4University of Florida, Gainesville

Relationship of ocular and rectal temperatures to indicators of stress in mature horses.
M. J. Anderson1, J. L. Lucia, K. J. Stutts, M. M. Beverly and S. F. Kelley, Sam Houston State University, Huntsville, TX

Enhancement of the acute phase response to lipopolysaccharide in feedlot steers supplemented with OmniGen-AF.
N. C. Burdick Sanchez1, J. O. Buntyn1, J. A. Carroll1, T. Wistuba1, K. DeHaan1, S. E. Sieren2, S. J. Jones3 and T. B. Schmidt4, 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

Age dependent changes in heifer fibroblast DNA methylation and LPS-induced gene expression.
B. B. Green1, S. D. McKay and D. E. Kerr, University of Vermont, Burlington

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 Mannheimia 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

Where Can We Support More Cows? Overview of the Beef Cowherd and Land Use.
J. A. Paterson1, National Cattlemen's Beef Association, Centennial, CO

How Can We Improve Replacement Heifers as We Rebuild the Cowherd?
S. L. Lake1, University of Wyoming, Laramie, WY

Can We Improve Cow Efficiency or Manipulate Feeding Strategies to Reduce Inputs?
H. C. Freetly1, USDA, ARS, US MARC, Clay Center, NE

Can We Build the Cowherd by Increasing Longevity of Females?
A. Roberts1*, M. Petersen1 and R. N. Funston1, 1USDA, ARS Fort Keogh Livestock and Range Research Laboratory, Miles City, MT, 2University of Nebraska, West Central Research and Extension Center, North Platte, NE

Can We Develop a Cow-less Cowherd? Beef Production without Mature Cows.
G. E. Seidel1, Colorado State University, Fort Collins

Chair: Allison M. Meyer, University of Missouri

Can We Improve Replacement Heifers as We Rebuild the Cowherd?
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A. Roberts1*, M. Petersen1 and R. N. Funston1, 1USDA, ARS Fort Keogh Livestock and Range Research Laboratory, Miles City, MT, 2University of Nebraska, West Central Research and Extension Center, North Platte, NE

Can We Develop a Cow-less Cowherd? Beef Production without Mature Cows.
G. E. Seidel1, Colorado State University, Fort Collins
Dairy Foods Symposium: Advances in Delivery of Dairy Ingredients for Health and Functional Benefits

Chair: TBA
3501C

2:00 PM 233 Market opportunities for dairy proteins.
A. Bienvenue*, U.S. Dairy Export Council, Arlington, VA

2:30 PM 235 Emerging uses of new dairy ingredients in cheese, yogurt, beverages and other products.
L. Metzger*, Midwest Dairy Foods Research Center, South Dakota State University, Brookings

Chair: TBA
3501D

2:00 PM 238 Microbial production of Conjugated Linoleic Acid (CLA): Development of functional dairy products- an overview
S. Abd El Ghani1 and W. K. Bahgaat, National Research Centre, Giza, Cairo, Egypt

2:15 PM 239 Chemical And Organoleptic Characteristics Of Cheese From Dairy Cows Supplemented With Soya And Partially Hydrogenated Vegetable Oils.
E. Vargas-Bello-Pérez2*, G. Itúñaga-González2, K. Fehrmann-Cartes1 and P. C. Garnsworthy1, 1Pontificia Universidad Católica de Chile, Santiago, Chile, 2The University of Nottingham, Loughborough, United Kingdom

2:30 PM 240 Comparison Of The Effect Of Holstein-Friesian And Jersey Milk On Cheddar Cheese Production.
J. H. Bland1, C. C. Fagan and A. S. Grandison, University of Reading, Reading, United Kingdom

2:45 PM 241 Adding Citrate to Ice Cream Mix for Enhanced Protein Functionality.
A. Gilbert, J. Prost and H. D. Goff1, University of Guelph, Guelph, ON, Canada

3:00 PM 242 The nutritional value of kishk: dried wheat fermented milk egypitan native dairy food.
S. Abd El Ghani1 and W. K. Bahgaat2, 1National Research Centre, Dairy Department, Giza, Cairo, Egypt, 2National Research Centre, Giza, Cairo, Egypt

3:15 PM 243 Bacterial community shifts in geriatric subjects in response to probiotic intervention revealed by high throughput DNA sequencing.
G. H. Meletharayil*, S. Senan*, P. Jashbhai1 and C. G. Joshi1, 1South Dakota State University, Brookings, 2SMC College of Dairy Science, Anand Agricultural University, Anand, India, 3Faculty of Veterinary Science, Anand Agricultural University, Anand, India

3:30 PM 244 Microbial Population Dynamics during aging of Cheddar cheese.
B. Ganesan*, C. Brothersen and D. J. McMahon, Western Dairy Center, Utah State University, Logan

3:45 PM 245 The influence of Protein content of Milk Protein Concentrates on the rheological properties of Greek style acid skim milk gels.
G. H. Meletharayil1*, H. A. Patel2 and T. Huppertz1, 1South Dakota State University, Brookings, 2Dairy Science Department, South Dakota State University, Brookings

4:00 PM 246 Investigating the refrigerated performance shelf-life of high pressure treated, reduced sodium, low moisture part skim Mozzarella cheese.
M. Ozturk1*, S. Govindasamy-Lucey2, Y. Lu1, J. J. Jaeggi2, M. E. Johnson1 and J. A. Lucey1, 1University of Wisconsin-Madison, Madison, 2Wisconsin Center for Dairy Research, Madison, WI, 3University of Wisconsin - Madison, Madison

4:15 PM 247 Impact of Potassium Substitution for Sodium on pH, Proteolysis, Organic Acids, and Microbial Populations During Storage of Cheddar Cheese.
D. J. McMahon1*, C. J. Oberg2, M. Drake1, N. Farkye2, L. V. Moyes2 and M. R. Arnold2, 1Western Dairy Center, Utah State University, Logan, 2Department of Microbiology, Weber State University, Ogden, UT, 3Western Dairy Center, Utah

Dairy Foods: Technical Oral Session: Cheese / Yogurt / Ice Cream

Chair: TBA
3501C

3:00 PM 234 Using charged membranes to improve dairy protein ingredients.
M. Etzel*, University of Wisconsin, Madison

3:30 PM 236 An Update on Carrier and Delivery Systems Using Casein Micelles from Bovine Milk.
F. Harte*, University of Tennessee, Knoxville

4:00 PM 237 Protein modification for health benefits.
J. A. Lucey*, Department of Food Science, University of Wisconsin-Madison, Madison
MONDAY, JULY 21, 2014

State University, Ogden, UT, 4Southeast Dairy Foods Research Center, North Carolina State University, Raleigh, 5Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, CA

Graduate Student Competition: ADSA Production Oral, PhD

Chair: Peter S. Erickson, University of New Hampshire

2014B

2:00 PM 348 Antioxidant activity after in vitro gastrointestinal digestion of cheese containing catechins encapsulated within liposomes.

A. Rashidinejad1,2, D. Everett1,2, J. Birch1 and D. Sun-waterhouse1,

1University of Otago, Dunedin, New Zealand, 2Ruddet Institute, Palmerston North, New Zealand, 3Plant 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. Luo1, L. Ramchandran and T. Vasiljevic, Victoria University, Melbourne, Australia


F. Giallongo1, J. Oh1, T. Frederick1, H. Weeks1, A. N. Hristov1, H. Lapierre2, R. A. Patton3, A. Gehman1 and C. Parys4,

1Department of Animal Science, The Pennsylvania State University, University Park, 2Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, 3Nittany Dairy Nutrition Inc., Mifflinburg, PA, 4Alltech Inc., Nicholasville, KY, 5Evonik Industries AG, Hanau, Germany

2:45 PM 351 Effect of dietary phosphorus on intestinal P absorption in growing Holstein steers.

X. Feng1, E. T. Ronk1, H. H. Schramm1, M. D. Hanigan2, M. A. McCann2 and K. F. Knowlton1,

1Virginia Tech, Blacksburg, 2Virginia Polytechnic Institute and State University, Blacksburg

3:00 PM 352 A survey of calving and colostrum management practices on Irish dairy farms.

C. Cummins1,2, R. Sayers1, I. Lorenz1 and E. Kennedy1,

1Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, 2School of Agriculture, Food Science & Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, 3Teagasc, Moorepark, Fermoy, Co. Cork, Ireland

3:15 PM 353 Effects of Supplementing Lipid-Encapsulated Echium Oil on Lactational Responses and Milk Fatty Acid Composition.

M. Bainbridge1, A. L. Lock2 and J. Kraft3,

1University of Vermont, Burlington, 2Michigan State University, East Lansing, 3Department 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. Barros1,2, M. A. Quaassdorff1, J. J. Olmos Colmenero2, M. J. Aguerre1, S. J. Bertics3,4 and M. A. Wattiaux1,2,

1University of Wisconsin-Madison, Madison, 2University of Guadalajara, Tepatilan, Mexico

3:45 PM 355 Evaluation of a Handheld Device for the Detection of b-hydroxybutyrate Pre-calving in Dairy Cattle.

E. H. Tatone1, 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. Neumeier1, Q. Wang1, A. R. Castillo2, Y. Zhao1, Y. Pan1 and F. M. Miltoehner1,

1University of California, Davis, CA, 2University of California and Avian Sciences, University of California, Davis, CA

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

J. H. C. Costa1, R. K. Meagher, M. A. van Keyserlingk and D. M. Weary1,

1Department of Animal Science, The Pennsylvania State University, University Park, 2Department of Animal and Avian Sciences, University of Maryland, College Park, 3USDA/ARS Growth Biology Lab, Beltsville, MD

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. Qu1, B. J. Bequette1, T. H. Elsasser2 and K. M. Moyer1,

1Department of Animal and Avian Sciences, University of Maryland, College Park, 2USDA/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. Cersosimo1, B. St-Pierre2, W. van Hoven3 and A. D. G. Wright1, 1University of Vermont, Burlington, 2The University of Vermont, Burlington, 3University 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.
B. J. Isenberg1, A. F. Brito1, A. B. D. Pereira1, N. L. Whitehouse4, R. B. Standish1 and K. J. Soder2, 1University of New Hampshire, Durham, NH, 2USDA-Agricultural Research Service, University Park, PA

Farm-level evaluation of implementing feeding best management practices (BMP) on Pennsylvania dairy farms.
H. L. Weeks1, 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. Buzà1, 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.
D. Jaganathan1, A. Kollamoor-Johny1, K. Vekitanarayanan1, G. W. Kazmer2, L. Kuo3, Y. B. Wang4 and K. E. Govoni1, 1Department of Animal Science, University of Connecticut, Storrs, 2Department of Statistics, University of Connecticut, Storrs

Effect of Dietary Supplementation of Capsicum Extract on Feed Intake, Milk Production and Composition, Rumen Fermentation, and Rumen Microbial Populations in Dairy Cows.
J. Oh1, F. Giallongo1, H. L. Weeks1, T. W. Frederick1, A. N. Hristov1 and E. H. Wall2, 1Department of Animal Science, The Pennsylvania State University, University Park, 2Pancosma, Geneva, Switzerland

The effects of CO2 and HEPES buffer on in-vitro chemotaxis assays of bovine neutrophils.
A. M. Barnard1, R. Nebenhaus, R. M. Dyer and T. F. Gressley, University of Delaware, Newark

The 2001 Dairy NRC Ration Evaluation Software effectively predicts dietary strong ion and DCAD concentrations in lactating dairy cow diets.
M. E. Iwanick1 and R. A. Erdman, University of Maryland, College Park

Horse Species

Chair: Josie Coverdale, Texas A&M University

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. Bradbery1, J. Coverdale4, K. L. Vernon4, J. L. Lucia1, C. E. Arnold1, R. A. Daraboeiner1, M. K. Kahn1, A. A. Millican2 and T. H. Welsh, Jr., 1Texas A&M University, College Station, 2Clemson University, Clemson, SC, 3Sam Houston State University, Huntsville, TX, 4Texas 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. Kahn1, J. Coverdale4, J. L. Lucia1, C. E. Arnold1, R. A. Daraboeiner1, A. Bradbery1, A. A. Millican3 and T. H. Welsh4, 1Texas A&M University, College Station, 2Sam Houston State University, Huntsville, TX, 3Clemson University, Clemson, SC, 4Animal 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.
E. Glunk1, A. M. Grev, W. J. Weber, M. Hathaway and K. L. Martinson, University of Minnesota, Saint Paul

J. L. Lucia1, D. L. Parker1, M. J. Anderson1, K. J. Statts1, M. M. Beverly1, S. F. Kelley1 and E. D. Lamprech1, 1Sam Houston State University, Huntsville, TX, 2Cargill Incorporated, Elk River, MN
Chair: Monique Rijnkels, Baylor College of Medicine and Rupert M Bruckmaier, Veterinary Physiology, Vetsuisse Faculty, University of Bern

Lactation Biology I

Temporaray alterations to milking frequency, immediately post-partum, modifies expression of milk synthesis and apoptosis genes in the mammary glands of grazing dairy cows.
T. M. Grala1, J. K. Kay2, J. R. Roche3, A. G. Rius4,5 and C. V. Phyn6,7,8, 1DairyNZ, Auckland, New Zealand, 2DairyNZ, Hamilton, New Zealand, 3Present address: University of Tennessee, Knoxville

Dietary anion-cation difference and day length differently affect milk calcium secretion pathways.
M. Boutinaud1, A. Bendon1, A. Narcy2, C. Hurtaud3, M. Johan4, J. Couedon5 and P. Lamberton6, 1INRA, Saint Gilles, France, 2INRA, Trouville, France, 3INRA, Le Rheu, France

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

The dopamine antagonist domperidone increases prolactin concentration and milk production in dairy cows.
P. Lacasse1 and S. Ollier2, Dairy and Swine R&D Centre, Sherbrooke, QC, Canada

Compensatory feeding of gestating gilts does not affect mammary development of their offspring at puberty.
C. Farmer1, M. F. Paun1 and Y. Martel-Kennes2, 1Agriculture and Agri-Food Canada, Dairy and Swine R & D Centre, Sherbrooke, QC, Canada, 2La COOP Fédérée, Animal Nutrition Division, St-Romuald, QC, Canada

Comparative 2D-DIGE Proteomic Analysis of Mammary Epithelial Cells during Lactation reveals Protein Signatures for Lactation Persistence and Milk Yield.

Milk Protein Synthesis is regulated by Lysine and Branched Chain Amino Acid Deficiencies in Lactating Bovine Mammary Glands.
J. Doelman1, R. V. Curtis2, M. Carson3, J. J. M. Kim4, J. P. Cant5 and J. A. Metcalfe6, 1Nutreco Canada Agresearch, Guelph, ON, Canada, 2Department of Animal & Poultry Science, University of Guelph, Guelph, ON, Canada

Lysine and BCAA deficiencies decrease abundances of S6K and eIF2Bα in the mammary glands of lactating dairy cows.
J. Doelman1, R. V. Curtis2, M. Carson3, J. J. M. Kim4, J. A. Metcalfe6 and J. P. Cant5, 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

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

Effects of feeding barley on growth performance and diet nutrient digestibility of weaned pigs.
Z. Nasic1, M. G. Young2, M. L. Swift2, E. Beltranena3 and R. T. Zijlstra1, 1University of Alberta, Edmonton, AB, Canada,
Nutrient profile and in-vitro digestibility of tubers in swine.
U. P. Tiwari\textsuperscript{1}, 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\textsuperscript{2}, Kansas State University, Manhattan

Performance of pigs fed diets containing canola meal produced from high protein or conventional varieties of canola seeds.
Y. Liu\textsuperscript{1}, T. Maison and H. H. Stein, University of Illinois at Urbana-Champaign, Urbana

Physio-Chemical and Nutritional Composition of Sorghum (Sorghum bicolor) as Potential Food and Feed for Humans and Poultry.
M. Mabelebele\textsuperscript{1,2} and P. Iji\textsuperscript{1}, University of Limpopo, Polokwane, South Africa, \textsuperscript{2}University of New England, Armidale, Australia

Comparative digestibility of energy and nutrients in feed ingredients fed to sows and growing pigs.
J. E. Lowell\textsuperscript{1}, 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\textsuperscript{1} 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\textsuperscript{1}, 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\textsuperscript{1}, 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\textsuperscript{1}, 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.
T. M. Hill\textsuperscript{1}, J. D. Quigley, H. G. Bateman, II, J. M. Aldrich and R. L. Schlatterbeck, Provimi North America, Brookville, OH

Performance of and digestion in calves fed two levels of milk replacer and functional ingredients.
T. M. Hill\textsuperscript{1}, J. D. Quigley, H. G. Bateman, II, J. M. Aldrich and R. L. Schlatterbeck, Provimi North America, Brookville, OH

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.
B. M. Strayer\textsuperscript{1,3}, D. Ziegler\textsuperscript{2}, D. Schimek\textsuperscript{3}, B. Ziegler\textsuperscript{2}, H. Chester-Jones\textsuperscript{2}, J. L. Anderson\textsuperscript{1}, K. F. Kalscheur\textsuperscript{1} and D. Casper\textsuperscript{1}, \textsuperscript{1}South Dakota State University, Brookings, \textsuperscript{2}University of Minnesota Southern Research and Outreach Center, Waseca, MN, \textsuperscript{3}Hubbard Feeds Inc., Mankato, MN

Amino Acid Supplementation of Calf Milk Replacers Containing Bovine Plasma Protein.
S. Y. Morrison\textsuperscript{1}, K. A. Myers\textsuperscript{1}, A. E. Volland\textsuperscript{1}, P. Cardoso\textsuperscript{1}, J. M. Campbell\textsuperscript{2} and J. K. Drackley\textsuperscript{1}, \textsuperscript{1}University of Illinois, Urbana, \textsuperscript{2}APC, Inc., Ankeny, IA

The use of highly digestible corn grain in calf starters when calves are fed an accelerated milk replacer.
D. Casper\textsuperscript{1}, S. Sriravastava\textsuperscript{2}, M. Kirk\textsuperscript{3}, S. Harris\textsuperscript{3}, K. Koone\textsuperscript{1} and B. M. Strayer\textsuperscript{1}, \textsuperscript{1}South Dakota State University, Brookings, \textsuperscript{2}South Dakota University, Hyderabad, India, \textsuperscript{3}Masters Choice, Anna, IL

Intensive milk feeding in calves affects growth performance, metabolic and endocrine traits, but not rumen development.
H. M. Hammon\textsuperscript{1}, J. Maciej\textsuperscript{1}, J. Gruse\textsuperscript{1}, E. Wirthgen\textsuperscript{2}, R. Zitman\textsuperscript{3}, M. Pietchotta\textsuperscript{4} and A. Hoeflich\textsuperscript{1}, \textsuperscript{1}Leibniz Institute for Farm
**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. Khaifipour², 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. McAllister¹,³, L. L. Guan², G. Henderson¹, G. Attwood³ and P. H. Janssen³, 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. Alqarni², J. R. Segers³, D. W. Shike¹ 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. Plaizier³, H. Derakhshani¹ and E. Khaifipour¹,³, 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. Khaifipour³, 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

854 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

855 T002 Passive transfer of immunity of dairy calves in the central northern region of Costa Rica.

856 T003 Effects of added spray-dried whole colostrum and spray-dried plasma on veal calf health and performance.
D. Wood1, R. Blome and J. Sowinski, Animix, Juneau, WI

857 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. Hulbert5, J. A. Noel5, S. C. Trombetta1, S. R. Montgomery1, 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

858 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-Bourrillon4 and C. C. Elrod2, 1University of Costa Rica, San Jose, Costa Rica, 2Vi-COR, Inc., Mason City, IA

859 T006 Maternal energy status during mid-gestation affects the immune response in the resultant beef offspring.
A. R. Taylor1, D. A. Mohrhauser1, R. Neiger1, E. J. Blom1, K. R. Underwood2, R. H. Pritchard1, A. E. Wertz-Lutz1, B. P. Holland3 and A. D. Weaver1, 1South Dakota State University, Brookings, 2ADM Alliance Nutrition, Inc., Quincy, IL, 3Merck, Volga, SD, 4South Dakota State University, Rapid City, SD

860 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, B. J. Dedrickson3, J. L. Sorensen2, J. L. Timms, K. Stalder and H. D. Tyler, Iowa State University, University Park, 3Merial, Duluth, GA, 4Iowa State University, Ames

861 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. Terré2,1, S. Genis2, C. Yunta1, A. Bach2 and A. Arí5, 1IRTA, Caldes de Montbui, Spain, 2Department of Ruminant Production, IRTA, Caldes de Montbui, Spain

862 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. Robinson1, L. L. Timms, K. Stalder and H. D. Tyler, Iowa State University, Ames

863 T010 Relationship between birth weight and calving ease with passive transfer of immunoglobulins in neonatal beef calves.
J. J. Gaspers1,2, G. Stokka3, B. W. Neville4 and C. R. Dahlen1, 1North Dakota State University, Fargo, 2North Dakota State University, Cooperstown, ND, 3North Dakota State University, Streeter, ND

865 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

866 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. DeRouche2, P. J. Tomlinson1, M. J. Baumgartner2 and Z. Liu1, 1Kansas State University, Manhattan, 2BEI Ag Solutions, Olivia, MN

ASAS Undergraduate Student Poster Competition

864 T013...
Effects of different cooling interventions on stationary livestock trailers at a commercial packing plant.
M. Heiller1, L. Edwards-Callaway2, R. Bailey3, N. Pudenz1, M. Klassen1, M. J. Ritter2, A. Dezeauv3 and P. J. Rincker4,
1Iowa State University, Ames, IA, 2JBS, Greely, CO, 3JBS, Marshalltown, IA, 4Elanco, Greenfield, IN, 5Elanco Animal Health, Bondurant, IA, 6Elanco Animal Health, Dahinda, IL

Effects of poor maternal nutrition during gestation on gene expression in liver of offspring.
K. K. McFadden1, M. L. Hoffman, K. N. Peck, S. A. Reed, S. A. Zinn and K. E. Govoni, Department of Animal Science, University of Connecticut, Storrs

Interleukin-1 beta decreases myoblast fusion in vitro.
B. E. Sullivan3 and S. A. Reed1, 1University of Connecticut, Storrs, 2Department of Animal Science, University of Connecticut, Storrs

Sperm Maturation (Capacitation) but not Progesterone Reduces the Abundance of a Receptor for Oviduct Glycans.
R. A. Winters1, E. Silva2 and D. J. Miller2, 1University of Illinois at Urbana-Champaign, Urbana, IL, 2University of Illinois, Urbana

Variations In The Expression Of Triglyceride Synthesis Genes In Pigs Provided Enterobacter Cloacae.
S. J. White1, J. A. Carroll2, J. A. Thornton1, P. R. Broadway1, J. G. Wilson1 and J. R. Donaldson3, 1Mississippi State University, Mississippi State, 2USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 3Texas Tech University, Wolfforth, TX

Gene Set Enrichment Analysis of Residual Feed Intake in Hereford Cattle.
L. D. Kidder1, A. Wojtowicz2, J. F. Taylor3, C. M. Seabury4, K. A. Johnson1 and H. L. Neibergs1, 1Washington State University, Pullman, 2University of Missouri, Columbia, 3Texas A&M University, College Station

pH fluctuations in the hindgut of horses relative to meal feeding.
K. M. DeLano1, T. L. Douthit2, A. Reeg1, N. M. Bello1, M. E. Gordon1 and K. Williamson2, 1Kansas State University, Manhattan, 2Purina Animal Nutrition, LLC, Gray Summit, MO

Oral supplementation with vitamin E and fertility in young bulls raised in Brazilian midwest.

Polymelia in Holstein Cattle.
K. D. Moss1, F. Avila1, B. M. Marron2, T. Raudsepp2, J. Beever3, M. Neupane4, S. Parish1, J. Kiser2, B. Cantrell1 and H. L. Neibergs1, 1Washington State University, Pullman, 2Texas A&M University, College Station, 3University of Illinois, Urbana, 4Washington State University, Pullman

Effect of supplementation of the middle and freezing with vitamin "E" about: the feasibility and quality of frozen bovine semen.
R. D. Almeida1, 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

The effects of cutting height and plant maturity on yield and nutritional value of brome forage.
M. A. Woolsoncroft1, S. R. Duncan, A. J. Sexten and A. K. Sexten, Kansas State University, Manhattan

Cattle requiring multiple treatments for bovine respiratory disease exhibit decreased capacity to protect against histone cytotoxicity.
J. Mata2, B. K. Wilson, J. Hernandez Gifford, C. R. Kreighbel and C. A. Gifford, Oklahoma State University, Stillwater

Development of a non-invasive system for monitoring dairy cattle sleep.
J. M. Klefot1, J. L. Murphy, K. D. Donohue, B. F. O'Hara, M. E. Lhamon and J. M. Bewley, University of Kentucky, Lexington

Associative effects of feeding varying levels of soyhulls to lambs consuming grass hay.

Adding Post-Extraction Algal Residue (PEAR) to Cattle Finishing Diets Reduces the Quantity of Fecal Volatile Chemicals Often Associated with Feedlot Malodors.
H. R. Voegele1, C. R. Kerth1, T. A. Wickersham2, J. C. Hoffman1 and T. J. Luckemeyer1, 1Texas A&M University Animal Science Department, College Station, TX, 2Texas A&M University, College Station

Treatment Response to Bovine Respiratory Disease in Beef Stocker Calves Was Not Positively Affected When Using Isoflupredone Acetate as Ancillary Therapy.
C. E. Crews¹, J. G. Powell², E. B. Kegley², J. L. Reynolds² and J. A. Hornsby², ¹University of Arkansas, Fayetteville, ²Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR

903  T029  The effects of stage of production and implant exposure on feedlot performance, carcass characteristics, and relative mRNA gene expression.
K. E. Larrabee¹, B. C. Bernhard, C. L. Maxwell, B. K. Wilson, S. Roberts and C. R. Krechbiel, Oklahoma State University, Stillwater

904  T030  The effects of corn silage diets on intestinal morphology in dairy calves.
T. J. Pogreba⁴, S. I. Kehoe⁵, K. Dill-McFarland⁶ and G. Suen⁴, ¹University of Wisconsin - River Falls, River Falls, WI, ²University of Wisconsin-Madison, Madison

Beef Species: Feedlot and Stocker

905  T031  The Effect of Good or Poor Residual Feed Intake Sires on Feedlot Heifer Performance and Carcass Characteristics.
K. M. Retallick⁷, D. B. Faulkner² and D. W. Shike⁸, ¹CalPoly, San Luis Obispo, CA, ²University of Arizona, Oro Valley, AZ, ³University of Illinois, Urbana

906  T032  Feed efficiency and carcass traits for Nellore young bulls fed processed soybean grains.
M. C. L. Alves, M. M. Ladeira⁴, 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

907  T033  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. He¹,², M. He³, Y. Zhao¹,², N. D. Walker⁴, K. A. Beauchemin⁵, T. A. McAllister⁶ and W. Yang⁷, 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, ³College of Animal Science, Inner Mongolia Agricultural University, Hohhot, China, ⁴AB Vista Feed Ingredients, Marlborough, United Kingdom, ⁵Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

908  T034  Effects of fat level in distillers grain on finishing feedlot performance and carcass traits.
V. L. Anderson⁴ and C. L. Engel⁵, ¹North Dakota State University, Carrington, ND, ²Carrington Research Extension Center, North Dakota State University, Carrington, ND

909  T035  Effects of zilpaterol hydrochloride feeding time on Nellore bulls performance and carcass characteristics.
A. C. R. Dos Santos⁴, M. Caetano⁴, R. S. Gaulart⁴, S. B. Pflanzer⁴, S. Luz e Silva³ and D. P. D. Lanna¹, ¹University of Sao Paulo / ESALQ, Piracicaba, Brazil, ²current address University of Adelaide, Roseworthy, Australia, ³MSD Saúde Animal, Sao Paulo, Brazil, ⁴University of Campinas / FEA, Campinas, Brazil, ⁵University of Sao Paulo / FZEA, Pirassununga, Brazil

910  T036  Influence of Calcium Depletion and Repletion on Beef Tenderness of Steers fed Zilpaterol Hydrochloride.
J. O. Carothers¹, South Dakota State University, Brookings

911  T037  Using early ultrasound measurements to predict beef carcass quality grade.
J. K. Smith⁴, M. D. Hanigan¹, S. P. Greiner⁵ and M. A. McCann⁶, ¹Virginia Tech, Blacksburg, ²Virginia Polytechnic Institute and State University, Blacksburg

912  T038  Influence of breed on the sensory meat quality and consumer acceptability in extensively reared beef.
M. E. A. Canozzi¹, L. Sphor¹, C. M. Pimentel¹, J. O. Barcellos¹, C. H. E. C. Poli¹, R. D. Sainz² and L. Kindlein¹, ¹Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, ²Universidade de Brasilia, Brasilia, Brazil, ³Universidade Federal Do Rio Grande Do Sul, Porto Alegre, Brazil, ⁴University of California - Davis, Davis, CA

913  T039  Evaluation of growth and performance characteristics prior to entering the feedlot as an indicator for contracting Bovine Respiratory Disease.
S. Miller¹, M. D. Garcia², R. Walker⁴, T. Page¹ and K. W. Harborth³, ¹Louisiana State University, Baton Rouge, ²LSU, Baton Rouge, LA, ³LSU AgCenter, Homer, LA

914  T040  Maximizing Profit in a Feedlot Enterprise Using Systems Analysis Thinking and Linear Programming.
K. J. Retallick⁷, T. E. Adcock¹, T. R. Schultz¹, J. M. Bormann¹, R. L. Weaver¹, D. W. Moser¹ and M. D. MacNeil², ¹Kansas State University, Manhattan, ²Delta G, Montana, MT

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

943  T041  Genome-wide association study on dairy cow mortality in three US regions.
S. Tsuruta¹, J. M. Misztal¹ and T. J. Lawlor¹, ¹University of Georgia, Athens, ²Holstein Association USA Inc., Brattleboro, VT

944  T042  dr.
M. Cellesi¹, N. P. P. Macciotta¹, P. Ajmone-Marsan³, A. Rossioni³, G. Marras¹, G. Gaspa¹ and C. Dimarco¹, ¹Università di
Determination of single nucleotide polymorphisms associated with subclinical ketosis in Jersey cattle.
R. T. Fugate, L. H. Daumen, G. R. Wiggins and H. M. White, University of WI, Madison, WI, University of Connecticut, Storrs, Animal Improvement Programs Laboratory, Agricultural Research Service, USDA, Beltsville, MD.

Multi-trait, multi-breed conception rate evaluations.
P. M. VanRaden, J. R. Wright, C. Sun, J. L. Hutchison and M. E. Tooker, Animal Improvement Programs Laboratory, USDA-ARS, Beltsville, MD, National Association of Animal Breeders, Columbia, MO.

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-Awemu, S. O. Peters, I. G. Imumorin and X. Zhao, Agriculture and Agri-Food Canada, Sherbrooke, QC, Canada, Berry College, Mount Berry, GA, Cornell University, Ithaca, NY, McGill University, St Ann De Bell, PQ, Canada.

Peroxisome proliferator-activated receptor gamma isoforms alter lipogenic gene networks in goat mammary epithelial cells.
H. Shi, J. Luo, D. Yao and J. Zhu, Northwest A & F University, Yangling, China, Northwest A & F University, Yangling, China.

Association between polymorphisms in the IGF-I, GHR and STAT5A genes and the interval from calving to conception and milk production in Holstein cows.

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. Luna, Instituto Tecnologico de Sonora, Ciudad Obregon, Mexico.

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

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

Changes in Variance of Top SNP Windows over Generations under Selection for Three Traits in Broiler Chicken.

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

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

Effect OF Shell Thickness on Quail Chick pip-out at Hatching.

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

Companion Animals: Companion Animal Nutrition

Influence of velocity on Weimaraner trotting stride mechanics.
L. Carlisle, M. C. Nicodemus and K. Slater, Mississippi State University, Mississippi State, Banfield Pet Hospital, Houston, TX.

Effects of dietary resistant starch on the fasted plasma metabolome of healthy adult dogs.
A. N. Beloshapka, K. L. Pappan and K. S. Swanson, Department of Animal Sciences, University of Illinois, Urbana, Metabolon, Inc., Durham, NC.

In vitro effect of diets added with fructooligosaccharides and differing in their protein content and digestibility on dog fecal microbiota.
G. Biagi, M. Grandi and C. Pinna, Department of Veterinary Medical Sciences, University of Bologna, Ozzano Emilica, Italy.
The modified Atwater equation does not accurately predict diet ME value of premium food in adult cats. K. D. Berendt, A. K. Shoveller, M. Guevara and R. T. Zijfstra, University of Alberta, Edmonton, AB, Canada, Procter & Gamble Pet Care, Mason, OH

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

Amino acid and mineral concentrations of whole grains and grain byproducts used in pet foods. A. N. Beloshapka, P. R. Buff and K. S. Swanson, Department of Animal Sciences, University of Illinois, Urbana, The Nutro Company, Franklin, TN

Metabolic Phenotyping Using Mass Spectrometry-Based Metabolomics: A Cross-Sectional Pilot Study of Lean and Overweight Domestic Cats. R. E. Cokeley, G. R. Seiler and J. W. McFadden, West Virginia University, Morgantown, WV, Johns Hopkins University, Baltimore, MD


Differences in the cerebral cortex metabolome of young adult and geriatric dogs. M. R. C. de Godoy, K. L. Pappan and K. S. Swanson, Department of Animal Sciences, University of Illinois, Urbana, Metabolon, Inc., Research Triangle Park, NC, Department of Veterinary Clinical Medicine, Urbana, IL

Use of Gelatin as a Strengthening Agent in Dry Extruded Pet Food. A. Simmons, C. G. Aldrich, T. Zhou, M. Remund, T. Putarlov, S. Alavi, E. Maichel and C. K. Jones, Kansas State University, Manhattan, Sao Paulo State University, Sao Jose do Rio Preto, Brazil

Dairy Foods: Technical Poster Session II: Analytical / Processing

Incidence of Thermoduric Bacteria and Spores on Selected Midwest Dairy Farms. K. P. Buehner, S. Anand and A. D. Garcia, Dairy Science Department, South Dakota State University, Brookings, Midwest Dairy Foods Research Center, South Dakota State University, Brookings

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


Influence of carboxymethylcellulose molecular weight on physicochemical properties and stability of whey protein-stabilized emulsions. S. Zhang and B. Vardhanabhuti, University of Missouri, Columbia

Induction of Pitting on Stainless Steel 304 and 316 by Bacillus sporothermodurans. S. Gupta and S. Anand, South Dakota State University, Brookings, Midwest Dairy Foods Research Center, South Dakota State University, Brookings

Protective effect of lactic acid bacteria against H2O2-induced oxidative stress in Caco-2 cells. S. Liu, C. Man, X. Peng, W. Zhou, M. Guo and Y. Jiang, Department of Food Science, Northeast Agricultural University, Harbin, China, Synergetic Innovation Center of Food Safety and Nutrition, Harbin, China, National Dairy Engineering and Technology Research Center, Northeast Agricultural University, Harbin, China, University of Vermont, Burlington

Fatty Acid Composition of Cultured Butter with Probiotic Lbc. Acidophilus La-5 Produced in Winter Time. O. Tsisaryk, L. Masty, O. Golubits and S. Shkaruba, Liviv National University of Veterinary Medicine and Biotechnologies, Liviv, Ukraine, Ukrmetrstandart, Kyiv, Ukraine

Development of Dairy Products Enriched with Healthy Lipids. J. Moats, M. Epp and D. Christensen, O&T Farms Ltd., Regina, SK, Canada, University of Saskatchewan, Saskatoon, SK, Canada

Evaluation of Dulce de leche produced with different starches. F. Silva, H. Ferreira, M. Pinto, R. Stephani, A. Carvalho and I. Perrone, Federal University of Viçosa, Viçosa, Brazil, Gemacom Tech, Juiz de Fora, Brazil, Federal University of Viçosa, Viçosa, Brazil

Rheological Behaviors of Edible Casein-Based Packaging Films Under Extreme Environmental Conditions, Using Humidity-Controlled Dynamic Mechanical Analysis.
**Evaluation of a laboratory-scale batch crystallizer for lactose isolation from deproteinized whey.**
S. Beckman*, 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. McMahon1,2 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. Troxel1,2, M. S. Gadberry1, J. A. Jennings1, S. M. Jones1, K. J. Simon1, J. G. Powell2, 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. Krawczel1,1, M. Fly1, L. E. Garkovich2, C. S. Petersson-Wolfe3, J. M. Bewley1, S. H. Ward4, G. M. Pighetti1, R. A. Almeida1, M. Arnold2, S. C. Nickerson3, A. DeVries6 and S. P. Oliver1, The 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. Bewley1, S. C. Nickerson3, S. H. Ward4, A. DeVries6, P. D. Krawczel1,1, R. A. Almeida1, M. Fly1, S. M. Schexnayder1, L. E. Garkovich2, M. Arnold2 and S. P. Oliver1, The 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

**Survey of Management Practices used in the Implementation of Artificial Insemination and Estrous Synchronization Programs in the United States.**
S. K. Johnson1 and G. Dahlie2,1Kansas 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. Adams1,2, J. K. Ahola1, M. Chahine2, A. L. Ohlheiser1 and I. N. Roman-Muniz1,1Colorado 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. Neil1,2, K. J. Mize3, D. D. Harmon1, J. K. Smith4 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. Neil1,2, K. J. Mize3, D. D. Harmon1, J. K. Smith4 and M. A. McCann1,1Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia Tech, Blacksburg
An economic impact decision support tool for farm specific estimation of not covering horizontal silos storing corn silage. 
B. A. Wadsworth*, D. M. Amaral-Phillips and J. M. Bewley, University of Kentucky, Lexington

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

Sustainable Year-Round Forage Production and Grazing/Browsing Management Education Program. 
U. Karki1, L. B. Karki2 and N. Gurung3, Tuskegee University, Tuskegee, AL, Padma Dal Memorial Foundation, Auburn, AL


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. 

Food Safety

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

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

Characterization of Shiga toxin-producing Escherichia coli isolated from feces of cattle in commercial feedlots. 

Development of an ultrasensitive aptasensor for the detection of aflatoxin B1. 
X. Guo1,2,3, F. Wen2,3, N. Zheng1,3,4, Q. Luo1 and J. Wang1,2,4, Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, College of Animal Science and Technology, Xinjiang Agricultural University, Urumchi, China, Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

Cytotoxicity induced by ochratoxin A, zearalenone and α-zearalenol: effects of individual and combined treatment. 
H. Wang1,2,3, N. Zheng1,3,4, S. Li2,3,2, F. Li1 and J. Wang1,2,3,4, 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), Beijing, China, Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China, College of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China

Efficacy of various levels of mycotoxin adsorbent to reduce aflatoxin M1 levels in milk of lactation cows fed aflatoxin B1. 
M. Dehghan banadaky*, R. Motamendez and S. Parhizkar*, Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, Azad university, Tehran, Iran, University of Tehran, Karaj, Iran

Inhibitory activity of Staphylococcus aureus against Lactococcus spp. isolated from artisanal Minas cheese. 
F. F. Angelo1, L. M. Fonseca2,3 and M. A. V. P. Brito4, Universidade Federal da Paraíba/CTDR, João Pessoa, Brazil, Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil, University of Wisconsin-Madison/CAES Ex Senior 18183-12-3, Madison, WI, EMBRAPA Gado de Leite (CNPGL), Juiz de Fora, Brazil

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

Stability of 10 β-lactam antibiotics in raw milk under different storage conditions. 
H. Wang1,2,3, N. Zheng1,3, F. Wen1,2, H. Wang2 and J. Wang3,4, 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. Han1,2,3, N. Zheng1,4, Z. Yu1, X. Qi3,4, S. Li1,4, Y. Zhang1,4, X. Zhou1,4 and J. Wang1,4, 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. Wells1, E. D. Berry, N. Kalichayanand, 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 Gigante3 and R. Jimenez-Flores3, 1Faculty of Food Engineering, University of Campinas, Campinas, SP, Brazil, 2Dairy Products Technology Center, California Polytechnic State University, San Luis Obispo, 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-Osorio1, Universidad Autonoma Chapingo, Chapingo, Mexico

Forages and Pastures Posters II: Forages in Beef Production Systems

B. Stewart1, P. Beck1, L. Sullivan1, M. Sims1 and J. Jennings2, 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. Scaglia1, 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. Aguiar1, O. F. R. Cunha1, A. C. J. Pereira1, P. D. S. Ferreira1 and C. B. Zactiti1, 1UF/IFAS Range Cattle Research and Education Center, Ona, FL, 2Oregon State University - EOARC Burns, Burns, OR

1099 T112 Polymers molecularly imprinted with ergotamine: recognition properties to template and related alkaloids.
M. B. Kudupoje1, E. S. Vanzant1, A. Yiannikouris1, K. A. Dawson1 and K. R. McLeod1, 1Alltech-University of Kentucky Nutrition Research Alliance, Lexington, KY, 2University of Kentucky, Lexington, 3Center for Animal Nutrigenomics and Applied Animal Nutrition, Alltech, Nicholasville, 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, R. M. Martins1, T. F. Bernardes1, J. A. G. Azevedo1 and O. G. Pereira2, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, 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. Eun1,2, D. R. ZoBell1, B. L. Waldron2 and M. D. Peel1, 1Utah State University, Logan, 2Universitas Gadjah Mada, Yogyakarta, Indonesia, 3Forage and Range Research Laboratory, USDA-ARS, Logan, UT
TUESDAY, JULY 22, 2014

1103 T116 Agronomic Assessment and Beef Cattle Nutrition Suitability of 31 Forage Type Annual Crops in the Peace Region of Alberta.
T. A. Omokanye**, M. Hobin1, I. A. Adeyinka2 and M. Benoit1, 1Peace Country Beef & Forage Association, Grande Prairie Regional College, Fairview, AB, Canada, 2National Animal Production Research Institute, Shika-Zaria, Nigeria

1111 T117 Body weight adjustments for feeding status and pregnant or non-pregnant condition in beef cows*.
M. P. Gionelli1,2, M. S. Duarte1, S. C. Valadares Filho1, E. Detmann1,2, M. L. Chizzotti1,2, T. R. Gionelli1, F. C. Rodrigues1, D. Zanetti1 and M. G. Machado1, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Instituto Nacional de Ciência e Tecnologia - Ciência Animal, Viçosa, Minas Gerais, Brazil

1112 T118 CHANGES IN PERFORMANCE AND IMMUNE RESPONSE IN DAIRY CALVES OFFERED MILK REPLACER OR RAW MILK.
C. Yunta1, A. Bach2,3 and M. Terré1, IRTA, Caldes de Montbui, Spain, 2Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 3ICREA, Barcelona, Spain

1113 T119 Comparison of Albumin Depleted and Whole Serum Samples for Biomarker Identification.
J. K. Grubbs1, C. K. Tuggle, J. C. M. Dekkers and S. M. Lonergan, Iowa State University, Ames

1114 T120 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

1115 T121 Effect of fish oil and thyme on nutrient digestibility, chewing activity, and rumen metabolites of Mahabadi goat kids.
A. Hozhabri1, M. Ganjkhaniou1, A. Zali1, A. Emami2, A. Akbari-Afjani1 and M. Dehghan-Banadaky1, 1University of Tehran, Tehran, Iran, 2University of Birjand, Birjand, Iran, 3University of Zanjan, Zanjan, Iran

1116 T122 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

1117 T123 Effect of omega-3 fatty acids and thyme essence on carcass traits of Mahabadi kids.
A. Hozhabri1, A. Zali1, M. Ganjkhaniou1, A. Emami2, A. Akbari-Afjani1 and M. Dehghan-Banadaky1, 1University of Tehran, Tehran, Iran, 2University of Birjand, Birjand, Iran, 3University of Zanjan, Zanjan, Iran

1118 T124 Effect of stage of pregnancy, maternal feeding level and fetal sex on fetal gut length in Holstein×Zebu cows*.
T. R. Gionelli1, P. P. Rotta1, C. M. Veloso1,2, M. P. Gionelli1,2, S. de Campos Valadares Filho1,2, M. A. Novaes1, J. V. Souza1, J. S. Santos1, L. C. Lacerda1 and C. S. Cunha1, 1Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 2Instituto Nacional de Ciência e Tecnologia - Ciência Animal, Viçosa, Minas Gerais, Brazil

1119 T125 Intraterine position affects fetal weight and crown-rump length throughout gestation.
Y. D. Jang1, Y. L. Ma and M. D. Lindemann, University of Kentucky, Lexington

1120 T126 Milk diet but not quecretion intake affects postprandial glucose metabolism in neonatal calves.
J. Gruse1, S. Görs1, W. Otten2, J. M. Weizel1, S. Wolfiram1, C. C. Metges2 and H. M. Hammon1, 1Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 2Institute of Animal Nutrition and Physiology, University of Kiel, Kiel, Germany

1121 T127 Ontogenic gene expression profiles in pig hepatogenesis.
J. Kwinkiekoncz1,2, T. J. Caperna1, T. G. Ramsay1, H. D. Guthrie1, C. C. Talbot2, L. L. Schreier1 and L. A. Blomberg1, 1USDA-ARS-BARC, Beltsville, MD, 2The Johns Hopkins School of Medicine, Baltimore, MD

1122 T128 Production of bioactive porcine mutant myostatin propeptide/Fc fusion protein in Escherichia Coli.
S. B. Lee1, S. K. Park1 and Y. S. Kim1, 1University of Hawaii, Honolulu, HI, 2National Institute of Animal Science, RDA, Suwon, South Korea

1123 T129 Short- and medium-term changes in performance and metabolism of dairy calves offered different amounts of milk replacer.
C. Yunta1, M. Terré1 and A. Bach2,3, IRTA, Caldes de Montbui, Spain, 2ICREA, Barcelona, Spain, 3Department of Ruminant Production, IRTA, Caldes de Montbui, Spain

1124 T130 Stabilization of intestinal mast cells at weaning improves performance of early-weaned pigs.
A. Mercu1, M. G. Tedo1, J. Charve1, A. J. Moeber2 and I. R. Iparraguirre1, 1Lucta S.A., Montornés del Vallès, Spain, 2North Carolina State University, Raleigh

1125 T131 The Effect of Essential Oil/Botanical Product on Growth and Performance of Calves Fed Milk Replacer. 
B. L. Miller1, T. Earleywine1, W. S. Bowen Yoho1 and T. E. Johnson3, 1Land O'Lakes - Purina Feed LLC, Gray Summit, MO, 2Land O'Lakes Animal Milk Products, Shoreview, MN, 3Land O' Lakes, Inc., Webster City, IA
1176  T132  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. Williams2†, 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

1177  T133  The impact of in utero heat stress and nutrient restriction on progeny body composition.  
J. S. Johnson1,*1, M. Abuaamieh1, M. Sanz Fernandez1, J. T. Seiber1, S. K. Stakes1, A. F. Keating1, J. W. Ross1, J. T. Selby1, R. P. Rhoads2 and L. H. Baumgard1, 1Iowa State University, Ames, 2Virginia Tech, Blacksburg

1178  T134  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. Cue3, 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

1179  T135  Growth and health of pre-weaned Holstein dairy heifers fed PROTERNATIVE® SF in combination with LEVUCELL® S.  
D. L. Gadeken1, 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

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1181  T136  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

1182  T137  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

1183  T138  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

1184  T139  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.  

1185  T140  The effects of abrupt dietary alterations on equine cecal pH.  
A. Reeg1, T. Douthit1, K. M. DeLano3, M. E. Gordon2, M. M. Raghavendra Rao2 and K. Williamson2, 1Kansas State University, Manhattan, 2Purina Animal Nutrition, LLC, Gray Summit, MO

1186  T141  Utilizing fecal pH to predict cecal pH in the equine.  
C. J. Douthit1, T. Douthit1, A. Reeg1, N. M. Bello1, M. E. Gordon2 and K. Williamson2, 1Kansas State University, Manhattan, 2Purina Animal Nutrition, LLC, Gray Summit, MO

1187  T142  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

1188  T143  On-farm Tapeworm Testing in Horses.  
N. C. Whitley1, R. Kaplan1, K. Moulton1, S. B. Routh1, R. Franco1 and R. K. Splan1, 1North Carolina A&T State University, Greensboro, 2University of Georgia, Athens, 3Virginia Tech, Middleburg, VA

1189  T144  International Animal Production

1190  T144  Handbook for livestock research on smallholder farms in developing countries.  
A. L. Goetsch1, American Institute for Goat Research, Langston University, Langston, OK

1191  T145  Reproductive Performance in United Kingdom Holstein Dairies by Geographic Region.  
J. Hildon1, C. Vergara2 and H. Lopez3, 1Genus ABS, Stapeley, United Kingdom, 2ABS Global, DeForest, WI, 3ABS Global Inc., DeForest, WI

1192  T146  Crossbreeding effects for body weight and carcass characteristics in a 3-breed diallel cross.  
D. Norris1, D. Tyasi1 and J. Ng’ambi2, 1University of Limpopo, Polokwane, South Africa, 2University of Limpopo, Sovenga, South Africa

1193  T147  Total Bacteria Counting Profile of Raw Milk in Minas Gerais State According to the Storage System.  
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*3* University of Wisconsin-Madison/CAPES Est.Senior 18183-12-3, Madison, WI

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H. A. Ricardo and R. O. Roça, Grande Dourados Federal University (UFGD), Dourados, Brazil, São Paulo State University (FCA/UNESP), Botucatu, Brazil

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A. Hozhabri, M. Ganjkhanlou, A. Zali, A. Emami, A. Akbari-Afjani and M. Dehghan-Banadaky, University of Tehran, Tehran, Iran, University of Birjand, Birjand, Iran, University of Zanjan, Zanjan, Iran

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A. Hozhabri, A. Zali, M. Ganjkhanlou, A. Emami, A. Akbari-Afjani and M. Dehghan-Banadaky, University of Tehran, Tehran, Iran, University of Birjand, Birjand, Iran, University of Zanjan, Zanjan, Iran

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

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J. T. Chen, L. Ma, J. Q. Wang, Y. X. Yang and D. P. Bu, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, College of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China

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J. T. Chen, L. Ma, D. P. Bu, Y. X. Yang and J. Q. Wang, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China, College of Animal Science and Technology, Gansu Agricultural University, Lanzhou, China

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J. T. Chen, L. Ma, D. P. Bu, Y. X. Yang and J. Q. Wang, Heilongjiang Bayi Agricultural University, Daqing, China, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

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- Viscosity Measurement of Solutions Composed by Whey Protein Using a Rapid Viscosity Analyser (RVA). M. Alves, M. Martins, P. H. Junior, R. Moreira, G. Mendes, M. Pinto, I. Perrone and A. Carvalho. Federal University of Viçosa, Viçosa, Brazil, 2Federal University of Viçosa, Viçosa, Brazil

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S. Schaumberger,1 and U. Hofstetter,1 BIOMIN Holding GmbH, Herzogenburg, Austria, 2BIOMIN Holding GmbH, Herzogenburg, Austria

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I. Park,1 T. J. Pasquetti1* and S. W. Kim,1, North Carolina State University, Raleigh, 2Bolsista do, CNPq, Brazil

1316 T179 Effects of dietary supplementation of selenium-enriched probiotics on productive performance and intestinal microflora of weanling pigs raised under high ambient temperature. 
C. Lv,1 T. Wang2* and K. Huang1, 1Nanjing Agricultural University, Nanjing, Jiangsu, China, 2Mississippi State University, Mississippi State

1317 T180 Growth performance and carcass characteristics of pigs fed high-fiber diets supplemented with Bacillus spp. expressing multi-enzyme activities. 
A. Owusu-Antwi,1,2, R. Lizardo1, J. Brufau2 and A. Awati1, 1DuPont Industrial Biosciences - Danisco Animal Nutrition, Marlborough, Wiltshire, United Kingdom, 2IRTA-Mas de Bover, Constanti, Tarragona, Spain

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G. Y. Wang1, C. Yang2, Y. X. Guo1, Z. Yang2 and Y. Wang1, 1College of Animal science, Shandong Agricultural University, Tai-an, China, 2College of Life science, Shandong Agricultural University, taian, China, 4College of Animal science, Shandong Agricultural University, taian, China, 3Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

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S. L. Johnston1,2, F. Chi1, S. Ching2, R. Cravens1 and O. Adeola2, 1Amlan International, Chicago, IL, 2Purdue University, West Lafayette, IN

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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

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S. Vigors1, T. Sweeney2, 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

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M. M. Hossain, M. L. Li and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

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H. Shin, A. Hosseindoust and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

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Y. Liu, S. D. Upadhaya and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

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H. Yun, E. Balolong Jr. and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

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M. Jung, Y. Lei and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

1327 T190 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
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J. W. Park, S. D. Upadhaya 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, blood characteristics, 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. Cho*, 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. Cho*, M. Begum and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

The effect of salicorniaherbaacea and dendropanaxmorbifera 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

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J. H. Cho*, H. Shin and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

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M. F. Fernandez Alarçon1, J. P. Steibel1, L. S. Antonio1, R. L. Furlan3 and L. R. Furlan1, 1Department of Animal Morphology and Physiology, Sao Paulo State University, Jaboticabal, SP, Brazil, 2Michigan State University, East Lansing, 3Department of Fisheries and Wildlife, Michigan State University, East Lansing, “Department 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. Dudañ1, 2P. D. A. P. Ribeiro, G. D. V. Polycarpo, C. Gallardo, G. D. Ricci and M. A. D. T. Neto, University of São 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

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M. Jung, Y. Lei and I. H. Kim*, Department of Animal Science, Dankook University, Cheonan, South Korea

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H. S. Chen1, 2, D. E Velayudhan1, 2, A. K Li1, 2, Y. Z Feng2, D. Lia2, 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

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M. Francis1, T. J. Wester1, 2P. C. H. Morel1 and B. H. P. Wilkinson1, 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. Horn1, 2G. Miller2, K. M. Ajuwon1 and O. Adeola1, 1Department of Animal Sciences, Purdue University, West Lafayette, IN, 2Biomatrix, Princeton, MN

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E. Barba-Vidal1, 2, L. Castillejos2, V. F. Buttow Roll1, M. Rivero4, J. A. Moreno Mañoz2 and S. Martin-Orå3, 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, 4Laboratorios Ordesa S. L., Parc Cientific de Barcelona, Barcelona, Spain

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T211 Luteolysis and pregnancy outcome in 5-day Resynch dairy cows after 1 or 2 injections of prostaglandin F2α. J. S. Stevenson1, S. L. Pulley and S. L. Hill, Kansas State University, Manhattan

T212 Physiological characteristics of cows with divergent genetic merit for fertility traits during the transition period. S. Moore1, T. A. Brick1, P. Lonergan2, T. Fair1 and S. Butler1,1Teagasc Moorepark, Fermoy, Ireland, 2University College Dublin, Dublin, Ireland, 3Animal & Grassland Research and Innovation Centre, Teagasc, Moorepark, Fermoy, Co. Cork, Ireland

T213 Characterization of luteal dynamics in lactating cows for 32 days after synchronization of ovulation and timed artificial insemination. A. Ricci1,2, P. D. Carvalho2, M. C. Amundson1 and P. M. Fricke1,1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2University of Wisconsin, Madison

T214 Influence of fat supplementation on LH pulses and FSH concentration in Nellore heifers. R. S. Cipriano1,1, M. C. V. Miguez1, H. F. Costa2, J. S. Souza2, L. M. Pavanello2, M. A. Maioli2, D. Giraldo-Arana2, D. M. Pinheiro2, F. M. Abreu2, L. H. Cripps2, M. L. Day2 and G. Nogueira2,1Unisalesiano, Araçatuba, Brazil, 2Unesp, Araçatuba, Brazil, 3The Ohio State University, Columbus

T215 Pregnancy outcomes based on pregnancy-associated glycoproteins in milk and serum during the first trimester of gestation in Holstein dairy cows. A. Ricci1,2, P. D. Carvalho3, M. C. Amundson1, S. Koller4, R. H. Fourdraine5, L. Vincenti2 and P. M. Fricke1,1Department of Dairy Science, University of Wisconsin-Madison, Madison, 2University of Turin, Turin, Italy, 3University of Wisconsin, Madison, 4IDEXX Laboratories, Inc, Westbrook, ME, 5AgSource Laboratories, Verona, WI

T216 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. Bus4, T. A. Brick1, G. Starkey4, G. Messerschmidt1, A. A. Barragan1, G. M. Schuenemann1 and M. L. Day2,1Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, 2The Ohio State University, Columbus

T217 Rams treated with testosterone induce sexual activity in anovulatory Dorper adult sheep. L. M. Tejada1, Universidad Autónoma Agraria Antonio Narro, Torreón, Mexico

T218 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. Spicer1, J. A. Williams1, L. F. Schutz1, M. L. Totty1, N. B. Schreiber1 and J. Gilliam1,1Oklahoma State University, Stillwater, 2Oklahoma State University Center for Veterinary Health Sciences, Stillwater, OK

T219 Interaction Between a Mammary Immune Response to Lipopolysaccharide and Luteal Function in Lactating Dairy Cows. J. Luettgenau1, O. Wellnitz1,2, R. M. Bruckmaier2 and H. Bollwein1,1Clinic of Reproductive Medicine, Vetsuisse Faculty University of Zurich, Zurich, Switzerland, 2Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland
1410  T220  Influence of Maternal Nutrient Restriction and Realimentation on Vascularity of Bovine Placentomes.
B. R. Mordhorst1, E. E. Camacho1, C. O. Lemley1, P. P. Borowicz2, D. A. Redmer2, K. C. Swanson2 and K. A. Vonnahme1,
1North Dakota State University, Fargo, 2University of Arizona, Tucson, 3Mississippi State University, Mississippi State

1411  T221  Lysophosphatidic Acid (LPA) Activates ERK1/2-P90RSK Signaling in Porcine Trophoblast Cells.
J. Kim1, J. Lee, S. Jung, H. Bang, Y. Sung, Y. Choi and J. Kim, Dankook University, Cheonan, South Korea

1412  T222  Relationship between dry-matter intake and subclinical endometritis in healthy postpartum dairy cows.
A. H. Souza1, P. D. Carvalho2, A. R. Dresch2, L. M. Vieira2, K. S. Hackbard1, R. D. Shaver1 and M. C. Wilbank2,
1University 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

1413  T223  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.
L. H. Cruppe1, S. L. Lake2, F. M. Abreu1, S. G. Kruse1, S. L. Bird3, K. Heaton1, B. R. Harstine1, M. L. Day1 and G. A. Bridges2,
1The Ohio State University, Columbus, 2University of Wyoming, Laramie, WY, 3University of Minnesota, Grand Rapids, MN, 4Utah State University, Logan

1414  T224  Use of a CIDR in the 5-day CO-Synch estrous synchronization protocol improves pregnancy rates to timed artificial insemination.
G. A. Bridges1, R. P. Lemenager2, E. Taylor3 and P. J. Gunn4, 1University of Minnesota, Grand Rapids, MN, 2Purdue University, West Lafayette, IN, 3Purdue University, Lafayette, IN, 4Iowa State University, Ames

1415  T225  Incidence of ovulation to GnRH at onset of 5-d CO-Synch + CIDR and impact on reproductive responses.
H. P. Dias1, S. G. Kruse1, S. L. Bird3, B. J. Funnell1, T. C. Geppert1, E. L. Lundy4, P. J. Gunn4 and G. A. Bridges2,
1Aluno do programa de pós-graduação em Zootecnia, FMVZ-UNESP-Botucatu, Botucatu, Brazil, 2University of Minnesota, Grand Rapids, MN, 3Iowa State University, Ames

1416  T226  The Use of 5-d CO-Synch+CIDR and 7-d EB+CIDR Synchronization Programs in Nellore Heifers.
M. V. C. Ferraz Jr1, A. V. Pires1, M. V. Biehl2, R. Sartori1, J. R. S. Gonçalves3, E. M. Moreira4, M. H. Dos Santos1, L. H. Cruppe5 and M. L. Day6,
1University of Sao Paulo - FMVZ/USP, Pirassununga, Brazil, 2University of Sao Paulo - ESALQ/USP, Piracicaba, Brazil, 3Experimentation Station Hildedag Georgina Von Pritzewitz, Londrina, Brazil, 4University of Minnesota, Grand Rapids, MN, 5Iowa State University, Ames

1417  T227  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 Sao Paulo - ESALQ/USP, Piracicaba, Brazil, 2University of Sao Paulo - ESALQ/USP, Piracicaba, Brazil, 3Experimentation Station Hildedag Georgina Von Pritzewitz, Londrina, Brazil

1418  T228  Effect of timing of artificial insemination and estrus expression using sexed semen on pregnancy rates in Holstein dairy cows.
S. E. Crego1, E. L. Larimore and G. A. Perry, South Dakota State University, Brookings

1419  T229  Evaluation of the hypothalamic kisspeptin system throughout the estrous cycle in gilts.
E. S. Jolitz1 and J. A. Clapper, South Dakota State University, Brookings

1420  T230  Levels of IGF-1, thyroxine, triiodothyronine and cortisol in yearling bulls in feedlot or silvopastoral system.
M. E. Romero1, J. A. Ramirez-Godínez2, G. Corral-Flores3, A. Flores-Mariñelarena4, C. Rodríguez-Muela4, P. F. Mancillas1, J. A. Gutiérrez2 and A. Ayala1,
1Universidad Autónoma de Chihuaahua, Chihuahua, Mexico, 2Universidad Autónoma de Yucatán, Mérida, México, 3Universidad Autónoma de Yucatán, Mérida, Mexico

1421  T231  Meta-analysis of the effect of estrus expression before fixed-time AI on conception rates in beef cattle.
B. N. Richardson1, S. L. Hill2, J. S. Stevenson1, G. D. Djirda3 and G. A. Perry4, 1South Dakota State University, Brookings, 2Kansas State University, Manhattan

1422  T232  Comparison of Estrus Parameters in Nulliparous Heifers by Two Automated Activity Monitoring Systems.
B. F. Silper1, A. M. L. Madureira, T. A. Burnett, M. Kaur, E. L. Drago Filho, A. M. de Passillé, J. Rushen and R. L. A. Cerri,
Faculty of Land and Food Systems - University of British Columbia, Vancouver, BC, Canada

1423  T233  Cryopreserved Sperm quality in young Brangus bulls raised on pasture and supplemented with vitamin E.

1424  T234  Addition of vitamin c extender and post-cryopreservation semen quality in bulls.
A. L. Cândida de Resende Fraga1, L. K. Hatamoto-Zervoudakis1, T. B. Castaldelli1, R. A. Minozzo2, J. T. Zervoudakis1, P. P.
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Concentrations of Progesterone during Early Follicular Development and Pregnancy Rate to AI in Beef Cows. F. M. Abreu1, M. L. Day2, M. A. Coutinho da Silva3, C. A. Madsen4, T. Martins5, L. H. Cruppe6, B. R. Harstine7, G. A. Bridges8 and T. W. Geary2. 1The Ohio State University, Columbus, 2USDA ARS Fort Keogh, Miles City, MT, 3University of Minnesota, Grand Rapids, MN.


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. Keisler1 and M. C. Lucy2. 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. Wijna1, M. L. Stangaferro1, J. R. Branten1, 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. Ameta3. 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, T. A. Gipson3 and R. Merkel1. 1University of Puerto Rico - Mayaguez, Mayaguez, PR, 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 OmuniGen-AF™ during and following heat stress. A. E. Holland1, J. D. Chapman2, L. O. Ely2, Prince Agri Products, Inc., Quincy, IL, 3UGA, Athens, GA.

Factors Affecting Transition Success in Tie stall Herds. D. E. Santsch1, M. S. Perreault1, 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. Hall2. 1Northwest Missouri State, Maryville, MO, 2The University of Arizona, Tucson.

Effect of deterred and undeterrerd bird predperation on nutrient composition of a cattle diet and growth performance in cattle at a Southwestern feedlot facility. J. D. Allen1, L. W. Hall2, S. Garcia1 and J. Marchello1. 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, 2University 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-Dittrich1 and R. D. Almeida1. 1Universidade Federal do Paraná, Curitiba - Paraná, Brazil, 2Capal Cooperativa Agroindustrial, Arapoti - 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. Nielson1, A. F. Summers1 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.
K. A. Dolecheck¹, W. J. Silvia, G. Heersche Jr., A. E. Sterrett, B. A. Wadsorth and J. M. Bewley, University of Kentucky, Lexington

Effect of maternal heat stress during the dry period on development of immune system of offspring.

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. Giordano³, M. J. Thomas³, G. K. Catucciova¹ and M. D. Curier³, Department of Animal Science, Cornell University, Ithaca, NY, Dairy Health and Management Services, LLC, Lovell, 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 Vries, C. J. Richards and M. I. Endres, University of Florida, Gainesville, Department of Animal Science, Cornell University, Ithaca, NY, Dairy Health and Management Services, LLC, Lovell, NY

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, Oklahoma State University, Stillwater, Merck 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. G. 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, Oklahoma State University, Stillwater, Merck Animal Health, DeSoto, KS

Survey of fatty acid profile of milk fat in Italian water buffalo.
M. G. Manca¹, G. Cosenza², E. Apicella², A. Pauicillo², A. Coletta², A. Nudda³, N. P. P. Maccio², L. Zicarelli² and L. Ramunno³, Dipartimento di Agraria, University of Sassari, Sassari, Italy, Department of Agriculture, University of Naples Federico II, Naples, Italy, ISPAM, Laboratory of Animal Cytogenetics and Gene Mapping, National Research Council, Naples, Italy, ANASB, Italian National Association of Buffalo Breeders, Caserta, Italy, Università di Sassari, Sassari, Italy, Department of Veterinary Medicine and Animal Production, University of Naples Federico II, Naples, Italy, Department of Agriculture, University of Naples, Naples, Italy

Comparative study between 5% copper sulfate and a beta-ionone and limonene solution in a split footbath.
A. C. Thompson 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. Bewley, University of Kentucky, Lexington, Custom Dairy Performance, Clovis, CA

Ruminant Nutrition Posters II
1651 T264 In vitro assessment of Saccharomyces cerevisiae cell fractions (YCF) using bovine epithelial cells and macrophages. Z. Li1, Q. You1, F. Ossa1, P. Mead2 and N. A. Karrow2, 1University of Guelph, Guelph, ON, Canada, 2Lallemand Inc., Montreal, QC, Canada, 1Department of Animal and Poultry Science, University of Guelph, Guelph, ON, Canada

1652 T265 Digestibility of the diet of Nellore bulls receiving concentrated supplementation with additives. J. A. C. Lima1,2, H. J. Fernandes3, M. F. Paulino4, E. P. Rosa5, L. S. Caramalac2, K. A. Silveira2, B. D. D’auria2 and A. Aguiar1, 1Federal University of Viçosa, Viçosa, Brazil, 2State University of Mato Grosso do Sul, Aquidauana, Brazil, 3University of Florida, Gainesville

1653 T266 Pre- and post-weaning performance and health of calves fed 24% crude protein and 20% fat milk replacer at different feeding rates. B. M. Strayer1,2, D. Ziegler2, D. Schimek1, B. Ziegler4, M. Raeth-Knight1, H. Chester-Jones2 and D. Casper2, 1South Dakota State University, Brookings, 2University of Minnesota Southern Research and Outreach Center, Waseca, 3Hubbard Feeds Inc., Mankato, MN, 4University of Minnesota, St. Paul

1654 T267 Pre- and post-weaning performance and health of calves fed milk replacers with two protein concentrations and two feeding rates. B. M. Strayer1,2, D. Ziegler2, D. Schimek1, B. Ziegler4, M. Raeth-Knight1, H. Chester-Jones2 and D. Casper2, 1South Dakota State University, Brookings, 2University of Minnesota Southern Research and Outreach Center, Waseca, MN, 3Hubbard Feeds Inc., Mankato, MN, 4University of Minnesota, St. Paul

1655 T268 The effect of dietary supplementation of artificial sweetener on performance of milk-fed calves. A. Siurana1, E. H. Wall2, M. Rodriguez1, L. Castillejos1, A. Ferrer1 and S. Calsamiglia1, 1Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain, 2Pancosma, Geneva, Switzerland

1656 T269 The effect of supplementation with a blend of capsaicin, carvacrol, and cinnamaldehyde on performance of milk-fed calves. A. Siurana1, E. H. Wall2, M. Rodriguez1, L. Castillejos1, A. Ferrer1 and S. Calsamiglia1, 1Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain, 2Pancosma, Geneva, Switzerland


1658 T271 Pre- and Post weaning performance and health of dairy calves fed all-milk protein milk replacers or partially replacing milk protein in milk replacers with plasma, wheat proteins and soy protein concentrate. D. Ziegler1, H. Chester-Jones1, B. Ziegler2, D. Schimek2, M. Raeth-Knight1 and D. L. Cook3, 1University of Minnesota Southern Research and Outreach Center, Waseca, MN, 2Hubbard Feeds Inc., Mankato, MN, 3University of Minnesota, St. Paul, 4Milk Products, Chilton, WI

1659 T272 Effect of Radix Bupleuri herbal supplementation on diversity of the bacterial community and cellulolytic bacteria in the rumen of lactating dairy cows analyzed by DGGE and RT-PCR. L. Pan, D. P. Bu1, 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

1660 T273 The effect of soluble propolis in milk on the performance of Holstein suckling calves. P. Pervian1, K. Rezayazi2 and G. Nezhati3, 1University of Tehran, Tehran, Iran, 2Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, 3University of Tehran, Karaj, Iran

1661 T274 Supplementation of Lysine and Methionine for Dairy Calves on a Step Down Milk-Replacer Feeding Program. J. T. Silva1, G. Santos, N. B. Rocha, E. Miqueo, T. Manzoni and C. M. M. Bittar, University of Sao Paulo, Piracicaba, Brazil

1662 T275 Response of newborn calves to injectable vitamins A, D and E. D. B. Snider1, J. Gaska2, D. E. Gockowski3 and R. L. Stuart4, 1Iowa State University, Ames, 2Gaska Dairy Health Services, Columbus, WI, 3North Ridge Veterinary Svc, Sturgeon Lake, MN, 4Stuart Products Inc, Bedford, TX

1663 T276 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. Soares1, G. G. O. Nápoles1, C. E. Oltramari1, J. T. Silva1, M. R. De Paula1 and C. M. M. Bittar2, 1University of Sao Paulo, Piracicaba, Brazil, 2University of Santa Catarina State, Chapecó, Brazil

1664 T277 Fecal Scores, Hemogasometry and Blood Parameters of Diarrheic Calves Fed Concentrate Containing Citrus Pulp as a Replacement For Corn. M. C. Soares1, C. E. Oltramari1, J. T. Silva1, M. R. De Paula1, M. P. Gallo1 and C. M. M. Bittar2, 1University of Sao Paulo, Piracicaba, Brazil, 2University of Santa Catarina State, Chapecó, Brazil
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1665 T278 Effect of Diet Particle Size on Sorting, Eating Rate, Rumen pH and Digestibility in Dairy Heifers.
F. H. Pino1, A. J. Heinrichs and C. Castro, The Pennsylvania State University, University Park

1666 T279 Fatty acid profiles of longissimus dorsi from Nellore cattle on pasture supplemented with crude glycerin and whole cottonseed.
J. T. Zervoudakis1, A. J. Possamai2, L. K. Hatamoto-Zervoudakis2, A. S. Oliveira3, L. B. D. Freiria1, R. P. D. Silva1, A. C. Barboza1 and J. W. Koscheck1, 1FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil, 2UFMT, Cuiabá, Brazil, 3UFMT, Sinop, Brazil, 4UNESP, Jaboticabal, Brazil

1667 T280 Performance and carcass attributes of Nellore heifers fed with zilpaterol hydrochloride.
N. R. B. Cónsolo1, R. S. Goulart1, F. Rodriguez1, M. O. Frasseto1, J. M. Souza1, L. F. P. Silva1 and V. B. Ferrari1, 1University of Sao Paulo, Pirassununga, Sao Paulo, Brazil, 2MDS Saíde Animal, Sao Paulo, Brazil

1668 T281 Carcass characteristics of Nellore steers fed whole corn diets containing feed antibiotics.
B. J. M. Lemos1, F. G. F. Castro2, B. P. C. Mendonça2, C. E. Dambros1, D. B. Fernandes2, A. L. Braga Netto2, V. R. M. Couto1 and J. J. R. Fernandes1, 1Universidade Federal de Goiás, Goiânia, Brazil, 2AgroCria, Goiânia, Brazil

1669 T282 Fatty acids ratio of loin from lambs fed with increasing levels of crude glycerin in feedlot.
C. M. Cinhota1, A. R. M. Fernandes1, H. A. Ricardo2, L. V. C. Girão3, R. O. Roça1, L. O. Semo1, M. A. P. Orrico Junior1, J. C. S. Osório2 and M. V. Fargas Junior3, 1Grande Dourados Federal University (UFGD), Dourados, Brazil, 2Uberlândia Federal University (UFU), Uberlândia, Brazil, 3São Paulo State University (FCA/UNESP), Botucatu, Brazil

1670 T283 Performance and carcass yield of finishing lambs fed diets with safflower meal.
P. A. Meneses-Tapia1, G. Buendia-Rodriguez2, F. E. Martinez-Castañeda1, C. G. Peñuelas-Rivas1 and S. S. Gonzalez-Muñoz3, 1Universidad Autonoma del Estado de Mexico, Toluca, Mexico, 2CENTIDFYMA INIFAP, Queretaro, Mexico, 3Cec Terminal, Mexico

1671 T284 Quality traits of Longissimus muscle of two genetic groups fed with crude glycerin.
I. M. de Oliveira1, J. P. I. S. Monnerat1, N. V. L. Serão1, M. S. Duarte1, V. R. M. Couto2, S. C. Valadares Filho4, M. L. Chizotti2 and P. V. R. Paulino3, 1APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 2Universidade Federal de Viçosa, Viçosa, Brazil, 3Iowa State University, Urbana, IL, 4Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil

1672 T285 Effects of corn processing method and dietary starch level on finishing performance of Nellore bulls.
M. Caetano1,2, R. S. Goulart1, S. Luz e Silva1, J. S. Drouillard3, P. R. Leme4 and D. P. D. Lanna5, 1University of Sao Paulo / ESALQ, Piracicaba, Brazil, 2current address University of Adelaide, Roseworthy, Australia, 3MDS Saide Animal, Sao Paulo, Brazil, 4University of Sao Paulo / FZEA, Pirassununga, Brazil, 5Kansas State University, Manhattan

1673 T286 Effect of wheat dried distillers grains with solubles inclusion and fibrolytic enzyme supplementation on ruminal fermentation and digestibility in beef heifers fed backgrounding diet.
Z. He1,2, N. D. Walker1, 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

1674 T287 Increasing condensed corn distillers solubles affects gene expression in rumen epithelial tissue.
J. C. McCann3, S. Alqarni1, J. R. Segers2, D. W. Shike1 and J. J. Loor1, 1University of Illinois, Urbana, 2University of Georgia, Tifton, GA

1675 T288 Crude Glycerin as an Energy Source in Finishing Beef Diets.
P. Del Bianco Benedetti1,2, P. V. R. Paulino1, M. I. Marcondes1, A. Faciola2, I. França Smith Maciel1 and M. Custódio da Silva1, 1Federal University of Vícosa, Vícosa, Brazil, 2University of Nevada, Reno, NV, 3Nutron Alimentos Ltda, Campinas, Brazil

1676 T289 Ruminal fermentation of steers fed crude glycerin replacing starch- vs. fiber-based energy ingredients at low or high concentrate diets.
J. F. Lage1, A. F. Ribeiro2, E. San Vito1, C. S. Ribeiro Júnior1, L. M. Delevatti1, E. E. Dalanttonia1, F. Baldi1, R. A. Reis3 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, Faculdade de Ciências Agrárias e Veterinárias, Jaboticabal, Brazil, 4University of Sao Paulo State, Jaboticabal, Brazil

1677 T290 Supplements containing different crude glycerin concentration does not affect the intake and digestibility of Nellore grass-fed beef.
Whole cottonseed and crude glycerin for nellore cattle on pasture: Intake and digestibility of nutrients.
A. J. Possamai1, J. T. Zervoudakis2, L. K. Katamoto-Zervoudakis3, A. S. Oliveira4, E. R. Donida5, P. J. L. R. Silva6, A. C. Barboza7, R. G. D. P. Junior1 and J. W. Koscheck3, 1UFMT, Cuiabá, Brazil, 2FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil, 3UFMT, Sinop, Brazil, 4UNESP, Jaboticabal, Brazil

Crude Glycerin in multiple supplements for beef cattle in grazing: pH and ammoniacal nitrogen.
R. G. D. P. Junior1, A. J. Possamai2, J. T. Zervoudakis3, L. D. S. Cabral1, L. K. Katamoto-Zervoudakis1, A. C. Barboza7, L. B. D. Freire1, J. B. Azevedo1 and A. S. Oliveira4, 1FEDERAL UNIVERSITY OF MATO GROSSO, CUIABA, Brazil, 2UFMT, Cuiabá, Brazil, 3Federal University of Mato Grosso, Cuiabá, Brazil, 4UFMT, Sinop, Brazil

Grain processing methods and concentration of corn silage NDF in the finishing diet of Nellore bulls.
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Effect of corn processing methods and dietary concentrations of sugarcane bagasse fiber on finishing Nellore bulls performance.
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Grinding processing methods and concentration of corn silage NDF in the finishing diet of Nellore bulls.
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Predicting ruminal and total tract starch digestion as influence by changes in density of steam-flaked corn: flake thickness, enzymatic reactivity, fecal starch.
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Intake and performance of crossbred dairy calves fed spineless cactus in transition.
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Carcass characteristics of crossbred dairy calves fed spineless cactus in transition.
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Effect Of Chitosan And Soybean Oil Combination On Ruminal Fermentation And Milk Yield And Composition Of Dairy Cows.
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Growth performance and total tract nutrient digestion for Holstein heifers precision-fed diets high in distillers grains with different forage particle size.
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Comparison of efficiency of energy use in Holstein and Jersey dairy cows offered diets containing reduce fat distillers grains RFDDGS.
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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.
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Performance, digestibility, and blood acid-base balance of dairy cows in response to the replacement of corn by crude glycerin.
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Effects of crude glycerin supplementation on fatty acids composition of milk fat from primiparous lactating cows on irrigated tropical pasture.
M. C. A. Santana1, H. A. Santana Junior2, M. P. Figueiredo3, E. O. C. Santana4, G. A. Filho4, C. B. Figueiredo5, M. S. Maciel6 and J. I. Simionato6, 1Emater, Goiânia, Brazil, 2Universidade Estadual do Piauí, Corrente, Brazil, 3Universidade
Effect of grain processing and fat supplementation on ruminal pH dynamics of cows grazing a tropical pasture.
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Grain processing and fat supplementation on milk yield and milk composition of dairy cows grazing a tropical pasture.
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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.
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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. Roca-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.

Effect of particle size and time of rumen fluid collection on in-vitro starch digestibility of corn and sorghum.
E. Raffrenato, L. J. Erasmus, W. A. van Niekerk and C. Engelbrecht, University of Pretoria, Pretoria, South Africa, Stellenbosch University, Stellenbosch, South Africa

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, G. 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.
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Use of byproducts from corn industry and citric acid on dairy heifers diet.
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Monensin increases endotoxin concentration in an in vitro rumen fermentation model.
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Effect of a calcareous algae and monensin on feed intake and rumen parameters of cattle fed abruptly high concentrate diets.
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Effect of Post-extraction Algal Residue Supplementation on the Rumen Microbiome of Steers Consuming Low-quality Forage.
J. C. McCann, M. L. Drewery, W. E. Pinchak, J. E. Sawyer and T. A. Wickersham, University of Illinois, Urbana,
Effect of Concentrate Diets Contrasting in Fatty Acid Profiles on Lamb Performance, Carcass Characteristics, Fatty Acid Composition and Wool Production.
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Feed value for ruminants of newly developed black and yellow type of canola seeds.
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Could lactic acid treatment decrease in-vitro gas production of barley grain.
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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. Yan, N. Khan, X. Huang and P. Yu, University of Saskatchewan, Saskatoon, SK, Canada, 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. Bruni and A. I. Trujillo, Facultad de Agronomía Universidad de la Republica, Paysandu, Uruguay, 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 Cleef, J. M. Bertocco Ezequiel, J. Borsari Dourado Sancanari and E. H. C. B. Van Cleef, UNESP, Jaboticabal, Brazil, CNPq, Brasilia, Brazil, UCBB, Jaboticabal, Brazil, FAPESP, Sao Paulo, Brazil

Positive effect of fat supplementation in the early postpartum period can continue throughout lactation after fat supplementation ceases.
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Sources and levels of rumen protected fat on energy balance of dairy cows grazing a tropical pasture.
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Saturated Fat Supplementation Interacts with Dietary Forage NDF Concentration during the Postpartum Period in Holstein Cows: Energy Balance, Nutrient Digestibility, and Metabolism.
P. Piantoni, 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. KhaliVandibehroozavar, M. Dehghan Banadakzy and M. Ghaffarzadeh, Department of Animal Science, Urmia University, Urmia, Iran, Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, 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. Zhao, J. Luo, P. Dove and J. J. Loo, Northwest A & F University, Yangling, China, University of Illinois, Urbana, University of Ljubljana, Domzale, Slovenia

Effects of feeding protected unsaturated fatty acids (Persia Fat®) on milk fatty acid profile of Iranian Holstein dairy cows.
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Milk yield and milk fat responses to increasing levels of stearic acid supplementation of dairy cows.
J. P. Boerman 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. Stoffel and L. E. Armentano, University of Wisconsin-Madison, Madison, University of Wisconsin, Madison
1720  T333  Effect of specific essential oil blend on performance of Nellore young bulls in feedlot.  
A. L. D. S. Valente 1, J. M. Serra, E. Romanzini, R. A. Reis, R. Barbero, T. Araujo, S. Santos, L. Delevatti and F. Souza,  
Unesp, Jaboticabal, Brazil

1721  T334  Effect of Coconut Oil and Lauric Acid on Omasal Nutrient Flow and Microbial Protein Synthesis in Dairy Cows.  
A. Faciola 1,2, G. A. Broderick 1, 1University of Nevada, Reno, NV, 2Broderick Nutrition & Research, LLC, Madison, WI

1722  T335  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 2, 1Suranaree University of Technology, Muang, Thailand, 2Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1723  T336  Use of lemongrass oil for manipulation of ruminal fermentation using Rusitec technique.  
A. Nanon 1, W. Sukombat 1 and W. Yang 2, 1Suranaree University of Technology, Muang, Thailand, 2Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1727  T338  Effects of echium and flaxseed oil on ruminal fatty acid metabolism in vitro.  
L. Jin 1,2, C. Li 1, M. He 1, Y. Wang 1, T. W. Alexander 1 and T. A. McAllister 1, 1Department of Animal Science and Technology, Northeast Agricultural University, Harbin, China, 2Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1729  T340  Effect of linoleic and linolenic acid sources supplementation on in vitro rumen fermentation characteristics and microbial diversity.  
S. M. Amamullah 1, S. C. Kim 1, D. Kim 1, H. Lee 1, Y. Joo 2 and I. H. Cho 2, 2Division 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

1730  T341  Intake and daily gain of grazing Nellore bulls receiving concentrated feed additives.  
J. A. C. Lima 1, H. J. Fernandez 1, M. F. Paulino 1, E. P. Rosa 2, L. S. Caramalac 2, K. A. Silveira 2, G. C. Silva 2 and A. Aguiar 1, 1Federal University of Vicoso, Viçosa, Brazil, 2State University of Mato Grosso do Sul, Aquidauana, Brazil

1731  T342  Effects of Concentrate Level and Combined Use of Virginiamycin and Salinomycin on Nutrient Intake and Digestibility of Nellore Steers.  
A. J. C. Nuñez 1, V. V. Almeida 1, I. E. Borges 1, F. Piness 1, F. T. Mercado 1, S. L. Silva 1, P. R. Leme 1 and J. C. M. Nogueira Filho 1, 1Department of Animal Science - FZEA-USP, Pirassununga/SP, Brazil, 2Department of Animal Science - FCAV/UESP, Jaboticabal/SP, Brazil

1732  T343  A meta-analysis of effects of feeding nitrate on toxicity, production, and enteric methane emissions in ruminants.  
C. Lee 1 and K. A. Beauchemin, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1733  T344  Methane production of Nellore young bulls on pasture in the rainy season supplemented with crude glycerin associated energy sources.  
A. José Neto 1, L. G. Rossi 2, A. F. Ribeiro 3, B. R. Vieira 3, I. Pena Carvalho de Carvalho 2, E. E. Dalanttonia 3, A. S. Gómez 4 and T. T. Berchielli 3, 3Universidade Estadual Paulista “Julio de Mesquita Filho”, Jaboticabal, Brazil, 3Universidade Estadual Paulista “Julio de Mesquita Filho”/Unesp, Jaboticabal, Brazil, 4Universidade Estadual Paulista “Julio de Mesquita Filho”/Unesp, Jaboticabal, Brazil

1734  T345  Effects of encapsulated nitrate on toxicity, feed intake and feed consumption rates in beef cattle.  
C. Lee 1, R. C. Araujo 3, K. M. Koenig 4 and K. A. Beauchemin 1, 1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2GRASP Ind. & Com. LTD. LTDA, Curitiba, Brazil, 3EW|Nutrition GMBH, Visbek, Germany

1735  T346  Effects of the Combined Use of Virginiamycin and Salinomycin on Rumen Fluid Kinetics of Nellore Steers.  
A. J. C. Nuñez 1, V. V. Almeida 1, F. Piness 1, I. E. Borges 1, F. T. Mercado 1, S. L. Silva 1, P. R. Leme 1 and J. C. M. Nogueira Filho 1, 1Department of Animal Science - FZEA-USP, Pirassununga/SP, Brazil, 2Department of Animal Science - FCAV/UESP, Jaboticabal/SP, Brazil
1745 Effects of soybean meal supplementation with crude extract of pistachio hulls on performance and feed efficiency of Holstein bulls.

S. M. Rezaei, M. Dehghan banadaky2, A. Jolazadeh3, K. Rezayazdi3, J. Silva1, D. H. Watanabe3, M. C. Pereira1, J. Silva1, T. V. Carrara2, A. L. Rigueiro1, L. A. Tomaz1, D. P. Silva1, D. V. Vicari1, A. C. J. Pinto1, D. D. Estevam2, M. D. Arrigoni2 and D. D. Millen2,3,1 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

1746 Effect of Saikosaponin on rumen gas production, volatile fatty acid concentrations and microbial populations in vitro.

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L. Pan¹, D. P. Bu, J. Q. Wang, J. B. Cheng and X. Z. Sun, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1747 T360 Methane production from dairy cows fed red clover- or corn silage-based diets supplemented with linseed oil. C. Benchahaa1, F. Hassana1, R. Gervisa1 and R. Martinezea1, 1Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada, 2Université Laval, Québec, QC, Canada

1748 T361 Replacing Alfalfa with Panicled-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. Lambert5,6 and L. O. Tedeschia4, 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

1749 T362 Effects of Forage Source and NDF Concentration on Methane Emissions and Milk Production of Dairy Cows. K. J. Hammondd 1,2,3, A. K. Jones, D. J. Humphries, L. A. Crompton and C. K. Reynolds, University of Reading, Reading, United Kingdom

1750 T363 Changes of rumen methanogen diversity associated with different types of forage and protein in diets. X. W. Wang, J. Q. Wang1, D. P. Bu and S. G. Zhao, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1751 T364 Effect of Cashew Nut Shell Liquid on Lactation Performance and Rumen Methane Production in Dairy Cows. A. F. Branco1, F. Giallongo1,2, T. Frederick1,3, H. Weeks3, J. O1,2 and A. N. Hristov3, 1Universidade Estadual de Maringá, Paraná, Brazil, 2Department of Animal Science, The Pennsylvania State University, University Park

1752 T365 Metabolism of dairy cows as affected by dietary starch level and supplementation with monensin during early lactation. M. M. McCarthy1,2, T. Yassu1, C. M. Ryan1, S. H. Pelton1, G. D. Mechor2 and T. R. Overton1, 1Cornell University, Department of Animal Science, Ithaca, NY, 2Elanco Animal Health, Greenfield, IN

1753 T366 Effect of dietary monensin supplementation and amino acid balancing on lactation performance by dairy cows. A. L. Hagen1,2, L. F. Ferrarett1,2, R. D. Shaver1 and R. Martin3, 1University of Wisconsin, Madison, 3Vita Plus Corporation, Madison, WI

1754 T367 Effects of Beta-Extract of Humulus lupulus (hops) on Fermentation by Rumen Microbes in Continuous Culture. S. W. Fessenden1, I. J. Safer and M. D. Stern, University of Minnesota, Saint Paul

1755 T368 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. Grant2 and C. C. Elrod3, 1William H. Miner Agricultural Research Institute, Chazy, NY, 2Vi-COR, Inc., Mason City, IA

1756 T369 Effects of Bacillus subtilis and yeast cell wall on diarrhea incidence and immune function of dairy calves. J. Freitas¹, University of Parana, Palotina, Brazil

1757 T370 Effects of Bacillus subtilis and yeast cell wall on diarrhea incidence and immune function of dairy calves. J. A. Freitas1, V. Soza2, J. C. De Souza1, C. Nozawa1 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

1758 T371 Effects of different doses of Bacillus subtilis Natto on in vitro rumen fermentation parameters. J. Li1,2,3, D. P. Bu1, J. Q. Wang1,2, P. Sun1 and F. D. Li1, 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

1759 T372 An on-farm application of feed probiotics to increase total tract starch digestibility (TTSD) in high producing, lactating dairy cows. W. L. Bruman1, K. A. Bryan and J. E. Kurtz, Chr. Hansen Animal Health and Nutrition, Milwaukee, WI


1761 T374 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. Gervais4, E. Baumann1, Y. Lebeuf1 and G. Tremblay1, 1Université Laval, Québec, QC, Canada, 2Agriculture and Agri-Food Canada, Soils and Crops Research and Development Centre, Quebec, QC, Canada
GLOBAL NETWORK for the development of nutrition-related strategies for mitigation of methane and nitrous oxide emissions from ruminant livestock.

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Effect of oat grass variety on methane emissions from mature sheep.

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Effect of Acetate, Propionate and pH on Aqueous Concentration and Gaseous Methane and Hydrogen Production in Continuous Culture.

S. Ghimire\(^1\), B. A. Wenner\(^2\), R. A. Kohn\(^2\), J. L. Firkins\(^2\) and M. D. Hanigan\(^2\), \(^1\)Virginia Polytechnic Institute and State University, Blacksburg, \(^2\)The Ohio State University, Columbus, \(^3\)The University of Maryland, College Park

Ruminal parameters of confined steers fed with diets containing virginiamycin and monensin sodium.

F. R. Camilo\(^1\), A. M. Mobiglia\(^1\), G. F. Berti\(^1\), N. M. Jerônimo\(^2\), R. K. Grizotto\(^2\), M. Q. Manella\(^2\), F. D. D. Resende\(^2\), G. R. Siqueira\(^2\) and J. J. R. Fernandes\(^3\), \(^1\)Escola de Veterinária e Zootecnia da UFG, Goiânia, Brazil, \(^2\)Universidade Estadual Paulista, Jaboticabal, Brazil, \(^3\)Phibro Animal Health Corporation, Guarulhos, Brazil, \(^4\)Universidade Federal de Goiás, Goiânia, Brazil

Ruminal parameters of young Nellore bulls in a feedlot fed Yea-Sac8417 live yeast, monensin and their combination.

J. M. B. Benatti\(^1\), N. M. Geronimo\(^2\), J. A. Alves Neto\(^2\), I. M. de Oliveira\(^3\), A. D. Moreira\(^2\), C. L. Francisco\(^2\), G. R. Siqueira\(^2\) and F. D. D. Resende\(^2\), \(^1\)Universidade Estadual Paulista, Jaboticabal, Brazil, \(^2\)UNIFEB, Barretos, Brazil, \(^3\)APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, \(^4\)Phibro Animal Health Corporation, Guarulhos, Brazil, \(^5\)Universidade Federal de Goiás, Goiânia, Brazil

Optimal ratio of combined origanum essential oils to reduce methane emissions under in vitro ruminal fermentation.

A. Castañeda-Correa\(^1\), A. Corral-Luna\(^1\), F. A. Rodriguez-Almeida\(^1\), L. De la Torre-Saenz\(^1\), R. Silva-Vázquez\(^1\), L. Carlos-Valdez\(^1\), H. Gutiérrez-Bañuelos\(^1\) and O. Ruiz-Barrera\(^1\), \(^1\)Universidad Autonoma de Chihuahua, Chihuahua, Mexico, \(^2\)CIMAV, Chihuahua, Mexico, \(^3\)CIRENA, Salinas, Mexico, \(^4\)Universidad Autonoma de Zacatecas, Zacatecas, Mexico

Effect of Phytopgenic Feed Additives on Performance Parameters and Health of Bull Calves under Commercial Conditions.

C. Schieder\(^1\), T. Steiner\(^1\) and M. Friedrichkeit\(^2\), \(^1\)BIOMIN Holding GmbH, Herzogenburg, Austria, \(^2\)Commercial farm, Reisenberg, Austria

Efficacy of Propionibacterium strains in mitigating methane emissions from beef heifers fed a high forage diet.

D. Vyas\(^1\), A. Alazzeh\(^1\), S. M. McGinn\(^2\), O. M. Harstad\(^2\), H. Holo\(^2\), T. A. McAllister\(^2\) and K. A. Beauchemin\(^2\), \(^1\)Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, \(^2\)Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, AB, Canada, \(^3\)Department of Animal and Aquacultural Sciences, Norwegian University of Life Sciences, Ås, Norway, \(^4\)Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Effect of a commercially probiotic on in vitro gas production of alfalfa hay and barley grain.

S. Payande\(^1\), F. Kafizadeh\(^1\), E. Maleki\(^1\), G. Taosili\(^3\) and A. Kamyab\(^3\), \(^1\)Razi University, Kermanshah, Iran, \(^2\)University of Columbia, Columbia, MO

Lactobacillus brevis YM 3-30, a γ-aminobutyric acid producing bacteria, decreases blood endotoxin level of Hanwoo Cattle.

S. S. Lee\(^1\), B. S. Ku\(^1\), L. L. Manuad\(^1\), S. H. Kim\(^1\), C. D. Jeong\(^1\), Y. J. Choi\(^1\), A. P. Soriano\(^1\), K. Lee\(^1\) and K. K. Park\(^1\), \(^1\)Sunchon National University, Suncheon, South Korea, \(^2\)The Ohio State University, Columbus, \(^3\)Konkuk University, Seoul, South Korea

Probiotic levels, chemical composition and fermentative characteristics in the solid state fermentation of paper sludge for ruminant feeding.

O. Ruiz-Barrera\(^1\), Y. Castillo-Castillo\(^1\), C. Rodriguez-Muela\(^1\), L. M. Carrillo-Chan\(^1\), C. Arzola-Alvarez\(^1\), J. Lopez-Morones\(^1\) and A. Corral-Luna\(^1\), \(^1\)Universidad Autónoma de Chihuahua, Chihuahua, Mexico, \(^2\)University of Ciudad Juarez, Cd. Juarez, Mexico, \(^3\)University of Chihuahua, Chihuahua, Mexico
1774  T387  Lactobacillus brevis YM 3-30, a γ-aminobutyric acid producing bacteria, increases antioxidant concentration and reduces biogenic amines.
S. S. Lee 1, B. S. Ku 1, L. L. Manuad 1, S. H. Kim 1, C. D. Jeong 1, Y. J. Choi 1, A. P. Soriano 1, K. Lee 2 and K. K. Park 3,
1Sunchon National University, Sancheon, South Korea, 2The Ohio State University, Columbus, 3Konkuk University, Seoul, South Korea

1775  T388  Effects of lactobacilli and fibrolytic enzymes on chemical composition, fermentation traits, conservation characteristics and in situ digestibility of mixed cereal silage.
L. Jin 1, L. Duniere 1, Y. Wang 2 and T. A. McAllister 2, 1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1776  T389  Use of Yea-Sacc®417 live yeast, monensin and their combination in diets for young Nellore bulls in a feedlot.
J. M. B. Benatti 1, N. M. Geronimo 2, J. A. Alves Neto 1, R. C. Silva 1, I. M. de Oliveira 3, C. L. Francisco 4, G. R. Siqueira 3 and F. D. D. Resende 1, 1Universidade Estadual Paulista, Jaboticabal, Brazil, 2UNIFEI, Barretos, Brazil, 3APTA - Agência Paulista de Tecnologia dos Agronegócios, Colina, Brazil, 4Universidade Estadual Paulista - FMVZ, Botucatu, Brazil

1777  T390  Effects of lactobacilli and fibrolytic enzymes on ensiling as well as in vitro and in situ digestibility of barley silage.
L. Jin 1, L. Duniere 1, Y. Wang 2 and T. A. McAllister 2, 1Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

1778  T391  Effect of direct-fed microbials and monensin on in vitro fermentation of a high-froage substrate.
S. Wingard 1, 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

9:30 AM  Welcoming Remarks
9:35 AM  Understanding Animal-to-Animal Variation in Disease Management.
D. E. Kerr*, University of Vermont, Burlington
10:20 AM  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
11:05 AM  Break
11:10 AM  Selecting Pharmacological Interventions through Rapid Screening Motifs and Proper Cell Models.
E. Zudaire*, NIH-NCI, Bethesda, MD
11:55 AM  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.

9:30 AM  Perspectives on Business Ethics in a New-age Feed Industry.
L. D. Bunting*, ADM Alliance Nutrition, Lubbock, TX
M. L. Galyean*, Texas Tech University, Lubbock
10:50 AM  Veterinary perspective.
C. D. Ashworth*, Elanco Dairy Business, Fort Smith, AR
11:30 AM  Regulatory Definitions, Processes, and Functionality Assessment for Animal Food.
M. G. Alevyse 1 and S. A. Benz 2, 1Center for Veterinary Medicine, Olney, MD, 2Center for Veterinary Medicine, FDA, Woodbine, MD
Beef Species: Cow-calf
Chair: Patrick J. Gunn, Iowa State University
2104B

9:30 AM 126 Changes in body composition during winter gestation of mature beef cows grazing different herbage allowances of native pastures.
A. Casal1*, A. L. Astessiano Dickson1, A. I. Trujillo1, P. Socá2, 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, Paysandí, Uruguay

9:45 AM 127 Prepartum supplement level and age of weaning: I. Effects on pre- and postpartum beef cow performance and calf performance through weaning.
L. M. Shoup1*, A. C. Klopf2, D. Gonzalez-Peña Fundora2, F. A. Ireland1, S. L. Rodriguez Zas1, T. L. Felix2 and D. W. Shike1, 1University of Illinois, Urbana, 2University of Illinois at Urbana-Champaign, Urbana, IL

10:00 AM 128 Prepartum supplement level and age of weaning: II. Effects of developmental programming on performance and carcass composition of steer progeny.
L. M. Shoup1*, D. Gonzalez-Peña Fundora2, F. A. Ireland1, S. L. Rodriguez Zas1, T. L. Felix2 and D. W. Shike1, 1University of Illinois, Urbana, 2University of Illinois at Urbana-Champaign, Urbana, IL

10:15 AM 129 Efficiency and performance of primiparous Angus cows raised in a range system.
J. S. Lemes2*, C. C. Brauner2*, R. Z. Vaz2 and M. A. Pimentel3, 1Universidade Federal de Pelotas, Pelotas, Brazil, 2Federal University of Pelotas, Pelotas, Brazil

10:30 AM 130 Effect of an injectable trace mineral on reproductive performance of beef cows grazing irrigated pasture.
C. J. Brasche1, J. B. Hall2 and M. E. Drewnoski1, 1University of Idaho, Moscow, 2University of Idaho, Carmen, ID

10:45 AM 131 Effect of injectable trace mineral supplementation in yearling bulls on serum and semen trace mineral levels and reproductive parameters.
A. A. Kirchhoff1 and K. E. Fike, Kansas State University, Manhattan

11:00 AM 132 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.
W. A. Sutton1 and M. E. Drewnoski, University of Idaho, Moscow

11:15 AM 133 Relationships between maintenance energy EPD and performance measures of progeny from Red Angus sires divergent for maintenance energy EPD.
C. M. Welch1*, S. E. Speidel2*, D. H. Crews3, J. K. Ahola1, J. B. Hall2, W. Price1 and R. A. Hill1, 1University of Idaho, Moscow, 2Colorado State University, Department of Animal Sciences, Fort Collins, CO, 3Colorado State University, Fort Collins, 4University of Idaho, Carmen, ID

11:30 AM 134 Effects of breeding system of origin (natural service or artificial insemination) on growth, attainment of puberty, and pregnancy rates in crossbred beef heifers.
M. R. Schook1, P. L. Steichen1, V. R. G. Mercadante2, G. C. Lamb2, B. W. Neville3 and C. R. Dahlen1, 1North Dakota State University, Fargo, 2University of Florida, Marianna, FL, 3North Dakota State University, Streeter, ND

11:45 AM 135 Simulation and economic analysis of beef cattle natural service and induced twinning via embryo transfer following AI breeding and two calf management systems.
D. G. Aherin1, P. J. Ebert1, J. R. Shearer1, R. L. Weaver1, J. M. Bormann1, D. W. Moser1 and M. D. MacNeil1, Kansas State University, Manhattan

12:00 PM 136 The indirect effects of horn flies and sire breed on calf preweaning and postweaning performance traits.
A. R. Mays1, 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

Companion Animals: Companion Animal Nutrition and Pet Food Processing
Chair: George C. Fahey, University of Illinois
3501B

9:30 AM 180 Influence of pork and pork by-products on macronutrient digestibility in large captive felids.
C. J. Iske1*, C. L. Morris2* and K. L. Kappen1, 1Iowa State University, Ames, 2Omaha’s Henry Doorly Zoo & Aquarium, Omaha, NE
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. Berendt, A. K. Shoveller and R. T. Zijlstra, 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 184  **Break**

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. Ochi2, L. F. de Oliveira Mateus1, A. C. C. de Justino1 and K. S. Swanson1,2,3, 1Department 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

11:15 AM 186  **Evaluation of Common Analysis Methods for Oxidation in Rendered Protein Meals Used to Produce Pet Foods.**
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. A. Agy5, B. A. Kamimura6, R. S. Vasconcellos6 and A. C. Carciofi7, 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 198  **Introductory Remarks**

9:45 AM 199  **Integrated responses to feeding, comparative aspects.**
J. Furness1, University of Melbourne, Parkville, Australia

10:15 AM 200  **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. Cammack2 and A. M. Meyer2, 1Department of Animal Science, University of Wyoming, Laramie, WY, 2Division of Animal Sciences, University of Missouri, Columbia

10:30 AM 201  **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-Clover3, T. H. Elsasser4 and S. Kah2, 1USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD, 2USDA-ARS, BFGL, Beltsville, MD, 3USDA, Agricultural Research Service, Beltsville, MD

11:00 AM 202  **Differential subcellular and cellular storage of glp-1 and pyy, and its implications.**
J. Furness1*, H. J. Cho1, S. Kosari2 and D. M. Bravo1, 1University of Melbourne, Parkville, Australia, 2PANCOSMA SA, Geneva, Switzerland

11:15 AM 203  **The Role of the Microbiome in Gut Immune System Development in Newborn and Mature Cattle.**
P. J. Grieben1, N. Malmuthuge2, G. Liang3, M. Zhou2 and L. L. Guan1, 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. Abuaajamiah2, D. B. Snider3, M. V. Sanz Fernandez4, J. S. Johnson1, P. J. Gorden1, N. K. Gabler1, H. B. Green4, K. M. Schoenberg3 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
2101

9:30 AM 229  The psychology and sociology of feeding behaviour.
J. J. Villalba¹, Utah State University - Agricultural Experiment Station, Logan, UT

10:10 AM 230  Physiological Mechanisms Controlling Feeding Behavior.
M. S. Allen¹ and P. Piantoni, Michigan State University, East Lansing

10:50 AM 231  Feeding behaviour, productivity and welfare of dairy cows.
M. A. G. von Keyserlingk¹ 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. DeVries¹, University of Guelph, Kemptville, ON, Canada

Dairy Foods Symposium: Protein functionality in cheese systems: Natural, process cheese and analogs
Chair: TBA
3501C

9:30 AM 248  Commercial and Functional Considerations when formulating foods with dairy proteins.
T. McCarthy¹, 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. Metzger¹, 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. Kulozik¹, Technische Universität München, Freising-Weihenstephan, Germany

10:30 AM 251  Protein Functionality in Processed Cheese – Fundamental Principles and Practical Observations.
D. C. Reid¹, 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. Lucey¹, University of Wisconsin - Madison, Madison

Extension Education
Chair: Amy E. Radunz, University of Wisconsin-River Falls
2505B

9:30 AM 286  Developing, Marketing and Branding Mobile Apps for the Horse Industry.
K. L. Martinson¹, R. J. Coleman² and M. E. McCue¹, University 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. Hollis¹, J. M. Zeller¹ and J. P. Harner¹, Department 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. Cabrera², Accelerated 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, University of Kentucky, Lexington

10:30 AM 290  The Kentucky Master Stocker Program.
J. W. Lehmkuhler¹; W. R. Burris², S. R. Smith, Jr³, G. Halich³, K. Burdine³, M. Arnold³, S. F. Higgins³, A. Gumbert³ and K. Laurent³, University of Kentucky, Lexington; ²University of Kentucky, Princeton

D. N. Bluck¹, J. C.Hadrich², G. P. Lardy¹ and C. R. Dahlen¹, North Dakota State University, Fargo; ²Colorado State University, Fort Collins

TUESDAY, JULY 22, 2014

DRAFT 2014 JAM SCIENTIFIC PROGRAM | 93
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. Brantley1, 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

10:50 AM  Break

11:10 AM  315  Improving soil health and productivity on marginal lands using managed grazing livestock.
R. R. James* and J. Bisinger, Iowa State University, Ames

11:50 AM  316  Optimizing the use of fibrous residues in beef and dairy diets.
J. C. MacDonald1, G. E. Erickson1, P. J. Kononoff1 and T. J. Klopfenstein1, 1University of Nebraska-Lincoln, Lincoln, 2University of Nebraska, Lincoln

International Animal Agriculture: Internation Aninmal 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. Haque2, 1University of Veterinary and Animal Sciences, Lahore, Pakistan, 2Buffalo Research Institute, Pattoki, 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. Morales1, A. Echeverry1 and M. Brashears1, 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. Veiccharelli2, N. Parmar1 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. Fiorotto1, 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
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 Koster1 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. Frese1,2, C. Reinhardt1, S. J. Bartle1, D. N. Rethorst1, B. S. Bawa1, J. D. Thomason1, G. H. Lonergan2 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, paracacellular permeability, and immune gene expression in ruminal epithelium during the transition period in dairy cattle.

A. Minuti1,2, S. Alqarni1, P. Cardoso1, E. Trevisi1 and J. J. Loor1, 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. Maret2, W. J. Wales3, B. J. Hayes4, F. R. Dunsha5 and B. J. Leary1, 1The University Of Melbourne, Parkville, Australia, 2The Department of Environment and Primary Industries, Victoria, Ellinbank, Australia, 3The Department of Environment and Primary Industries, Bundoora, 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. Carroll2, T. Wistuba2, K. DeHaan2, S. E. Sieren5, S. J. Jones5 and T. B. Schmidt3, 1USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 2University of Nebraska, Department of Animal Science, Lincoln, NE, 3Prince Agri Products Inc, Quincy, IL, 4Prince AgriProducts 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. Chevace2, K. Barling5, S. E. Sieren1, S. J. Jones1 and J. A. Carroll3, 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, 5Lallemand Animal Nutrition, Iola, TX

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-Capelli3, G. E. Lobley1 and E. Trevisi2, 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. Albrecht3 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

12:15 PM 1963

Non-targeted plasma metabolomic profile at early and late lactation in parity 1 dams with diverging body composition at weaning.

L. A. Rempel1 and J. R. Miles, USDA, ARS, US MARC, Clay Center, NE.
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. Kholifi2, O. Matloup1 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. Calsamiglia1, 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 and Y. J. Jiang2, 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, P. Y. Choutina1, Y. Lebeuf1 and R. Gervais1, 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, J. Kraft2, T. L. Resende3, A. B. D. Pereira1, K. J. Soder4, D. H. Woitschach1 and R. B. Reis4, 1University of New Hampshire, Durham, NH, 2Department of Animal Science, University of Vermont, Burlington, 3Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 4USDA-Agricultural Research Service, University Park, PA, 5Universidade Federal de Viçosa, Viçosa, Brazil

10:45 AM 636 Lactational responses to palmitic acid supplementation when substituted for soyhulls or corn grain.
C. L. Preseault1, J. P. Boerman and A. L. Lock2, 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. Boerman1 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. Mehlli1,2 and T. R. Overton1, 1Cornell University, Ithaca, NY, 2Northeast 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. Modlem1, E. Frank2, M. Zachut1, L. Livshitz1 and A. Ariel1, 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. Bionaz1, J. Luo1, A. Hosseini2, P. Dovc2 and J. J. Loor1, 1Northwest A & F University, Yangling, China, 2University of Illinois, Urbana, 3Department of Animal and Rangeland Sciences, Oregon State University, Corvallis, 4University of Bonn, Bonn, Germany, 5University 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. Hammond1, 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. Zou1, Y. L. Huang2, X. Liang2, S. J. Wei2, B. Lin2, C. J. Yang2 and X. W. Liang2, 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. Wenner1, F. Batistel2, J. D. Souza3, T. J. Hackmann4 and J. L. Firkins4, 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. Lee1, R. C. Araujo2,3, K. M. Koenig 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

10:30 AM 647 Correspondence between in vitro and in vivo rumen methane production obtained with different starch sources and starch levels.
B. Hatew1, 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. Carstens4, T. A. Wicksham1 and L. O. Tedeschi5, 1Texas A&M University, College Station, 2Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 3Universidade Federal de Viçosa, Viçosa, Brazil, 4USDA-ARS, College Station, TX

11:00 AM 649 Effects of including viginiamycin in feedlot diets containing monensin under commercial conditions in Mexico.
M. Gorocica1, A. Gonzalez-Asif2 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. Liu1, J. X. Liu2 and J. K. Wang1, 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. Davies2, 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. Macias2, Z. Ma1, R. M. Martins1, B. Y. Coy1, F. M. Silva4, D. H. Garibuo1, I. A. Brody1, C. L. Curry1, K. J. Mills1, M. G. Zeno3, C. R. Staples1 and A. T. Adesogan1, 1Dept. of Animal Sciences, University of Florida, Gainesville, 2Dept. de Zootecnia, Universidad Nacional Agraria La Molina, Lima, Peru, 1Dept. de Zootecnia, Universidade Federal de Viçosa, Minas Gerais, Brazil, 3Universidade 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. Moullem1, 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


9:45 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

10:30 AM 766 Impact of the Male on Meat Production: A Case Scenario in Swine. 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, A. L. Stanton2, 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, IRTA-Department Ruminant Production, Caldes Montbui-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. Leslie2, D. V. Nydam2, T. F. Duffield3, G. Zobel2, 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. Krawezel4, 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. Jorgensen1,2, A. Adams Progar3, S. Godden1, H. Chester-Jones2, J. Rushen3, A. M. de Passille2 and M. I. Endres4, 1University of Minnesota, Saint Paul, 2University of Minnesota Southern Research and Outreach Center, Waseca, MN, 3University of British Columbia, Agassiz, BC, Canada

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. Binion* 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, J. A. Carroll1, N. C. Burdick Sanchez2, J. W. Dailey3, T. B. Schmidt4, T. R. Callaway1 and J. G. Wilson5, 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, L. A. Trubenbach1 and J. E. Sawyer2, 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. Peters1, T. M. Walker2 and P. L. Ruegg3, 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, Sun2, Qin2 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

DRAFT 2014 JAM SCIENTIFIC PROGRAM | 99
3:30 PM 86  Modulation of the acute phase response in feedlot steers supplemented with Saccharomyces cerevisiae.
J. O. Bunty1, 2, N. C. Burdick Sanchez2, J. A. Carroll3, E. Chevaux4, K. Barling5, S. E. Sieren5, S. J. Jones6 and T. B. Schmidt1, 2, 3University of Nebraska, Department of Animal Science, Lincoln, NE, 4USDA-ARS, Livestock Issues Research Unit, Lubbock, TX, 5Lallemand Animal Nutrition, Milwaukee, WI, 6Lallemand Animal Nutrition, Iola, TX, 1University of Nebraska, Lincoln

3:45 PM 90  Performance evaluation of calves with diarrhea in different systems supplemented with yeast culture plus enzymatically hydrolyzed yeast cell wall.
V. R. Rabassa7, 8, B. Scherer9, F. B. Del Pino7, 8, C. C. Brauner7, 8, F. M. Gonçalves10, R. F. S. Raimondo11, E. G. Xavier11, C. C. Elrod12 and M. Nunes Corrêa12, 1Universidade Federal de Pelotas, Pelotas, Brazil, 2Federal University of Pelotas, Pelotas, Brazil, 3Granjeas 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. Wilson7, 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. Posadas1, 8, 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.
S. M. Waibel11, F. D. McCarthy, R. M. Wood and B. Henderson-Dean, The University of Findlay, Findlay, OH

Beef Cattle Reproduction Symposium: Rebuilding the U.S. Cowherd: Rethinking the Way Industry Selects and Develops Replacements

Chair: David J. Patterson, University of Missouri

2014

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. Atkins1, 2, K. G. Pohler1 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. Hall1, University of Idaho, Carmen, ID

D. J. Patterson7, 1, J. M. Thomas1, D. S. Brown1, J. E. Decker1, W. J. Sexten1 and S. E. Poock1, 1University of Missouri, Columbia, 2University of Missouri-College of Veterinary Medicine, Columbia, MO

Beef Species: Stocker and Feedlot

Chair: Judson T. Vasconcelos, Merck & Co

2014B

2:00 PM 137  Effect of crude protein levels and metaphylaxis on growth and performance of newly received stocker calves.
T. J. Braud1, 2, B. B. Karisch1, D. R. Smith1, C. L. Huston1, R. Vann1 and S. G. Genova1, 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. Krethbuel 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. Walker1, B. Buttery1 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
Early metabolic imprinting for improvements in finishing feed efficiency and beef carcass characteristics.
J. K. Smith, M. D. Hanigan, S. P. Greiner and M. A. McCann, Virginia Tech, Blacksburg

Linear and Non-Linear Estimates of the Efficiency Of Metabolizable Energy Use for Maintenance and Gain in Beef Cattle.
C. A. Old and H. A. Rossow, AS3 Cattle Company, Le Grand, CA, VMTRC, University of California, Tulare, CA

Relationships among feeding traits of growing and finishing phase Red Angus cattle.
M. McGee, C. M. Welch, J. A. Ramirez, G. E. Carstens, W. Price, J. B. Hall and R. A. Hill, University of Idaho, Moscow, Texas A&M University, College Station, University of Idaho, Carmen

Phenotypic relationships between residual measurements of finishing feed efficiency and visceral organ mass of backgrounded beef steers.
J. K. Smith, A. R. Murray, D. D. Harmon, M. D. Hanigan, S. P. Greiner and M. A. McCann, Virginia Tech, Blacksburg, 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

Evaluation of predictive ability of Cholesky factorization of genetic relationship matrix for additive and non-additive genetic effect using Bayesian regularized neural network.
H. Okada, D. Gianola, K. A. Weigel and G. J. M. Rosa, University of Yuzuncu Yil, Van, Turkey, University of Wisconsin - Madison, Madison, University of Wisconsin, Madison

Using recursion to compute the inverse of the genomic relationship matrix.
I. Misztal, A. Legarra and I. Aguilar, University of Georgia, Athens, INRA, Castanet-Tolosan, France, INIA, Las Brujas, Uruguay

Advantage of supernodal methods in restricted maximum likelihood when dense matrices are involved in a coefficient matrix of mixed model equations.
Y. Masuda, S. Tsuruta and I. Misztal, Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan, University of Georgia, Athens

Use of Genomic Recursions and APY Algorithm for Single-Step GBLUP Analyses with Large Number of Genotypes.
B. D. Fragomeni, I. Misztal, D. Lourenco, S. Tsuruta and Y. Masuda, University of Georgia, Athens, Obihiro University of Agriculture and Veterinary Medicine, Obihiro, Japan

Genomic Prediction Accounting For Residual Heteroskedasticity.
Z. On, J. P. Steibel, C. W. Ernst, R. O. Bates and N. M. Bello, Kansas State University, Manhattan, Michigan State University, East Lansing

Are Past Generations Contributing to Evaluations on Young Genotyped Animals?

Use of Linear Models with Normal, Student-t or Slash Distributed Error for the Analysis of Quantitative Traits.
B. Mestav, K. Kizilkaya and S. O. Peters, Canakkale Onsekiz Mart University, Canakkale, Turkey, Adnan Menderes University, Aydin, Turkey, 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

Introductory Remarks

Nutritional Sustainability of Pet Foods.
R. A. Carter, P. R. Buff, K. S. Swanson, T. P. Yount and J. H. Kersey, The Nutro Company, Franklin, TN, Department of Animal Sciences, University of Illinois, Urbana

How Sustainability Influences Ingredient Sourcing, Quality and Safety.
D. L. Meeker, 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*1, D. M. Bravo2 and J. Pettigrew1, 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. Oh*1, S. Walusimbi1, F. Giallongo1, H. L. Weeks1, T. W. Frederick1, A. N. Hristov1, J. L. Pate1, R. J. Elias2, L. Tao2 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. Moraru*1, M. Walkling-Ribeiro1, I. Aprodu2 and M. V. Karwe3, 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. Hurt*1,2, 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. Adams*, 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 Labratory and Method Performance and Produce Reference Values for Component Calibration Samples for Infrared Milk Analysis.
D. M. Barbano 1,2, K. L. Wojciechowski 1,2 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 1,2 and J. A. Lucey 1,2, 1University of Wisconsin-Madison, Department of Food Science, Madison, WI, 2University of Wisconsin-Madison, 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 2, M. O. Leite 2 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 18138-12-3, Madison, WI

The effect of immunoglobulins and somatic cells on the gravity separation of fat, bacteria, and spores in pasteurized whole milk.

Developmental programming in agriculturally relevant species: an overview.
K. A. Vonnahme 1, North Dakota State University, Fargo

Nutritional programming and the impact on mare and foal performance.
J. Coverdale 1, C. J. Hammer 2 and K. W. Walter 2, 1Texas A&M University, College Station, 2North Dakota State University, Fargo, 3Truman State University, Kirksville, MO

Intramammary Glucocorticoid During a Mammary Immune Response to Lipopolysaccharide Modulates the Blood-Milk Barrier.
O. Wellnitz 1,2, S. K. Wall 1, 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.
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 soya bean oil on factors that influence pregnancy establishment in Bos indicus beef cows.
B. I. Cappellozzi1, R. F. Cooke1, T. Guarnieri Filho1,2, I. Bueno1, D. W. Bohnert1, R. L. A. Cerri1 and J. L. M. Vasconcelos4, 1Oregon State University - EOARC Burns, OR, USA, 2Faculdade de Medicina Veterinária e Zootecnia, UNESP – Univ. Estadual Paulista, Botucatu, Brazil, 3Faculty of Land and Food Systems – University of British Columbia, Vancouver, BC, Canada, 4UNESP – FMVZ, Botucatu, Brazil

2:15 PM 510 Metabolomes profiling of four biofluids from dairy cow fed different forages using gas chromatography–time of flight/mass spectrometry.
H. Z. Sun1, B. Wang1, D. M. Wang1, J. K. Wang1, L. L. Guan2 and J. X. Liu3, 1Institute of Dairy Science, Zhejiang University, Hangzhou, China, 2Department of Agricultural, Food & Nutritional Science, University of Alberta, Edmonton, AB, Canada, 3Zhejiang University, Hangzhou, China

2:30 PM 511 Separation of proteins from the milk fat globule membrane with minimal losses.
W. Holzmiiller1, 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. Hamzaoui1, J. L. Collier2 and R. J. Collier3, 1Oregon State University - Department of Environment and Primary Industries, Bundoora, Australia, 2The Department of Environment and Primary Industries, Victoria, Ellinbank, Australia, 3The Department of Environment and Primary Industries, Bundrooa, Australia

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. DiGiacomo1, E. Norris1, L. C. Maret1, W. J. Wales1, B. J. Hayes1, F. R. Dunsea1 and B. J. Leury1, 1The University Of Melbourne, Parkville, Australia, 2The Department of Environment and Primary Industries, Victoria, Ellinbank, Australia, 3The Department of Environment and Primary Industries, Bundrooa, Australia

R. S. Zhindén1, J. J. Gross2, M. Falk6, H. A. van Dorland1, A. Münger7, F. Dohme-Meier2 and R. M. Bruckmaier3, 1Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland, 2Agroscope, Institute for Livestock Sciences ILS, Pössieux, Switzerland, 3Veterinary 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. Gross1, E. Kalaitzakis2, O. Wellnitz2, H. Bollwein1 and R. M. Bruckmaier1, 1Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland, 2Clinic of Reproductive Medicine, Vetsuisse Faculty University of Zurich, Zurich, Switzerland, 3Veterinary 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. Johnson2, M. Abuajamieh3, S. K. Stoakes2, S. M. Lei1, R. P. Rhoads2 and L. H. Baumgard1, 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. Cooke2, B. I. Cappellozza3, R. Marques4, T. Guarnieri Filho5, G. A. Perry5 and D. W. Bohnert1, 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. Marques4, R. F. Cooke2, B. I. Cappellozza3, T. Guarnieri Filho5, M. M. Reis1, D. H. Keisler6 and D. W. Bohnert1, 1Oregon State University - EOARC Burns, Burns, OR, 2Faculdade de Medicina Veterinária e Zootecnia, UNESP – Univ. Estadual Paulista, Botucatu, Brazil, 3South Dakota State University, Brookings
4:30 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. Obá3 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 Neto3, A. Pedrício1, F. S. Lima2, R. S. Bisinotto1, N. Martinez2, E. S. Ribeiro1, W. W. Thatcher1, 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
2102B
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. Castillo1, Y. Zhao1, Y. Pan1 and F. M. Mitloehner1, 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. Hultmanen1, E. H. Cabezas Garcia2, S. R. Zimmerman3 and P. R. Zimmerman1, 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. Dorich1, A. F. Brito1, R. K. Varner2 and R. Martinez1, 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. R. Smith1, K. P. Coffey2, R. T. Rhein2, E. B. Kegley1, D. Philipp1, J. D. Caldwell5 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.
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.**

Washington State University, Pullman, WA,  
Washington State University, Sunnyside, WA,  
University of Pennsylvania, New Bolton Center, PA,  
EPL Feeds, Dixie, WA

2:45 PM 658  **Effect of strategic ration balancing with use of Prolak and Metabolysts on the efficiency of milk protein production and environmental impact.**

Washington State University, Pullman,  
Washington State University, Sunnyside, WA,  
University 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. Weich, K. F. Kalscheur, K. J. Herrick and F. R. Valdez.  
South Dakota State University, Brookings,  
Kemin 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.**

University of New Hampshire, Durham, NH,  
Schwab Consulting, LLC, Boscosel, 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.**

North Dakota State University, Fargo,  
Division of Animal Sciences, University of Missouri, Columbia

3:45 PM 662  **Intestinal digestibility of amino acids in fluid- and particle-associated rumen bacteria determined using a precision-fed ecectomized rooster bioassay.**

University of Wisconsin, Madison,  
University of Wisconsin, Madison,  
University of Illinois, Urbana,  
University of Illinois at Urbana-Champaign, Urbana, IL

4:00 PM 663  **Performance by Holstein Steers Offered Hay and Supplement With or Without Added Methionine.**

Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO,  
Novus 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.**

Dairy Science Department, South Dakota State University, Brookings,  
South Dakota State University, Brookings,  
Alltech, Brookings, SD

4:30 PM 665  **Concentration of soluble non-ammonia nitrogen and related transporter expression in non-mesenteric gastrointestinal tissues of dairy cows.**

Y. M. Xie, Q. B. Xu, Y. M. Wu and J. X. Liu.  
Institute of Dairy Science, Zhejiang University, Hangzhou, China,  
Zhejiang University, Hangzhou, China

4:45 PM 666  **Role of proton-coupled oligopeptide transporter 1 in small peptide absorption in the bovine forestomach.**

Institute of Dairy Science, Zhejiang University, Hangzhou, China,  
Zhejiang University, Hangzhou, China

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**Small Ruminant**

**Chair: R. R. Redden, North Dakota State University**

2014A

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2:00 PM 724  **Rumen Microbial Species Associated With Feed Efficiency in Sheep Fed a Forage-Based Diet.**

Department of Animal Science, University of Wyoming, Laramie, WY,  
University of Wyoming, Laramie, WY,  
University of Missouri, Columbia,  
Virginia 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.**
TUESDAY, JULY 22, 2014

2:30 PM 726 Determining growth performance implications on meat goat kids fed soybean hull or corn based pelleted diets. 
A. C. Vesco, C. K. Jones, L. C. Grimes, T. H. Fountain, B. R. Faris and A. K. Sexten, Kansas State University, Manhattan

2:45 PM 727 Early supplementation of alfalfa to starter diets improves the pre- and post-weaning performance of lambs. 
B. Yang, B. He, S. S. Wang, J. X. Liu and J. K. Wang, Institute of Dairy Science, Zhejiang University, Hangzhou, China, Zhejiang University, Hangzhou, China

3:00 PM 728 Performance and Reproductive Measurements of Katahdin Ewes and Fall-Calving Angus Cows Grazing Stockpiled Toxic Tall Fescue Under a Mixed or Sequential Grazing Scheme – 2 Year Summary. 
R. E. Daugherty Jr., J. D. Caldwell, B. C. Shanks, C. A. DeOreinellis and A. L. Bax, Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO

3:15 PM 729 Reducing dietary cation-anion difference increased gastrointestinal calcium binding proteins-D9k expression level of transition goats for plasma calcium absorption. 
W. X. Wu and Y. Yang, College of Animal Science, Guizhou University, Guiyang, China

3:30 PM 730 Hematological and serum chemical profiles in lambs fed sericea lespedeza. 
M. Acharya, J. M. Burke, J. E. Miller, T. H. Terrill, E. Smyth, G. Huff, E. B. Kegley, K. P. Coffey and C. F. Rosenkranz, University of Arkansas, Fayetteville, USDA-ARS, Booneville, AR, Louisiana State University, Baton Rouge, Fort Valley State University, Fort Valley, GA, USDA, Agriculture Research Service, Fayetteville, AR, Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR

3:45 PM 731 Comparison of white blood cell phagocytic efficiency in two genotypes of Katahdin sheep. 
S. Azarpajouh, T. Wuliji and A. L. Bax, Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO

4:00 PM 732 Short-Term Effects of Divergent Selection for Parasite Resistance in F1 Kiko × Boer Doe Progeny. 
C. L. Thomas, B. C. Shanks, J. D. Caldwell, L. S. Wilbers, K. L. Basinger, B. Weaber and W. R. Lamberson, Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, University of Missouri, Columbia, Kansas State University, Manhattan

4:15 PM 733 MILK PRODUCTION AND CHARACTERISTICS OF LACTATION CURVE IN DAIRY SHEEP AND THEIR CROSSES IN MEXICO. 
J. C. Angeles Hernandez, D. A. Solis Guzman, M. Gonzalez Ronquillo, A. H. Ramirez Perez and S. Angeles campos, Universidad Nacional Autonoma de Mexico, Mexico, Universidad Nacional Autonoma de Mexico, Mexico, Universidad Autonoma del Estado de Mexico, Toluca, Mexico, Universidad Nacional Autonoma de Mexico, Mexico, Mexico

4:30 PM 734 Goats of Arkansas & Missouri: A Production Survey. 
K. F. Cole, B. M. Onyango, J. A. Pennington, C. A. Clifford-Rathert, C. Hoegeman and E. L. Walker, Missouri State University, Springfield, MO, Lincoln University, Jefferson City, MO, Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO

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 and H. Wemmenhove, Expertise Centre for Farm Management and Knowledge Transfer, Wageningen UR, Wageningen, Netherlands, Livestock 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, M. G. Chagunda, C. J. Ashworth and N. C. Friggens, Scottish Rural University College (SRUC), Edinburgh, United Kingdom, The Roslin Institute, University of Edinburgh, Edinburgh, United Kingdom, Institut 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. 

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<td>4:30 PM</td>
<td>557</td>
<td><strong>Somatic cell counts, mastitis infection prevalence, and mastitis pathogen distribution in compost bedded pack and sand freestall farms.</strong></td>
<td>E. A. Eckelkamp*, J. L. Taraba, R. J. Harmon, K. A. Akers and J. M. Bewley, University of Kentucky, Lexington</td>
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<td>4:45 PM</td>
<td>558</td>
<td><strong>Corn Silage Management Practices on California Dairies.</strong></td>
<td>J. M. Heguy*, D. Meyer and N. Silva-del-Rio*, 1 UCCE Stanislaus and San Joaquin Counties, Modesto, CA, 2 Department of Animal Science, UC Davis, Davis, CA, 3 VMTRC, University of California, Tulare, CA</td>
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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. Verdu1, A. Bach2 and M. Devant3, 1IRTA-Department Ruminant Production, Caldes Montbui-Barcelona, Spain, 2Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 3IRTA - Department of Ruminant Production, 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-Cushon1, R. Bergeron2, K. E. Leslie1, G. J. Mason1 and T. J. DeVries1, 1University of Guelph, Kemptville, ON, Canada, 2University of Guelph, Alfred, ON, Canada, 3University of Guelph, Guelph, ON, Canada

804 W003 Effect of exposure to individual ration components on feed sorting of dairy heifers.
E. K. Miller-Cushon1, J. P. Vogel2* and T. J. DeVries1, 1University of Guelph, Kemptville, ON, Canada, 2Dalhousie University, Truro, NS, Canada

805 W004 Relationships of temperament, behavior, and growth of performance tested bulls.
S. A. Lockwood1, 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. Cataneo1, R. A. Distel1 and J. J. Villalba2, 1Universidad Nacional del Sur, Bahia Blanca, Argentina, 2Utah State University - Agricultural Experiment Station, Logan, UT

808 W007 Effects of bedding frequency on lying behavior of weaned calves.
M. Terre1,2 and A. Bach1, 1IRTA, Caldes de Montbui, Spain, 2Department 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. Buttone Roll1, E. Barba-Vidal1,2, L. Castillejos1, X. Manteca1,2 and S. Martin-Oriç1, 1Department of Animal Science, Faculty of Agronomy Eliseu Maciel, Federal University of Pelotas, Pelotas, Brazil, 2Animal Nutrition and Welfare Service Department of Animal and Food Sciences Universitat Autònoma de Barcelona, Bellaterra 08193, Spain, 3Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain

810 W008 Effect of oral meloxicam on indicators of pain following band castration in beef calves.
S. Marti1, M. J. Jeniski2, L. C. Dorin2, E. D. Janzen2, M. E. Olson2, B. J. Ralston1 and K. S. Schwartzkopf-Genswein1, 1Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, 2Veterinary Agri-Health Services, Airdrie, AB, Canada, 3University of Calgary, Calgary, AB, Canada, 4Alberta Veterinary Laboratories, Calgary, AB, Canada, 5Alberta 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. Trojan1,2, S. J. Trojan2, A. Navetta1, S. Filleur1 and T. Nelius1, 1Texas Tech University Health Sciences Center, Lubbock, TX, 2Texas 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. Li1 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. Backes1, A. C. Brown1, E. B. Kegley1, J. T. Richeson2, H. D. Hughes2, M. L. Thomas1, K. Anschutz1 and J. G. Powell1,
Evaluation of a disposition scoring system in pen-raised white-tailed deer.
K. J. Stuts*, J. L. Lucia, M. J. Anderson, M. M. Beverly and S. F. Kelley, Sam Houston State University, Huntsville, TX

J. A. Reed1#, N. May3, T. McEvers1, L. A. Walters3, J. P. Hutcheson4 and T. E. Lawrence5, 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#, D. Weary2 and N. von Keyserlingk2, 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. Dorea1, 2, A. L. Stanton2, C. M. Stoffel2 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. Stanton*, 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, hematologic biometry and blood chemistry in heifers.
B. Avila1, J. Kawas, D. Zamora and H. Fimbres, Universidad Autónoma de Nuevo León, Escobedo, Nuevo León, Mexico

Flight speed as predictor of cattle ability to adapt to feedlots.
D. R. Soares1, 2, J. N. S. G. Cyrillo1, A. C. Sant’anna1, T. S. Valente1, K. S. Schwarzkopf-Genwein1 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, 2, B. J. Cervantes2, L. R. Flores3, J. J. Lomeli3, 1. A. Romo4 and R. Barajas1, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico, 2Ganadera 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, 2, A. M. Jorge2, A. M. Castilhos1, F. D. Resende1, J. M. B. Benatti1, M. B. Silva1 and R. F. Cooke1, 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. J. Endres2 and R. C. Chebel1, 1Dep. Veterinary Population Medicine, 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. Jeon2, S. H. Moon2, M. J. Kim3, D. M. Ha1, H. S. Park2, N. Whiteley3 and S. H. Oh5, 1Gyeongnam National University of Science and Technology, Jinju, South Korea, 2National Institute of Animal Science, Siwon, South Korea, 3Konkuk University, Chungin, South Korea, 4Seongoon Livestock Production, Geochang, 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, 2, B. J. Cervantes2, E. X. Murillo1, M. B. Corona1, M. A. Osuna1 and R. Barajas1, 1FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico, 2Ganadera 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. Hailiemariam, 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. Sienabach de Abreu1, A. Thaler Neto2, M. Tempel Stumph3, D. Werncke and F. André Schmidt3, 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.  

868  W030  Activation of innate immunity in transition dairy cows before clinical appearance of milk fever.  
G. Zhang, D. M. Hailiemariam, 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. Zhang, D. M. Hailiemariam, 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.  

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. Vandaete1, B. Ampe2, S. Wittocx2, L. Segers, M. Rovers2, A. van der Au3, G. du Laing4 and S. De Campeeneere1, 1Institute for Agricultural and Fisheries Research (ILVO), Melle, Belgium, 2Orffa Additives BV, Werkendam, Netherlands, 3Excentials BV, Werkendam, Netherlands, 4Ghent University, Gent, Belgium

872  W034  Dynamic of intramammary infections in ⅓ 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. Cerqueira1, 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. Vasconcelos1, A. Cortez1, D. O. Lapinha1, A. B. Jardim1, A. F. Cunha1, M. O. Leite1, M. R. Souza1, A. Q. Lana1, M. B. Heinemann1 and M. P. Cerqueira1, 1Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, 2Laboratorio Veterinario Vidavet, Botucatu, Brazil, 3Universidade 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. Pantoja1, 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. Pantoja*, 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. Santos*, 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. Fuenzalida1, 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. Ameta*, 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. Souza1, R. F. Cota†, J. M. Leão†, I. B. Fortes‡ and L. S. D. Andrade†, 1PUC Minas, Betim, Brazil, 2UFMG, Belo Horizonte, Brazil

Switching lactating Jersey cows from a high neutral detergent fiber diet to an isenergetic high soluble carbohydrate diet induces mild inflammation.
G. Taasolı1,2, C. R. Nightingale1, F. Kafizadeh2, D. Ghadimi3, J. A. Carroll1 and M. A. Ballou1, 1Texas Tech University, Department of Animal and Food Sciences, Lubbock, TX, 2Razi University, Department of Animal Science, Kermanshah, Iran, 3MRI, Institute of Physiology and Biochemistry, Karlsruhe, Germany, 4USDA-ARS, Livestock Issues Research Unit, Lubbock, TX

Effects of oral calcium supplementation on body temperature, incidence of uterine diseases, and milk yield in dairy cows.
N. Martinez1, L. D. P. Sinedino1, R. S. Bisinotto1, R. Duaset1, G. C. Gomes3, L. F. Greco3, W. W. Thatcher1, C. A. Risco2 and J. E. P. Santos1, 1Department of Animal Sciences, University of Florida, Gainesville, 2Department of Large Animal Clinical Sciences, University of Florida, Gainesville

Blood Calcium Dynamics after Prophylactic Treatment of Subclinical Hypocalcemia with Oral or Intravenous Calcium.
C. D. Blanc*, M. Van der Lis†, S. S. Aly2, H. A. Rossow3 and N. Silva-del-Río3, 1Pacific Rim Dairy, Corcoran, CA, 2Boehringer Ingelheim, St Joseph, CA, 3VMRC, University of California, Tulare, CA

Cow-Calf and Bull

Pregnant beef heifers categorized by residual feed intake measured in adolescence exhibit differential intake and feeding behaviors when fed a restricted diet.
C. Fitzsimmons1,2, G. Muhire3, F. Paradis1,2, L. McKeown1,3, C. Straathof1, H. Block1, M. G. Colazo2, C. Li1,2, B. Yaremčio1, J. A. Basara3 and H. Bruce1, 1University of Alberta, Edmonton, AB, Canada, 2Agriculture and Agri-Food Canada, Edmonton, AB, Canada, 3Alberta Agriculture and Rural Development, Edmonton, AB, Canada

Physiological stress response of heifers divergently ranked for residual feed intake following a bovine corticotrophin releasing hormone challenge.
A. K. Kelly1,3, A. G. Fahey2, B. Earley1, M. McGee1 and D. A. Kenny4, 1School of Agriculture and Food Science, University College Dublin, Dublin, Ireland, 2School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland, 3Teagasc Grange, Dunsany Co Meath, Ireland, 4Teagasc Grange, Meath, Ireland

Relationship of metabolic markers, urea and body composition with feed efficiency in Angus heifers carrying different genetic markers under grazing condition.
A. I. Trujillo1, A. Casal2, M. Carriquiry2 and P. Chilibroste2, 1Facultad de Agronomía, Universidad de la República, Montevideo, Uruguay, 2Facultad de Agronomía, Universidad de la República, Paysandú, Uruguay

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. Meeter1, T. B. Wilson2, P. Cardoso2 and D. W. Shike2, 1University of Illinois, Champaign, IL, 2University of Illinois, Urbana

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. Bilal1, M. Moaen-ud-Din1, M. Aqeel1, A. Ijaz1, M. S. Khan2, M. Y. Gondal1, K. M. Khan1, M. Mukhtar2 and M. N. Manzoor1, 1PMAS-Arid Agriculture University, Rawalpindi, Pakistan, 2University of Agriculture, Faisalabad, Pakistan, 3Barani Livestock Production Research Institute, Attock, Pakistan
921 W053 Effect of rumen protected carbohydrate supplementation on performance and plasma glucose concentrations in growing heifers.
J. P. Russi1, P. Davies2, N. DiLorenzo3 and A. E. Relling4, 1Facultad de Cs Veterinarias, UNLP, La Plata, Buenos Aires, Argentina, 2INTA Gral. Villegas, General Villegas, Argentina, 3University of Florida, Marianna, FL, 4Facultad de Cs Veterinarias UNLP, La Plata, Buenos Aires, Argentina

922 W054 Evaluation of forage soybean, with and without pearl millet, as an alternative forage for developing beef replacement heifers.
E. Taylor1, P. J. Gunn2, L. A. Horstman3, R. L. Atkinson4, K. D. Johnson5 and R. P. Lemenager1, 1Purdue University, Lafayette, IN, 2Iowa State University, Ames, 3Purdue University, West Lafayette, IN, 4Southern Illinois University - Carbondale, Carbondale, IL

923 W055 Plasma glucose concentration, subcutaneous fat thickness, and puberty attainment in neheifers treated with recombinant bovine somatotropin.
G. Nogueira1, D. Giraldo-Araña1, J. S. Souza1, M. A. Maioli1, M. C. V. Miguel1, R. S. Cipriano1, T. Saynri Aguiar1, D. M. Pinheiro1 and R. F. Cooke4, 1Unesp, Araçatuba, Brazil, 2Unisalesiano, Araçatuba, Brazil, 3UNESP, Araçatuba, Brazil, 4Oregon State University - EOARC Burns, Burns, OR

924 W056 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 Brenner1, H. Bernal Barragán1, 2, E. Gutiérrez Ornelas1, 3, F. Sánchez Dávila1, 2, A. S. Juárez Reyes1, 2 and E. Olivares Sáenz1, 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

925 W057 Evaluation of anthelmintic resistance of intestinal parasitic nematodes in heifers in south central Nebraska.

926 W058 Effect of oral supplementation with selenium for young Brangus bulls raised in pasture: seminal quality in fresh and frozen semen.

927 W059 Oral supplementation with selenium for young Brangus bulls raised in pasture: seminal quality in fresh and frozen semen.

928 W060 Use of vitamin c combined to pentoxifylline and fertility in cattle after cryopreservation.

Breeding and Genetics: Application and Methods in Animal Breeding - Livestock I

957 W061 Whole Genome Association Analysis for Detecting QTLs Related to Fat and Protein Production in Buffaloes.
H. Tonhati1, D. F. Cardoso2, R. R. Aspilcueta Borquis1, N. A. Hurtado Lugo1, G. M. de Camargo1, L. G. Albuquerque1, D. J. A. Santos1, D. C. Scales2 and M. C. Nakagawa1, 1State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, Brazil, 2Universidade Estadual Paulista “Júlio de Mesquita Filho” (FCAV-UNESP), Jaboticabal, Brazil, 3UNESP Univ Estadual Paulista, Jaboticabal, Brazil, 4State University of São Paulo, Faculty of Agriculture and Veterinary Sciences, Jaboticabal, São Paulo, Brazil, Jaboticabal, Brazil

958 W062 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. Perry1, C. W. Ernst, J. P. Steibel and R. O. Bates, Michigan State University, East Lansing

959 W063 Growth Rate of Purebred Berkshire Pigs Housed in Hoop Buildings in North Carolina.
S. H. Ol1, N. Whiteley, F. McElvene and H. S. Park, North Carolina A&T State University, Greensboro

960 W064 Use of the canonical discriminant analysis for selecting a panel of informative markers in 21 Italian sheep breeds.
C. Dimaro1, M. Cellesi1, L. Nicoloso2, P. Crepaldi1, N. P. P. Macciotta1, G. Pulina1 and F. Pilla1, 1Università di Sassari, Sassari, Italy, 2Università di Milano, Milano, Italy, 3Dipartimento di Agraria, University of Sassari, Sassari, Italy, 4Università del Molise, Campobasso, Italy

961 W065 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

962 W066 Associations of the NCPAG I442M and GDF8 Q204X loci on feed efficiency at the onset of puberty in a beef x dairy cattle resource population.
C. Kühn\textsuperscript{1}, P. Widmann, R. Weikard and E. Albrecht, Leibniz Institute for Farm Animal Biology, Dummerstorf, Germany

963 W067 Association of DNA methylation levels with tissue-specific expression of adipogenic and lipogenic genes in Longissimus dorsi muscle of Korean cattle.
M. Baik\textsuperscript{1}, T. T. T. Vu\textsuperscript{1}, M. Y. Piao\textsuperscript{1} and H. J. Kang\textsuperscript{1}, \textsuperscript{1}Department of Agricultural Biotechnology, College of Agriculture and Life Sciences, Seoul National University, Seoul, South Korea, \textsuperscript{2}Chonnam National University, Gwangju, South Korea

964 W068 Changes in the cattle cervical transcriptome between estrus and luteal phase.
D. Gonzalez-Peña Fundora\textsuperscript{1}, P. Cardoso\textsuperscript{2}, M. B. Wheeler\textsuperscript{1} and S. L. Rodriguez Zas\textsuperscript{1}, \textsuperscript{1}University of Illinois at Urbana-Champaign, Urbana, IL, \textsuperscript{2}University of Illinois, Urbana

965 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\textsuperscript{1,2,3}, J. T. Pádua\textsuperscript{1}, J. J. R. Fernandes\textsuperscript{2,5}, R. Z. Taveira\textsuperscript{1}, R. L. Missio\textsuperscript{6}, P. S. Pacheco\textsuperscript{7}, D. A. Fausto\textsuperscript{8} and J. Restle\textsuperscript{2}, \textsuperscript{1}Universidade Estadual de Goiás, São Luís de Montes Belos, Goiás, Brazil, \textsuperscript{2}Universidade Federal de Goiás, Goiânia, Goiás, Brazil, \textsuperscript{3}FAPEG, Goiânia, Goiás, Brazil, \textsuperscript{4}Universidade federal de Goiás, Goiânia, Goiás, Brazil, \textsuperscript{5}Universidade Federal de Goiás, Goiânia, Brazil, \textsuperscript{6}Universidade Tecnológica Federal do Paraná, Pato Branco, Paraná, Brazil, \textsuperscript{7}Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil, \textsuperscript{8}ESALQ / USP, Piracicaba, São Paulo, Brazil

966 W070 Major loci associated with growth traits on BTA14 in Hanwoo (Korean cattle).
S. W. Lee\textsuperscript{1}, K. Y. Chung\textsuperscript{1}, U. H. Kim\textsuperscript{1}, B. W. Choi\textsuperscript{1}, D. Lim\textsuperscript{2}, Y. M. Cho\textsuperscript{2}, C. G. Dang\textsuperscript{2}, H. C. Kim\textsuperscript{1}, S. H. Yeon\textsuperscript{1}, H. S. Kang\textsuperscript{1} and C. Gondro\textsuperscript{2}, \textsuperscript{1}Hanwoo Experimental Station, NIAS, RDA, Pyeongchang, South Korea, \textsuperscript{2}Animal Genomics & Bioinformatics Division, NIAS, RDA, Suwon, South Korea, \textsuperscript{3}University of New England, Armidale 2350, Australia

967 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\textsuperscript{1}, S. Mizell\textsuperscript{1} and T. Page\textsuperscript{2}, \textsuperscript{1}LSU, Baton Rouge, LA, \textsuperscript{2}Louisiana State University, Baton Rouge

968 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. Ely\textsuperscript{1,2}, C. J. Koijma\textsuperscript{1}, A. M. Saxton\textsuperscript{2} and R. L. Kallenbach\textsuperscript{2}, \textsuperscript{1}University of Tennessee, Knoxville, \textsuperscript{2}University of Missouri, Columbia

Dairy Foods: Technical Poster Session III: Fluid Milk

1019 W073 Interaction of bovine and caprine milk alpha-caseins with tea polyphenols.
A. Mora-Gutierrez\textsuperscript{1} and R. Attia, Prairie View A&M University, Prairie View, TX

1020 W074 Comparison Of Jersey And Holstein-Friesian Milk Composition And Coagulation Properties.
J. H. Bland\textsuperscript{1}, C. C. Fagan and A. S. Grandison, University of Reading, Reading, United Kingdom

1021 W075 Light Exposure Affects Milk Acceptability and Emotional Response of College Students.
A. M. Walsh, H. Potts\textsuperscript{2} and S. Duncan, Virginia Tech, Blacksburg

1022 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\textsuperscript{1} and Y. W. Park, Fort Valley State University, Fort Valley, GA

1023 W077 Application of Non-Nutritive Natural Sweeteners to Skim Chocolate Milk.
X. E. Li\textsuperscript{1}, K. Lopetcharat and M. Drake, Southeast Dairy Foods Research Center, NCSU, Raleigh, NC

1024 W078 Cross-linking of milk proteins can reduce its susceptibility to plasmin-induced hydrolysis.
H. Bhatt\textsuperscript{1,2}, A. Cuccheval\textsuperscript{2}, C. Coker\textsuperscript{2}, H. G. Patel\textsuperscript{1}, A. Carr\textsuperscript{1} and R. Bennett\textsuperscript{1}, \textsuperscript{1}Massey University, Palmerston North, New Zealand, \textsuperscript{2}Fonterra Research & Development Centre, Palmerston North, New Zealand, \textsuperscript{3}South Dakota State University, Brookings

1025 W079 Optimization of gamma-aminobutyric acid production of Lactobacillus plantarum and determination of flavor substances in gamma-aminobutyric acid-enriched fermented milk.
L. Li\textsuperscript{1}, C. Man\textsuperscript{1,2}, T. Li\textsuperscript{1}, Y. Shan\textsuperscript{1,2}, Y. Deng\textsuperscript{1}, M. Ding\textsuperscript{1}, M. Guo\textsuperscript{3} and Y. Jiang\textsuperscript{1,2,3}, \textsuperscript{1}Department of Food Science, Northeast Agricultural University, Harbin, China, \textsuperscript{2}National Dairy Engineering and Technology Research Center, Northeast Agricultural University, Harbin, China, \textsuperscript{3}Synergetic Innovation Center of Food Safety and Nutrition, Harbin, China, \textsuperscript{4}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. Md1,2, D. P. Bu2, J. T. Chen2 and J. Q. Wang2, 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, L. Ma1, X. M. Nan1, J. J. Loor1, and J. Q. Wang1, State 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. Wang1,2,3, 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. Zheng1,2,3, F. Wen1,2,3, H. Wang2, X. Guo1,2, S. Li1,2,3 and J. Wang1,2,3, 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
Caseinomacropeptide 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. Penna2, L. M. Fonseca3, M. R. Souza4, M. P. Cerqueira5 and M. O. Leite6, 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 of Dairy Cows 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. Tomasula1,2, 1USDA, ARS, ERRC, Dairy & Functional Foods Research Unit, Wyndmoor, PA, 2Institute of Dairy Science, College of Animal Science, Zhejiang University, Hangzhou, P.R., China, 3Dairy & 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. Tong1, S. Vink2 and S. Roy3, 1Dept. 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. Carp1, 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. Min1, 1Utah State University, Logan, 2Tuskegee University, Tuskegee, AL
1106 W093 Fatty acid profile and oxidative stability of carcass fat from meat goats fed grass-legume forage diets.  
B. R. Min, Tuskegee University, Tuskegee, AL.

1107 W094 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. Grisswold, R. Almada, A. Lipata and E. Rodberg, Kemin Animal Nutrition & Health, Des Moines, IA.

1108 W095 Estimation of macronutrients content in mixed swards by Near Infrared Reflectance Spectroscopy.  
A. I. Roca-Fernández, P. Castro-García and A. González-Rodríguez, Agrarian Research Centre of Mabegondo, La Coruña, Spain.

1109 W096 Fall Harvest Management of Eastern Gamagrass.  

1110 W097 Fertilization of Fall-Grown Oat with Urea or Bedded-Pack Manure.  

1111 W098 Nutrient composition and in vitro digestibility of cultivated and non-cultivated plant species found within a Southwestern forage production operation.  
J. D. Allen, L. W. Hall and J. English, Northwest Missouri State, Maryville, The University of Arizona, Tucson.

1112 W099 Effects of Marandu pastures heights and sources of energy supplements on the weights gains per animal and per area.  
A. A. Oliveira, M. V. Azemha, S. S. Santana, C. H. O. Macedo, J. P. R. Costa, T. T. Berchielli, A. C. Ruggieri and R. A. Reis, Unesp, Jaboticabal, Brazil, University of Sao Paulo State, Jaboticabal, Brazil, Sao Paulo State University, Jaboticabal, Brazil.

1113 W100 Effect of Sowing Date on Forage Yields and Quality of Italian Ryegrass in Early Spring-seeded.  
K. Kim, Livestock Institute, Jeollanamdo, South Korea.

1114 W101 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.

1115 W102 Evaluation of agronomic characteristics of five varieties of corn in integrated crop-livestock-forest system.  
A. A. Pinheiro, M. C. A. Santana, V. A. Silva, J. T. C. Pacheco, A. C. Fernandes and I. D. Carneiro, Emater, Goiânia, Brazil.

1116 W103 Non-structural carbohydrates in Marandu-grass pastures under different grazing intensities.  
M. V. Azemha, L. F. Brito, A. A. Oliveira, E. R. Janusckiewicz, E. Raposo, S. S. Santana, R. A. Reis and A. C. Ruggieri, University of Sao Paulo State, Jaboticabal, Brazil, Sao Paulo State University, Jaboticabal, Brazil.

1117 W104 Production and quality of alfalfa harvested on different stages of maturity in summer and fall.  

1118 W105 Effect of Cultivars and Planting Dates on Bioenergy Feedstock Characteristics of Switchgrass (Panicumvirgatum) in South Korea.  

1119 W106 Morphological Composition of Piata Palisade Grass Tillers Subjected to Strategies of Intermittent Defoliation.  
G. O. Rocha, F. H. Chizzotti, D. M. Fonseca, M. E. Santos and B. M. Pereira, Universidade Federal de Vícosa, Vícosa, Brazil, Universidade Federal de Uberlândia, Uberlândia, Brazil.

1120 W107 Chemical composition and in situ dry matter degradability of tropical forages grasses in Northeastern Brazil.  
1121 W108 Influence of phenological stage on fresh forage, hay and silage on nutritional value of tall wheatgrass.  
M. Menghini1,2, H. M. Arelovich1,2,3, M. F. Martínez1 and R. D. Bravo1, 1Dto. Agronomía, Universidad Nacional del Sur, Bahía Blanca, Argentina, 2CiC, Bahía Blanca, Argentina, 3CERZOS, Bahía Blanca, Argentina  

Bonfa, H. C., 1801  

W109 Spatio-temporal evaluation of the nutritive value of Croton cortezianus and Leacophyllum frutescens through in vitro fermentation kinetics.  
A. M.1,2, G. C. M.1,2*, G. R. H.1, D. G. TG.1 and J. R. A.1, 1Universidad Juárez del Estado de Durango, Durango, Mexico, 2Universidad Autónoma de Nuevo León, Linares, Nuevo León, Mexico  

W110 Reduction of enteric methane emission by using tannin supplementation in grazing goats.  
A. C. Roggieri1, N. C. Meister, F. O. Alari, V. C. Silva, N. L. Santos and E. B. Malheiros, Sao Paulo State University, Jaboticabal, Brazil  

W111 Nutritive value of buffelgrass-based diets supplemented with dried distillers grains with solubles and dried citrus pulp.  
N. C. Vásquez Aguilar1,2, H. Bernal Barragán1,2, R. G. Ramirez Lozano1, M. Cerrillo Soto2,3, M. V. Gómez Meza1, E. Gutiérrez Ornelas1,2 and M. Guerrero Cervantes2,3, 1Universidad Juárez del Estado de Durango, Durango, Mexico, 2Red Internacional de Nutrición y Alimentación en Rumiantes, Durango, Mexico, 3Universidad Juárez del Estado de Durango, Durango, Mexico  

W112 Lignin concentration and its correlation with degradability of tropical grasses.  
A. Vargas Velásquez*, Universidade de São Paulo, Pirassununga, Brazil  

W113 Chemical characterization and in vitro fermentation degradation activity of tropical legumes.  
I. Scull-Rodríguez1,2, M. A. Cerrillo Soto2,3, O. Olao1,2, M. Guerrero-Cervantes2,3, A. Juárez-Reyes2,3 and R. Herrera-García2,3, 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  

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  

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. Suarez1,2, UAAAN, Saltillo, Mexico  

Growth & Development Poster II  

W116 Effect of Incubation Temperature on the Proliferation and Differentiation of Pig Preadipocytes in Primary Culture.  
A. E. Bohan1, J. Bartosh and T. D. Brandebourg, Auburn University, Auburn, AL  

W117 Effects of Maternal Nutrient Restriction on Muscle Satellite Cell Activity.  
J. S. Raja1, M. L. Hoffman, K. N. Peck, K. E. Govoni, S. A. Zinn and S. A. Reed, Department of Animal Science, University of Connecticut, Storrs  

S. Blair1,2, C. C. Williams3, B. F. Jenny1, M. Thomas1, V. Morgan1 and T. Earleywine2, 1LSU AgCenter, Baton Rouge, LA, 2Land O’Lakes Animal Milk Products, Shoreview, MN  

W119 Effects of Milk Replacer Feeding Frequency on Growth and Performance of Neonatal Holstein Calves.  

W120 High energy diet enhances intramuscular adipogenesis in Hanwoo steers distributed to breeding value for meat quality.  

W121 Impact of the Sires on Puberty Onset in Nellore Heifers.  
M. V. C. Ferraz Jr1,2, A. Y. Pires3, D. D. Nepomuceno3, A. D. B. Ribeiro3, 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, 3Experimental Station Hildegard Georgina Von Pritzelwitz, Londrina, Brazil  

W122 Microarray Studies in High and Low RFI Cattle Reveal a Potential Role for Gonadotropin Releasing Hormone (GnRH) in Regulating Feed Efficiency.
Microbiota Diversity is Inversely Related to Adiposity in Mangalica Pigs.
J. W. Broady, L. Wang, A. G. Moss, T. D. Brandebourg and E. Schwartz, Auburn University, Auburn, AL

Muscle hypertrophy induced by myostatin inhibition is suppressed by rapamycin administration.
D. Choi, J. Yang, S. K. Park and Y. S. Kim, 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 Pillai, M. L. Hoffman, K. N. Peck, E. V. Valley, T. D. Crenshaw, S. A. Zinn and K. E. Govoni, 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. Yan and K. M. Ajuwon, 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. Castilhos, C. L. Francisco, A. M. Jorge, R. H. Branco, M. E. Z. Mercadante, S. F. M. Bonilha, C. M. Pariz and D. C. Rivarolli, 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, K. Chung, S. Chang and B. J. Johnson, 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-Sollo, B. C. Reiter, K. J. Thornton, 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.

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. Miller, T. Earleywine, W. S. Bowen Yoho and T. E. Johnson, 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. Earleywine, B. L. Miller, W. S. Bowen Yoho and T. E. Johnson, 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.

Trotting stride variables of the North American Akhal-Teke Horse.
M. C. Nicodemus and J. Beranger, Mississippi State University, Mississippi State, American Livestock Breeds Conservancy, Pittsboro, NC

Development of an objective on-farm equine temperament scoring system.
J. N. Foley, J. L. Lucia and K. W. Walter, 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 Oliveira, L. S. Murata, M. A. D. O. Viu and M. L. Gambarini, University of Brasilia, Brasília, Brazil, Federal University of Goiás, Goiânia, Brazil

Administration of bioactive proteins to mature horses improves gait kinematics.
J. Coverdale and J. M. Campbell, 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. Bouères, 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. Ramírez-Godínez*, 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.

1213  W141  Day length affects simultaneously mammary epithelium integrity and mammary epithelial cell exfoliation in milk.
M. Boutinaud*, A. Bondon, P. Debournoux, J. Couedon, M. Johan, A. Narcy and C. Hurtaud, INRA, Saint Gilles, France

1214  W142  Serotonin receptors expression in caprine and ovine mammary gland by Real Time PCR-RT.
A. Suárez-Trujillo*, A. Argüello, M. A. Rivera, J. Capote and N. Castro, Department of Animal Science, Universidad de Las Palmas de Gran Canaria, Arucas, 35413, Las Palmas, Spain

1215  W143  Immortalization of a Primary Bovine Mammary Epithelial Cell Line by the SV40 Large T-antigen Gene.
H. Hu*, N. Zheng, W. Dai, H. Gao and J. Wang, State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1216  W144  Color Measurement as potential Tool for Determination of Colostrum Quality in primiparous and multiparous Dairy Cows.
J. J. Gross*, E. C. Kessler and R. M. Bruckmaier, Veterinary Physiology, Vetsuisse Faculty University of Bern, Bern, Switzerland

1217  W145  Effect of milk yield genotype on gene expression in liver and adipose tissue from periparturient Holsteins.
W. J. Weber*, M. Carriquiry, S. C. Fahrenkrug and B. A. Crooker, University of Minnesota, Saint Paul

L. J. Juengst*, E. E. Connor, R. L. Baldwin, VI and B. J. Bequette, Department of Animal and Avian Sciences, University of Maryland, College Park, USDA-ARS, Bovine Functional Genomics Laboratory, Beltsville, MD

1219  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. Brooker*, J. E. Williams, S. M. Reynolds, K. M. Yahvah, L. K. Fox and M. A. McGuire, University of Idaho, Moscow, Washington State University, Pullman

1220  W148  Impact of Machine Milking on Teat Dimensions.
J. F. Guarin*, D. J. Reinemann and P. L. Ruegg, Department of Dairy Science, University of Wisconsin-Madison, Madison, Grupo de Investigación Biogénesis, Facultad de Ciencias Agrarias, Universidad de Antioquia, Medellín, Colombia

1221  W149  Comparison of Ecological Indices of Bacterial Communities in Bovine Milk Varying in Somatic Cell Count.
J. E. Williams*, S. M. Reynolds, K. M. Yahvah, S. L. Brooker, L. K. Fox, B. Shafi and M. A. McGuire, University of Idaho, Moscow, Washington State University, Pullman

1222  W150  Effects of Arginase Inhibition on Casein Expression and Proliferation of Bovine Mammary Epithelial Cells.
L. Ding, S. Wang, L. Chen, H. Wang and J. J. Loor, Yangzhou University, Yangzhou, China

Meat Science & Muscle Biology Posters III
Sun dried meat quality derived from young bulls fed licuri cake derived from biodiesel production.

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. Júnior1, 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

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. Carvalho5, E. A. Oliveira5, C. C. P. D. Paz1 and A. A. M. Sampaio6, 1Instituto de Zootecnia, Sertãozinho, Brazil, 2Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 3FCAV/UNESP JABOTICABAL, Pradípolis, 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

Effect of aging times on tenderness of five muscles from carcass of Nellore young bulls.
T. T. Berchielli, L. R. Simo, J. F. Lage, W. Henrique, E. A. Oliveira, C. C. P. D. Paz and A. A. M. Sampaio, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Instituto de Zootecnia, Sertãozinho, Brazil, 3FCAV/UNESP JABOTICABAL, Pradípolis, 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

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. Pivaro3, V. G. Carvalho4, E. A. Oliveira5, C. C. P. D. Paz6 and A. A. M. Sampaio6, 1Instituto de Zootecnia, Sertãozinho, Brazil, 2Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 3FCAV/UNESP JABOTICABAL, Pradípolis, 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

Effect of aging times and inclusion of unprotected or protected linseed oil on the diet of Nellore steers over color and lipid oxidation of the meat.
L. R. Simonetti1, W. Henrique2, T. M. Pivaro3, V. G. Carvalho4, E. A. Oliveira5, C. C. P. D. Paz6 and A. A. M. Sampaio6, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Instituto de Zootecnia, Sertãozinho, Brazil, 3FCAV/UNESP JABOTICABAL, Pradípolis, 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

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. Pivaro3, V. G. Carvalho4, E. A. Oliveira5, C. C. P. D. Paz6 and A. A. M. Sampaio6, 1Universidade Estadual Paulista Júlio de Mesquita Filho - Unesp, Jaboticabal, Brazil, 2Instituto de Zootecnia, Sertãozinho, Brazil, 3FCAV/UNESP JABOTICABAL, Pradípolis, 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

Aged beef from Nellore young bulls fed crude glycerin in diets with different roughage sources.
J. F. Lage1, A. F. Ribeiro2, M. Machado1, L. R. Simonetti3, A. E. Oliveira3, E. A. Dalantonia3 and T. T. Berchielli3, 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, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Unesp, Jaboticabal, Brazil, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Unesp, Jaboticabal, Brazil, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Unesp, Jaboticabal, Brazil

Effect of aging times on tenderness of five muscles from carcass of Nellore young bulls.
L. R. Simonetti1, J. F. Lage2, E. E. Dalantonia2, E. A. Oliveira2, M. B. Abran2, G. M. Delamagna2, L. Maneck Delevatti3 and T. T. Berchielli2, 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

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. Abran1, J. F. Lage1, L. G. Ross1, L. R. Simonetti1, A. E. Oliveira1, G. M. Delamagna1, E. E. Dalantonia1, 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

Effects of excess dietary sulfur on beef carcass characteristics and quality after aging.
J. Hawley4, E. B. Kegley, J. W. Yancey and J. K. Apple, Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR

Effect of beta agonist and immunocastration on meat characteristics Nellore cattle.
M. Rezende Mazon1, S. Luz e Silva2, D. Silva Antonele3, K. Nubiato4, D. Juliana Brígida4, B. Baptista4 and P. R. Leme5,
The use of Bioelectrical Impedance Analysis to predict carcass composition in calf-fed Holstein steers.
N. D. May, T. J. McEvors, L. A. J. Walter, J. A. Reed, J. P. Hutcheson and T. E. Lawrence, West Texas A&M University, Canyon, and DeSoto, KS

Increasing levels of sodium benzoate affect myosin heavy chain type expression in cultured bovine satellite cells.
J. O. Baggerman, J. E. Hergenreder and B. J. Johnson, Texas Tech University, Lubbock, Texas, USA

Surgical castration and immunocastration improve cuts yield of high market value from animals crossbred Aberdeen Angus x Nellore.
A. D. Moreira, F. D. Resende, G. R. Siqueira, J. M. B. Benatti, M. H. Moretti, J. A. Alves Neto, B. S. Lima, J. F. Lage, G. Z. Miguel, P. H. Gonçalves and F. D. Santos, Universidade Estadual Paulista, Jaboticabal, Brazil, Agência Paulista de Tecnologia dos Agronegócios - APTA, Colina, Brazil, APTA-Polo Regional Alta Mogiana, Colina, Brazil, UNESP-FCAV, Jaboticabal, Brazil, Universidade Estadual Paulista "Júlio de Mesquita Filho" - Unesp, Jaboticabal, Brazil, Universidade do Estado de Mato Grosso, Pontes e Lacerda, Brazil, Centro Universitário da Fundação Educacional de Barretos - Unifeb, Barretos, Brazil

Nonruminant Nutrition: Evaluation of Feed Ingredients For Monogastric Diets

W1355

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WEDNESDAY, JULY 23, 2014

1356 W174 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

1357 W175 Injection of glycosaminoglycans and Vitamin C in incubation on the weight loss and shell conductance of the eggs.
E. T. T. Santos†, D. M. C. C. Castiblanco‡, L. L. Borges§, C. H. D. F. Domingues*, T. C. O. D. Quadros†, S. Sgavioli†, G. M. D. A. R. García†, R. D. G. Isola‡ and S. M. B. Artoni*, Department of Morphology and Animal Physiology, São Paulo State University, Jaboticabal, Brazil, Department of Animal Science, São Paulo State University, Jaboticabal, Brazil

1358 W176 Effect of material bioconversion natural complex on growth performance, nutrient digestibility, blood characteristics, and fecal microbiota in weaning pigs.
J. H. Cho†, M. Begum and I. H. Kim, Department of Animal Science, Dankook University, Cheonan, South Korea

1359 W177 The effects of fermented cotton seed meal on growth performance and egg quality in laying hens.
Y. Wang†, A. Li†, Y. Hou†, Y. Li‡, X. Zhang§ and H. Wei†, Academy of State Administration of Grain, Beijing, China

1360 W178 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

1361 W179 Standardized total tract digestibility of phosphorus in camelina (Camelina Sativa) meal fed to growing pigs without or with phytase supplementation.
P. A. Adhihaki and C. M. Nyachoti*, University of Manitoba, Winnipeg, MB, Canada

1362 W180 Effects of adding a dried food waste product to the diets of finishing pigs on growth, feed intake, and nutrient digestibility.
H. L. Acuff§ and L. A. Pettey, California State Polytechnic University, Pomona, CA

1363 W181 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‡, C. Ariza-Nieto§ and G. Añonador-Telles*, Universidad Francisco de Paula Santander-Ocaña, Ocaña, Colombia, Universidad Nacional de Colombia, Bogotá, Colombia, CORPOICA, Mosquera, Colombia

1364 W182 Effect of the substitution of soybean meal and sorghum for cull chickpeas on the apparent digestibility of nutrients in diets for growing pigs.

Nonruminant Nutrition: Factors Impacting Feed Intake

1365 W183 Antioxidant activity of intestinal mucosa in piglets fed deoxynivalenol naturally contaminated diet.
F. Guay†, M. Lessard†, Y. Chorfi† and B. V. Le Thanh*, Université de Montréal, Faculté de médecine vétérinaire, St-Hyacinthe, QC, Canada, Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, Université de Montréal, Faculté de médecine vétérinaire, St-Hyacinthe, QC, Canada

1366 W184 Effects of different feed processing procedures with expander on broiler performance.
M. Gierus*, C. Elwert* and S. Sternowsky*, University of Natural Resources and Life Sciences - Institute of Animal Nutrition, Products, and Nutrition Physiology, Vienna, Austria, Feedtest, Wettin-Löbejün, Germany, Amandus Kahl GmbH & Co KG, Reinkbek, Germany

1367 W185 Influence of pre-pelleting inclusion of whole corn on performance, nutrient utilization and digestive tract measurements of young broilers.
Y. Singh†, V. Ravindran† and T. J. Wester*, Massey University, Palmerston North, New Zealand, Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Palmerston North, New Zealand

1368 W186 Divergent selection for residual feed intake may be impacted by differences in feeding behaviour.
S. Vigors*, T. Sweeney†, A. G. Fahey†, C. J. O'Shea* and J. V. O'Doherty*, School of Agriculture and Food Science, University of College Dublin, Dublin, Ireland, College of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland

1369 W187 Effect of Dietary Aflatoxin from Contaminated corn on Performance of Turkey Poults.
A. S. Oyegeunwa, E. O. Ewuola, A. F. Agboola and E. A. Iyayi, University of Ibadan, Ibadan, Nigeria
Worldwide occurrence of mycotoxins in feeds and feed components in the year 2013.
S. Schaumberger1, K. Näther2 and U. Hofstetter1, 1BIOMIN Holding GmbH, Herzogenburg, Austria, 2Biomin Holding GmbH, Herzogenburg, Austria

Physiology and Endocrinology III

Estimated energy balance of periparturient ewes grazing in rangelands.
E. González-García1, D. Tagliatela2, M. Jouven3 and F. Bocquier3, 1INRA UMR868 Systèmes d'Elevage Méditerranées et Tropicaux (SELMET), Montpellier 34060, 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

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

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. Aboin1, A. P. Brandao1, H. F. Soares1, M. B. Piccolo1 and J. L. M. Vasconcelos1, 1UNESP - FMVZ, Botucatu, Brazil, 2Oregon State University - EOARC Burns, Burns, OR

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. Agarwall2 and B. J. Bequette2, 1Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 2Department of Animal and Avian Sciences, University of Maryland, College Park

Manipulated plasma insulin, glucose, and BHBA affect immune factors in somatic cells in milk with and without intramammary LPS challenge in dairy cows.
M. Zarrin1,2,3, R. M. Bruckmaier1 and O. Wellnitz1, 1Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland, 2Department of Animal Science, Yangsu University, Yangsu, Iran, 3Graduate School for Cellular and Biomedical Sciences, University of Bern, Bern, Switzerland

Effects of road transportation on metabolic and immunological responses in dairy heifers.
M. Baik1, H. J. Kang1, I. K. Lee2, M. Y. Piao1, C. W. Kwak1, M. J. Gu1, C. H. Yun1, H. J. Kim1, G. H. Kim1, 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

Differences in mitochondrial DNA copy numbers in various subcutaneous and visceral fat depots of overconditioned cows.
L. Laubenthal1, L. Locher1, J. Winkler1, U. Meyer1, J. Rehage1, S. Dänicke1, H. Sauwerwein1 and S. Häussler1, 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

In vitro insulin sensitivity of subcutaneous and omental adipocytes of precalving dairy cows across a range of BCS.
J. De Koster1, L. Hulpio1, V. Fievez1, W. Van den Broeck2 and G. Opsomer3, 1Department of Reproduction, Obstetrics and Herd Health, Faculty of Veterinary Medicine, Ghent University, Ghent, Belgium, 2Department of Animal Production, University of Veterinary Medicine, Ghent University, Ghent, Belgium, 3Department of Morphology, Faculty of Veterinary Medicine, Ghent University, Ghent, Belgium

Dietary melatonin supplementation during late gestation alters concentrations of progesterone and milk yield in Holstein heifers.
C. O. Lenley1, K. E. Brockus, C. G. Hart and S. H. Ward, Mississippi State University, Mississippi State

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. Battista1, R. V. Sala1, M. D. D. V. Ortola1, E. F. Jesus2, T. A. D. Vale3, G. G. Macedo1, F. P. Remo5, A. H. Souza4 and P. S. Barussell2, 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

Association between insulin signaling and oxidative stress in serum and subcutaneous adipose tissue of overconditioned cows.
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1440 W200 Serum apelin concentrations in dairy cows receiving different amounts of concentrate and a nicotinic acid supplement.  
1Institute of Animal Science, Physiology and Hygiene Unit, University of Bonn, Bonn, Germany, 2University for Veterinary Medicine, Foundation, Hannover, Germany, *University of Hannover, Hannover, Germany, |University of Animal Nutrition, Friedrich-Luefler-Institute (FLI), Braunschweig, Germany, *University of Bonn, Institute of Animal Science, Bonn, Germany, *Leibniz Institute for Farm Animal Biology (FBN), Institute of Nutritional Physiology, Damersen, Germany

1441 W201 Nuclear related factor-E2 is down-regulated by hyperinsulinemic euglycemia in dairy cows.  
M. Zarrin1,2,3, O. Wellnitzi and R. M. Bruckmaier1  
1Veterinary Physiology, Vetsuisse Faculty, University of Bern, Bern, Switzerland, 2Department of Animal Science, Yassou University, Yassou, Iran, 3Graduate School for Cellular and Biomedical Sciences, University of Bern, Bern, Switzerland

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 de Frigoni1, B. C. D. S. Leão1, P. C. Dall’Acqua1, L. Rigon1, Nogueira2 and G. Z. Mingoti1  
1University of Sao Paulo State (UNESP), Araçatuba, Brazil, 2EMBRAFÁ Pantanal, Corumbá, Brazil

1443 W203 Heat stress alters adipose adrenergic signaling in lactating dairy cows.  
G. Xie1, L. W. Hall1, M. Nearing2, L. C. Cole1, D. M. Spurlock1, L. H. Baumgard1 and R. P. Rhoads1  
1Virginia Tech, Blacksburg, The University of Arizona, Tucson, 2Iowa State University, Ames

1444 W204 Effect of Vitamin C Supplementation on Biochemical Parameters and Haemagglutination Potential of Giant African Land Snail (Archachatina marginata) Haemolymph.  
J. A. Abiona1, A. O. Ladoskan1, J. O. Daramola1, D. M. Abioja2, E. O. Oke2 and O. M. Ougheesan2  
1Federal University of Agriculture, Abeokuta, Nigeria, Abeokuta, Nigeria, 2Federal University of Agriculture, Abeokuta, Nigeria

1445 W205 Effects of grape seed supplementation on blood metabolic profile, immunity and milk production traits of dairy ewes.  
F. Correddu1, A. Marzano1, A. C. Giuffrida1, A. P. Biondi1, P. Bonelli1, P. Nicolussi1 and A. Nudda1  
1Dipartimento di Agraria, University of Sassari, Sassari, Italy, 2Istituto Zooprofilattico della Sardegna, Sassari, Italy

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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 postpartum measurement in early postpartum dairy cows.  
B. M. Sweeney1, E. M. Martens1, K. P. Zanzalari1, J. C. Lawrence1 and T. R. Overton1  
1Cornell University, Department of Animal Science, Ithaca, NY, 2Prince Agri Products, Inc., Franklin, IN, 3IDEXX Laboratories, Inc., Westbrook, ME

1448 W208 Development of a multiplex assay for simultaneous quantification of endocrine analytes.  
E. A. Benavides1, K. D. Wells2 and D. H. Keiser2  
1University of Missouri - Division of Animal Sciences, Columbia, MO, 2University of Missouri-Division of Animal Sciences, Columbia, MO

1449 W209 Effect of periconceptual growth hormone injection on feed intake and early fetal development in ewes.  
C. H. Pereira1,2,3, K. C. Swanson4, H. O. Putino5, F. E. Doscher6, V. C. Kennedy6, B. R. Mordhorst6, J. D. Kirsch1 and K. A. Vonnahme1  
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1450 W210 Relationship between plasma concentrations of thyroid hormones and physiological state of beef cow/calf pairs.  
B. H. Boehme1, M. R. Davis and R. P. Wettmann, Oklahoma Agricultural Experiment Station, Stillwater, OK

1451 W211 Follicle-stimulating hormone converges with canonical WNT signaling to enhance Cyp19a1 promoter activity in granulosa cells.  
B. I. Gomez1, J. O. E.1, C. A. Gifford1, D. M. Hallford2 and J. Hernandez Gifford3  
1Oklahoma State University, Stillwater, 2New Mexico State University, Las Cruces, NM

1452 W212 Effects of various gonadotropin stimulation on reproductive performance of seasonally anestrous ewes.  
S. L. Rastle1, K. N. D’Souza1, A. K. Redhead2, C. D. Paul2, E. N. Keller2 and M. Knights2  
1Department of Animal Sciences, University of Florida, Gainesville, 2Adisseo S.A.S., Alpharetta, GA, 3University of Illinois, Urbana-Champaign

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. Denicola3, C. S. Skanadore2, Z. Zhou1, M. Nunes Corrêa1, D. N. Luchini2, P. J. Hansen1, J. J. Loor2 and F. C. Cardoso4  
1University of Illinois, Urbana, 2Federal University of Pelotas, Pelotas, Brazil, 3Department of Animal Sciences, University of Florida, Gainesville, 4University of Illinois, Urbana-Champaign
Production, Management, and the Environment: Reducing the Environmental Footprint Through Nutrition and Management

**W214** Expression of Foxp3 in Peripheral Blood Mononuclear Cells of Pregnant Cows.
1University of Guelph, Guelph, ON, Canada, 2Universidade de São Paulo, Pirassununga, Brazil, 3Michigan State University, East Lansing

**W215** Luteinizing hormone (LH) profiles after either porcine LH or GnRH treatment in Holstein cows with or without FSH-stimulation.
A. Behrouzi, M. Fakherti, R. Salehi, M. G. Colazo, and D. J. Ambrose,
1Department of Agricultural, Food and Nutritional Science, University of Alberta, Edmonton, AB, Canada, 2Alberta Agriculture and Rural Development, Livestock Research Branch, Edmonton, AB, Canada

**W216** 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

**W217** Life cycle assessment of heavy pig production in a sample of Italian farms.
G. Pirlo, S. Care, G. Della Casa, R. Marchetti, G. Ponzoni, V. Facetti, V. Fantini, P. Msoni, P. Buttol, and F. Falconi,
1Consiglio per la ricerca e sperimentazione in agricoltura, Cremona, Italy, 2Consiglio per la ricerca e sperimentazione in agricoltura, San Cesario s/P, Italy, 3ENEA, Bologna, Italy, 4LCA-Lab, Bologna, Italy

**W218** Control of Water Consumption in Swine Barns; One Step-Closer to Real Time Management.
C. Pineiro, P. Castro, J. Morales, and G. Montalvo, PigCHAMP Pro Europa, Segovia, Spain

**W219** Increasing milk yield affects sustainability of dairy cattle production in terms of cultural energy use efficiency.
H. Koknaroglu, H. Saglam, and O. Koskan, Selcuk University, Isparta, Turkey

**W220** Effect of astaxanthin production by the yeast phaffiarhodozyma on growth performance, blood profiles, meat quality, and slurry noxious gas emission in broilers.
S. Kim, S. D. Upadhyaya, and I. H. Kim,
Department of Animal Science, Dankook University, Cheonan, South Korea

**W221** 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

**W222** Environmental Assessment of a Representative Grass-finished Beef Operation in Southern Pennsylvania.
J. A. Dillon and C. A. Rotz,
1Department of Animal Science, Pennsylvania State University, University Park, 2USDA-ARS Pasture Systems and Watershed Management Research Unit, University Park, PA

**W223** 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

**W224** 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

**W225** Effect of crude glycerin associated with energy sources on enteric methane emission from finishing Nellore bulls on pasture in the dry season.
1Universidade Estadual Paulista "Julio de Mesquita Filho", Jaboticabal, Brazil, 2Universidade Estadual Paulista, Jaboticabal, Brazil, 3Universidade Estadual Paulista "Julio de Mesquita Filho" / Unesp, Jaboticabal, Brazil, 4Universidade Estadual Paulista Julio de Mesquita Filho, Jaboticabal, São Paulo, Brazil, 5Universidade Estadual Paulista Julio de Mesquita Filho - UNESP, Jaboticabal, Brazil

**W226** Enteric methane emission from beef cattle fed diets containing crude glycerin associated with energy sources.
1Universidade Estadual Paulista, Jaboticabal, Brazil, 2Universidade Estadual Paulista "Julio de Mesquita Filho", Jaboticabal, Brazil, 3Universidade Estadual Paulista Julio de Mesquita Filho, Jaboticabal, São Paulo, Brazil, 4Universidade Estadual Paulista Julio de Mesquita Filho - UNESP, Jaboticabal, Brazil

**W227** 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,
1Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia Tech, Blacksburg
Influence of low doses tannins extract addition on the presence of Escherichia coli in feces of beef cattle. 
T. D. J. Heras, I. Enríquez, B. J. Cervantes, S. M. Gaxiola, J. A. Romo and R. Barajas, FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico, 3Ganadera los Migueles, S.A. de C.V., Culiacan, Mexico

Phosphorus excretion in response to forage and protein of diepeets. 

A. B. D. Pereira, A. F. Brito and S. A. Ussami, University of New Hampshire, Durham, NH, 2Dept. of Animal Science, Michigan State University, Hickory Corners, MI

Effect of dietary nitrate and organic copper supplementation on dairy enteric methane and nitrous oxide emissions. 

Influence of tannins extract addition on in vitro gas production of feces from beef cattle. 
R. Barajas, E. X. Murillo, N. Castro and E. A. Velazquez, FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico

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, K. F. Knowlton, C. Shang and K. Xia, Department of Dairy Science, Virginia Polytechnic Institute and State University, Blacksburg, 2Virginia Tech, Blacksburg, 3Department of Crop and Soil Environmental Sciences, Virginia Polytechnic Institute and State University, Blacksburg

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A larger proportion of grass feed components in the ration was associated with higher methane production rates of dairy cows. 
C. C. Metges, M. Derno, J. Zieslser, N. Krattenmacher, G. Thaller and B. Kuhla, Leibniz Institute for Farm Animal Biology (FBN), Dummerstorf, Germany, 1Institute of Animal Breeding and Husbandry, Kiel University, Kiel, Germany, 2Christian-Albrechts-Universität, Kiel, Germany

Effect of eco-saline system on some hematological and biochemical parameters in damascus goats raised under semi-arid conditions. 
E. B. Abdalla, Faculty of Agriculture, Ain Shams University, Cairo, Egypt

Fibrolytic bacteria isolated from the rumen of North American moose (Alces alces). 
S. L. Ishaq and A. D. G. Wright, University of Vermont, Burlington

Ruminant Nutrition Posters III

Prevalence of subclinical ketosis detected by near infra-red analysis of BHB in DHI milk samples. 
D. E. Santschi, R. K. Moore and D. M. Lefebvre, Valacta, Ste-Anne-de-Bellevue, QC, Canada

Role of treatment soybean meal with pistachio extract on total tract nutrients digestibility of Holstein bulls. 
A. Jolazadeh, M. Dehghan banadaky, K. Rezayazdi and N. Vahdani, University 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, 4university of Tehran, karaj, Iran

Effect of polyherbal supplementation as feed additive on milk production and composition in lactating goats. 
K. Rezayazdi, F. Mirzaei and M. Hosseinabadi, 1Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, 3Animal Science Research Institute, Karaj, Iran, 4University of Tehran, Karaj, Iran

Changes of protozoal diversity in response to forage and protein of diets in the rumen of dairy cows. 
J. Zhang, D. Bu, S. Zhao and J. Wang, State Key Laboratory of Animal Science, Institute of Animal Science, Chinese Academy of Agricultural Science, Beijing, China

Pyrosequencing-based profiling of bacterial 16S rRNA genes identifies the unique Proteobacteria attached to the rumen epithelium of bovines.
Genetic diversity of dipeptidyl peptidase IV from anaerobic bacterial cultivation in vitro in dairy cow.
J. W. Zhao, J. Q. Wang, S. G. Zhao and D. P. Bu, College of Animal Science and Technology of Inner Mongolia University for the Nationalities, Tongliao, China; State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

Effects of test weight, precision processing and processing index on in situ ruminal digestibility of barley grain in beef heifers.
Y. Zhao, S. Yan, Z. He, U. Anele, M. L. Swift, T. A. McAllister and W. Yang, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada; College of Animal Science, Inner Mongolia Agricultural University, Huhhot, China; Key Laboratory for Agro-Ecological Processes in Subtropical Region, Institute of Subtropical Agriculture, The Chinese Academy of Sciences, Changsha, China; Alberta Agriculture and Rural Development, Lethbridge, AB, Canada; Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Longitudinal shifts in the rumen bacterial communities of dairy cows during the transition period.
D. W. Pitta, S. Kumar, B. Vieccharelli, B. Bhukya, K. Bittinger, D. Shirley and J. Ferguson, University of Pennsylvania, Kennett Square, University of Pennsylvania, Philadelphia

Effects of assumptions on estimating energetic efficiencies in lactating dairy cows.
K. M. Kennedy and C. C. Calvert, University of California - Davis, Davis, CA

Nutrient supply estimations errors when using free ruminal bacteria as reference sample.
F. Díaz-Royón, J. M. Arroyo and J. Gonzalez, Departamento de Producción Animal, Escuela Técnica Superior de Ingenieros Agrónomos, Universidad Politécnica de Madrid, Madrid, Spain

Evaluation of the Nordic Dairy Cow Model Karoline in Predicting Methane Emissions.
M. Ramin and P. Huhtanen, Swedish University of Agricultural Sciences (SLU), Umeå, Sweden; Swedish University of Agricultural Sciences (SLU), Umeå, Sweden

Effects of different feeding frequencies on rumen tissue histology and cell proliferation of feedlot cattle.
T. V. Carrara, J. Silva, M. C. Pereira, I. C. Batista Junior, C. A. Oliveira, A. C. J. Pinto, D. D. Estevam, M. D. Arrigoní, F. T. Pereira and D. D. Millen, São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil; São Paulo State University (UNESP), Dracena campus, Dracena, Brazil; Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

Survey of nutritional recommendations used by dairy cattle nutritionists in Brazil in 2013.
D. P. Silva, A. M. Pedroso, T. V. Carrara and D. D. Millen, São Paulo State University (UNESP), Dracena campus, Dracena, Brazil; São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil; Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

Effects of type of base forage on the Beta-carotene content of milk and blood plasma in lactating Holstein cows.
H. C. Leicester and L. J. Erasmus, University of Pretoria, Pretoria, South Africa

Effect of acute exposure to ergot alkaloids on short-chain fatty acid absorption and barrier function of isolated bovine ruminal epithelium.
A. P. Foote, G. B. Penner, M. E. Walpole, J. L. Klotz, L. P. Bush and D. L. Harmon, USDA, ARS, US Meat Animal Research Center, Clay Center, NE; University of Saskatchewan, Saskatoon, SK, Canada; USDA-ARS, FAPRU, Lexington, KY; University of Kentucky, Lexington

Evaluation of the CNCPs v6.5 for predicting metabolizable energy and protein allowable milk in sugarcane based diets.
E. A. Collao-Saez, A. Foskolos, R. J. Higgs, M. N. Pereira and M. E. Van Amburgh, Universidade Federal de Goiás, Jataí-GO, Brazil; Cornell University, Ithaca, NY; Universidade Federal de Lavras, Lavras, Brazil

Effects of different feeding frequencies on DMI variation and selective consumption by feedlot cattle.
J. Silva, T. V. Carrara, M. C. Pereira, D. V. Vicari, I. C. Batista Júnior, L. A. Tomaz, D. H. Watanabe, A. L. Rigueiro, M. D. Arrigoní and D. D. Millen, São Paulo State University (UNESP), Dracena campus, Dracena, Brazil; São Paulo State University (UNESP), Botucatu campus, Botucatu, Brazil; Supported by São Paulo State Foundation (FAPESP), São Paulo, Brazil

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. Souza, R. C. Souza, A. B. D. Pereira, R. F. Cota, T. A. Torres, I. B. Fortes and G. V. Fonseca, PUC Minas, Betim, Brazil; University of New Hampshire, Durham, NH; PUC, Betim, Brazil
Effects of supplemental bupleurum extract on blood material metabolism in heat-stressed dairy cows.  
X. Sun1, Ministry of Agriculture - Laboratory of Quality & Safety Risk Assessment for Dairy Products (Beijing), Beijing, China

Evaluation of the updated version of CNCPS (v6.5).  
A. Foskolos1, E. A. Collaço-Saenz2, D. A. Ross3, R. J. Higgs3 and M. E. Van Amburgh4, 4Cornell University, Ithaca, NY, 2Universidade Federal de Goiás, Jataí-GO, Brazil

Effects of bupleurum extract on performance and health status in heat-stressed late lactation dairy cows.  
B. Shi1,2, N. Zheng1, J. Cheng1,2, L. Min1, C. Yin1 and J. Wang1,2,3, 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

Estimation of NDF pool in the rumen of cattle using fecal excretion and diet characteristics.  
H. C. Bonfá1,2, E. Detmann2, S. Križan2, S. C. Valadares Filho1 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

Performance and carcass traits of immunocastrated Nellore cattle fed to β-agonists.  
D. Silva Antonelo1, M. Rezende Mazon1, K. Eduardo Zanoni Nubiato1, D. Juliana Brigida1, J. Fernando Morales Gomes2, B. Luis Nery Garcia1, M. Zanatti1, P. R. Leme1 and S. Luz e Silva3, 1University of São Paulo, Pirassununga, Brazil, 2University of Cundinamarca, Fusagasugá, Colombia, 3University of São Paulo / FZEA, Pirassununga, Brazil

Effects of supplemental bupleurum extract on blood material metabolism in heat-stressed dairy cows.  
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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. Wang1,2,3, 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, 4Ministry of Agriculture - Milk and Dairy Product Inspection Center (Beijing), Beijing, China

Effects of supplemental bupleurum extract on blood material metabolism in heat-stressed dairy cows.  
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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. Fukumatsu1, J. C. D. C. Balseiro1, A. O. Latorre1, L. B. Correa1 and M. A. Zanetti4, 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

Effects of feeding a corn straw or mixed forage diet on immune function in dairy cows.  
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Fatty acid composition of milk from cows supplemented with canola oil.  
K. C. Welter, C. M. de Magalhães Rodrigues Martins, M. M. Martins, B. Roqueto dos Reis, J. G. Rebelato Forti, A. Soligo Vizeu de Palma, B. L. Unglaube Schmidt and A. Saran Neto1, 1University of São Paulo, Pirassununga, Brazil

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
1810 W269 Influence of forage level and corn processing method on feeding behavior of Nellore bulls.
M. Caetano, A. R. Cabral, G. B. Feltrin, R. S. Goulart, S. Luz e Silva, P. R. Leme and D. P. D. Lanna
1University of Sao Paulo / ESAQ, Piracicaba, Brazil, 2current address University of Adelaide, Roseworthy, Australia, 3University of Sao Paulo / FZEAA, Pirassununga, Brazil, 4MSD Saúde Animal, Sao Paulo, Brazil

1811 W270 Evaluation of a hand-held meter to detect subclinical ketosis in dairy cows.
Z. J. Cao, S. S. Xu and S. L. Li, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China

1812 W271 Effects of rumen protected choline supplementation on milk yield and plasma metabolites in dairy cows fed hay based diets.
L. Pinotti, M. Ottoboni, V. Caprarulo, A. Pioletto, A. Agazzi, G. Invernizzi, Università degli Studi di Milano, Dept. VESPA, Milan, Italy

1813 W272 Liver metabolism of Holstein cows is altered by nutrient supply but not by lipopolysaccharide in vitro.
M. Garcia, B. J. Bequette and K. M. Moys, Department of Animal and Avian Sciences, University of Maryland, College Park

1814 W273 Effects of postruminal infusion of fructose on hepatic steatosis.
K. E. Boesche, J. E. Sibray, S. L. Koser and S. S. Donkin, Purdue University, West Lafayette, IN

1815 W274 Effects of rare earth-chitosan chelate on liver and kidney parameters in lactating dairy cows.
J. Li, Q. Wang, P. Sun, F. D. Li and D. P. Bu
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

1816 W275 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.
B. N. Gordon, S. W. Hahn, J. J. Wagner, J. S. Jennings, H. Han and T. E. Engle
1Colorado State University, Fort Collins, 2Texas A&M AgrilLife Research, Amarillo, TX

1817 W276 Effects of rumen-protected choline during the transition period on nonesterified fatty acids and β-hydroxybutyrate concentrations in periparturient dairy cattle.
1Universidade Federal do Paraná, Curitiba - Paraná, Brazil, 2StarMilk Farm, Céu Azul - Paraná, Brazil

1818 W277 Effects of replacing alfalfa hay and corn silage with corn straw in diets on main hormones in blood of dairy cows.
X. Q. Zhou, D. P. Bu, Y. D. Zhang, M. Zhao, P. Sun and J. Q. Wang
1Heilongjiang Bayi Agricultural University, Daqing, China, 2State Key Laboratory of Animal Nutrition, Institute of Animal Science, Chinese Academy of Agricultural Sciences, Beijing, China

1819 W278 Body condition score at calving alters the hepatic transcriptome in grazing dairy cattle.
1University of Illinois, Urbana, 2DairyNZ, Hamilton, New Zealand, 3AgResearch, Hamilton, New Zealand

1820 W279 Short Term Feed Restriction Increases Afternoon but not Morning Milk Fat Concentration in Lactating Dairy Cows. A. M. Abdelatty, A. E. Weidman, B. B. Teter, M. A. Tony, F. F. Mohammad and R. A. Erdman
1Cairo University, Cairo, Egypt, 2University of Maryland, College Park

1821 W280 The mRNA expression of the classical genes of enzymes involved in milk fatty acid synthesis does not explain milk fat depression in dairy cows.
A. Siuruna, D. Gallardo and S. Calsamiglia, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain

1822 W281 Effects of niacin supplementation and forage type on milk, digestibility, blood parameters and body temperature in lactating dairy cows.
R. B. Standish, 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

1823 W282 Differences in hepatic transcriptional regulatory networks due to body condition score at calving in grazing dairy cattle.
1University of Illinois, Urbana, 2DairyNZ, Hamilton, New Zealand, 3AgResearch, Hamilton, New Zealand

1824 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, H. Y. Wang, D. P. Bu and H. B. Zhu
1Embryo 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. Souza\textsuperscript{1,2}, F. Batistel\textsuperscript{3}, C. Sitta\textsuperscript{4} and F. A. P. Santos\textsuperscript{5}, \textsuperscript{1}University of Sao Paulo, Piracicaba, Brazil, \textsuperscript{2}University of Sao Paulo, Piracicaba, Brazil


Peroxisome proliferator activated receptor-γ controls lipogenic gene networks in goat mammary epithelial cells. W. Zhao\textsuperscript{7,2}, J. Luo\textsuperscript{8} and J. J. Loor\textsuperscript{9}, \textsuperscript{1}Northwest A & F University, Yangling, China, \textsuperscript{2}University of Illinois, Urbana

Effects of Ergot Alkaloid Exposure on Serotonin Receptor mRNA in the Smooth Muscle of the Bovine Gastrointestinal Tract. J. L. Kloetz\textsuperscript{10}, D. Kim\textsuperscript{11}, A. P. Foote\textsuperscript{12} and D. L. Harmon\textsuperscript{13}, \textsuperscript{1}USDA-ARS, FAPRU, Lexington, KY, \textsuperscript{2}University of Kentucky, Lexington

Effect of mineral supplementation on lactational performance in early-lactating cows fed a high-concentrate diet. A. R. Alfonso-Avila\textsuperscript{14}, E. Charbonneau\textsuperscript{15}, P. Y. Chouinard\textsuperscript{16}, G. Tremblay\textsuperscript{17} and R. Gervais\textsuperscript{18}, \textsuperscript{1}Université Laval, Québec, QC, Canada, \textsuperscript{2}Agriculture and Agri-Food Canada, Soils and Crops Research and Development Centre, Québec, QC, Canada

Mineral profile, immunoglobulins and antioxidant activity in culls cows fed DDGS. A. Flores-Marínelarena\textsuperscript{19}, E. Acosta Sánchez\textsuperscript{1}, G. Corral-Flores\textsuperscript{20}, C. Rodríguez-Muela\textsuperscript{21}, J. A. Ramírez-Godínez\textsuperscript{1}, J. Domínguez-Viveros\textsuperscript{22}, A. Anchondo-Garay\textsuperscript{23} and H. Ramírez-Garduño\textsuperscript{24}, \textsuperscript{1}Universidad Autónoma de Chihuahua, Chihuahua, México, \textsuperscript{2}INIFAP, Chihuahua, Mexico

Metabolic Characteristics and Truly Metabolizable Protein Supply to Dairy Cattle from New Cool-Season Forage Corn Varieties in Western Canada. S. Abysekara, D. A. Christensen, N. A. Khan, X. Huang\textsuperscript{25} 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. Osorio\textsuperscript{26}, P. JF, J. K. Drackley\textsuperscript{27}, D. N. Luchini\textsuperscript{28} and J. J. Loor\textsuperscript{29}, \textsuperscript{1}University of Illinois, Champaign, IL, \textsuperscript{2}William H. Miner Agricultural Research Institute, Chazy, NY, \textsuperscript{3}University of Illinois, Urbana, \textsuperscript{4}Adisseo S.A.S., Alpharetta, GA, \textsuperscript{5}University of Illinois, Urbana-Champaign

Feed intake and Feeding Behavior of lactating dairy cows were affected by dietary fatty acid profile. H. Khaliaviand-Behroozvaz\textsuperscript{30}, M. Dehghan Banadaky\textsuperscript{31}, M. Ghaffarzadeh\textsuperscript{32} and K. Rezaayazdi\textsuperscript{33}, \textsuperscript{1}Department of Animal Science, Urmia University, Urmia, Iran, \textsuperscript{2}Department of Animal Science, University of Tehran, Karaj, Tehran, Iran, \textsuperscript{3}Chemistry 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. Ferrinho\textsuperscript{34}, F. Baldi\textsuperscript{35}, B. M. Toda\textsuperscript{36}, B. L. Utembergue\textsuperscript{37}, B. L. Utembergue\textsuperscript{38}, R. R. Germaino\textsuperscript{39}, A. S. C. Pereira\textsuperscript{40}, P. R. Leme\textsuperscript{41} and S. L Silva\textsuperscript{42}, \textsuperscript{1}Universidade de São Paulo, Pirassununga, Brazil, \textsuperscript{2}Universidade Estadual Paulista “Júlio 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 Valle\textsuperscript{43}, V. C. Galvão\textsuperscript{4}, F. C. R. D. Santos\textsuperscript{5}, E. F. Jesus\textsuperscript{6}, A. G. B. V. B. Costa\textsuperscript{7}, C. E. C. Consentinini\textsuperscript{8}, G. F. D. Almeida\textsuperscript{9}, G. F. Cabral\textsuperscript{10}, F. Zanferari\textsuperscript{11} and F. P. Remo\textsuperscript{12}, \textsuperscript{1}School of Veterinary Medicine and Animal Science, University of São Paulo, Pirassununga, Brazil, \textsuperscript{2}School of Agricultural and Veterinary Sciences of UNESP, Jaboticabal, Brazil, \textsuperscript{3}School of Agriculture and Veterinary Sciences of UNESP, Jaboticabal, Brazil

Plasma urea concentration of beef heifers fed with different lipid sources and frequency supplementation. M. C. A. Santana\textsuperscript{13}, V. C. Modesto\textsuperscript{14}, G. T. Pereira\textsuperscript{15}, R. A. Reis\textsuperscript{16}, M. P. Melo\textsuperscript{17}, H. J. U. Costa\textsuperscript{18}, T. T. Berchielli\textsuperscript{19} and L. P. L. Moreira\textsuperscript{1}, \textsuperscript{1}Emater, Goiânia, Brazil, \textsuperscript{2}UNESP, 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. McLean\textsuperscript{20}, A. M. Meyer\textsuperscript{21}, L. R. Coupe\textsuperscript{22}, G. P. Lardy\textsuperscript{23}, K. A. Vonnahme\textsuperscript{24} and J. S. Caton\textsuperscript{25}, \textsuperscript{1}North Dakota State University, Fargo, \textsuperscript{2}Division 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.
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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. Dalantonia, L. R. Simonetti, M. B. Abra and T. T. Berchielli, Universidade Estadual Paulista Júlio de Mesquita Filho - UNESP, Jactobatal, Brazil

1840 W299 Effect of propolis on plasma metabolites and hematocrit of Holstein calves.
P. Pervan1*, K. Rezayatz2 and G. Nehzati1, 1University of tehran, tehran, Iran, 2Associate Professor, Department of Animal Science, Faculty of Agriculture, University of Tehran, Karaj, Iran, 3University 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. McLean1*, A. M. Meyer1, L. R. Coupe1, G. P. Lardy1, K. A. Vonnahme2 and J. S. Caton3, 1North Dakota State University, Fargo, 2Division 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. Huang1, 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. Rico1, 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. Kim1*, J. L. Klotz1 and D. L. Harmon1, 1University of Kentucky, Lexington, 2National Institute of Animal Science, Rural Development Administration, Suwon, South Korea, 3USDA-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. Silva1, A. M. Jorge2, F. D. Resende3, G. R. Siqueira4, G. F. Bertí5, C. L. Francisco1 and A. M. Castilhos1, 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, 4APTA-Polo Regional Alta Mogiana, Colina, Brazil, 5Centro Universitário de la 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 Silva1, T. E. Engle1, P. P. Rotta1, S. C. Valadares Filho2, R. D. Valadares1, F. A. S. Silva4 and E. C. Martins4, 1Colorado State University, Fort Collins, 2Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Minas Gerais, Brazil, 3Universidade Federal De Vicoasa, Viçosa, Brazil, 4Universidade Federal de Viçosa, Viçosa, Brazil

1851 W310 Ration composition in Wisconsin dairy herds: factors affecting fertility.
A. H. Souza1, P. D. Carvalho2, C. M. Drake3, R. D. Shaver4 and M. C. Wilthank2, 1University of California Cooperative Extension, Tulare, CA, 2University of Wisconsin, Madison, 3University of California, Davis, CA

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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. Gadke1, K. Koone2, S. harris3, M. kirk4 and D. Casper, 1South Dakota State University, Brookings, 2Masters Choice, Anna, IL, 3masters Choice, Anna, IL

1854 W313 Transcriptome profiling of milk in dairy cows fed linseed.
A. Siurana1, D. Gallardo and S. Calsmaglia, Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autonomà de Barcelona, Bellaterra 08193, Spain

S. Kargar1, M. Khovash1, G. R. Ghorbani2 and D. J. Schingoethe3, 1Isfahan University of Technology, Isfahan, Iran, 2Isfahan university of technology, isfahan, Iran, 3South Dakota State University, Brookings

1856 W315 Altering ewe nutrition in late gestation: the impact on lamb performance.
F. McGovern1, F. Campion1, T. Sweeney1, S. Fair1, S. Lott1 and T. M. Boland1, 1School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland, 2College of Agriculture, Food Science and Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland, 3Department of Life Sciences, University of Limerick, Limerick, Ireland

1857 W316 A sensory additive alters the eating behavior of dry dairy cows.
C. Iglesias1, F. Bargo2, A. Mereu1, I. Ipharraguerre1 and A. Bach1, 1IRTA, Barcelona, Spain, 2Lucta S.A., Barcelona, Spain, 3ICREA, Barcelona, Spain

1858 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. Vicari1, A. Perdigao2, L. L. Cursino1, R. S. Barducci2, M. D. Arrigoni2 and D. D. Millen2, 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

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. Hall1, F. A. Villar1, J. D. Allen2, J. D. Chapman2, N. M. Long3 and R. J. Collier4, 1The University of Arizona, Tucson, 2Northwest Missouri State, Maryville, MO, 3Prince Agri Products, Inc., Quincy, IL, 4Clemson University, Clemson, SC

1860 W319 Assessment of the effect of plant tannins on rumen fermentation and gut microbial diversity in goats using 16S rDNA amplicon pyrosequencing.
B. R. Min1, C. Wright1, P. Ho2, J. S. Eun3, N. Gurung1 and R. Shang4, 1Tuskegee University, Tuskegee, AL, 2Montgomery Blair High School, Silver spring, MD, 3Utah State University, Logan

1861 W320 Effect of supplemental chelated Cu, Zn, and Mn on antioxidant status and hoof health of lactating cows.
X. J. Zhao1, J. H. Wang2, Y. M. Wang3 and L. Wang2, 1College of Animal Science and Veterinary Medicine, Shandong Agriculture University, taian, China, 2College of Animal Science, Zhejiang University, hangzhou, China, 3Novus 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. Sun1,2, J. Cheng1,2,3, D. P. Bu1, L. Pan1, N. Zheng1,3,4 and J. Wang1,2,3, 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, 4Ministry 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 Valle1, E. F. Jesus1, A. G. B. V. B. Costa1, G. F. Cabral1, V. C. Galvão2, P. G. D. Paiva2, T. S. Acedo4, L. F. M. Tamassia2 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, 4DSM 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. Zhao1, D. P. Bu2, J. Q. Wang3, X. Q. Zhou1,2, Y. Zhang2 and P. Sun1, 1State Key Laboratory of Animal Nutrition,
1866 W325 The Small Ruminant Nutrition System: Considering the ruminal fiber stratification for goats.  
J. G. L. Regadas Filho1, L. O. Tedeschi2, A. Cannas1, M. T. Rodrigues2 and R. A. Vieira2, 1Universidade Federal de Vícosa, Vícosa, Brazil, 2Texas A&M University, College Station, 3Universidad Nacional de Colombia, Bogota, Colombia, 4Universidad Federal de Viçosa, Vícosa, Brazil, 5Norte 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. Temple1,2, G. A. Ayangbile1, D. R. Vandermyde3 and C. R. Vandermyde3, 1Agri-King Inc., Fulton, IL, 2Morrison Veterinary Clinic, Morrison, IL

1868 W327 Effect on plasma metabolites of Nellore bulls fed Ractopamine hydrochloride and protein level.  
N. R. B. Cónsolo1,2, F. Rodriguez1, M. O. Frasseto1, R. A. P. Maciel2, V. Rizzi1 and L. F. P. Silva1, 1University of Sao Paulo, Pirassununga, Brazil, 2University of Sao Paulo, São Paulo, Brazil, 3Ouro Fino, Cravinhos, Brazil

1869 W328 Impact of "COGU" technology on performance in lactating dairy cows.  
A. M. Temple1, 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. Naumann1, N. M. Cherry2, L. O. Tedeschi3, J. P. Muir2,3 and B. D. Lambert2,4, 1University of Missouri, Columbia, 2Texas A&M AgriLife Research, Stephenville, TX, 3Texas A&M University, College Station, 4Tarleton 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. Hafla1, K. J. Soder1, A. F. Brito1, M. D. Rubano1 and C. J. Dell1, 1USDA-Agricultural Research Service, University Park, PA, 2University of New Hampshire, Durham, NH

1872 W331 Effect of lalsil® bacterial inoculants on the pH of corn silage with low dry matter.  
M. Saberi1,2, K. Rezayatiz1 and M. Dehghan banadaky3, 1Graduated student, Department of Animal Science, Faculty of Agriculture, University 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

1873 W332 The microbiome composition of the rumen is altered during the peripartal period in dairy cattle.  
H. Derakhshani1, S. Alqarni2, H. Khazaneha3, F. C. Cardoso2, J. C. Plaizier4, E. Khafipour5,6 and J. J. Loor2,4, 1Department of Animal Science, University of Manitoba, Winnipeg, MB, Canada, 2University of Illinois, Urbana, 3Department of Medical Microbiology and Infectious Diseases, Winnipeg, MB, Canada, 4University of Illinois, Urbana-Champaign

1874 W333 Evaluating rations offered to a group of cattle as a component of ration formulation software.  
J. Ferguson1,2, Z. Wu1, D. T. Galligan2, L. Baker2 and N. Thomsen2, 1University of Pennsylvania, Kennett Square, 2University 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. Bach1,2, A. Pinto1 and M. Blanch2, 1Department of Ruminant Production, IRTA, Caldes de Montbui, Spain, 2ICREA, Barcelona, Spain, 3Department of Ruminant Production, IRTA, Barcelona, Spain, 4Novus Int. Inc., St Charles, MO

1876 W335 Apparent synthesis of thiamin and vitamin B12 in rumen of lactating dairy cows fed alfalfa or orchardgrass silages at different maturity stages.  
D. S. Castagnino1,2, K. Kammes3, M. S. Allen1, R. Gervais1, P. Y. Chouinard1, D. E. Santschi2 and C. L. Girard2, 1Université Laval, Québec, QC, Canada, 2Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 3Michigan State University, East Lansing, 4Valacta, 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 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. Trujillo1, M. D. L. A. Brun2 and P. Chilibroste1, 1Facultad de Agronomía, Universidad de la Republica, Montevideo, Uruguay, 2Facultad de Agronomía Universidad de la Republica, Paysandu, Uruguay, 3Facultad de Agronomía Universidad de la Republica, Paysandu, Uruguay

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. Gervais1, P. Y. Chouinard1, P. Nosiere1, B. Graule1, M. Doreau1 and C. L. Girard1, 1Université Laval, Québec, QC, Canada, 2Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 3INRA-URH, Saint Genès Champanelle, France

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. Kamms1, M. S. Allen2, R. Gervais1, P. Y. Chouinard1, D. E. Santschi1 and C. L. Girard1, 1Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 2Michigan State University, East Lansing, 3Université Laval, Québec, QC, Canada, 4Valacta, Ste-Anne-de-Bellevue, QC, Canada

1883 W342 Concentration of vitamin B12 incolostrum and milk from dairy cows fed different energy levels during the dry period. M. Duplessis1,2, S. Mann1, D. V. Nydam1, C. L. Girard2, D. Pellerin1 and T. R. Overton1, 1Université Laval, Département des sciences animales, Québec, QC, Canada, 2Agriculture & Agri-Food Canada, Sherbrooke, QC, Canada, 3Cornell University, Department of Population Medicine and Diagnostic Sciences, Ithaca, NY; 4Cornell University, Department of Animal Science, Ithaca, NY


1885 W344 Diet influences microbial community composition, and methane emission in growing and finishing beef cattle. S. C. Fernando1,2, 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-Behroozifar2, M. Dehghan Banadaky2, M. Ghaffarzadeh1 and K. Rezayazdi1, 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. Hassanat1, C. Benchaar1 and R. Gervais1, 1Université Laval, Québec, QC, Canada, 2Agriculture and Agri-Food Canada, Dairy and Swine Research and Development Centre, Sherbrooke, QC, Canada


1889 W348 Bioassay activity of different tannin sources by gas production technique. N. Vahldani1, M. Dehghan banadaky2, F. khalig-ht-Sigaroudi1 and K. Rezayazdi1, 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


1890 W349 Differences in formulation and bioavailability of commercial injectable fat-soluble vitamin products. D. B. Snider1, R. A. Zimm1 and R. L. Stuart1, 1Iowa State University, Ames, 2University of California-Davis, El Centro, CA, 3Stuart 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.

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1892 W351 Effects of supplemental bupleurum extract on serum hormone and immune globulin levels in heat-stressed dairy cows.
X. Sun*, J. Cheng*, N. Zhong*, D. P. Bu*, L. Pan* and J. Wang* 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

1893 W352 Influence of additional tannins extract level on feedlot performance of finishing hair lambs.
R. Barajas*, E. B. Bonilla, L. R. Flores, J. J. Lomeli and J. A. Romo, FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Mexico

1894 W353 Supplementation of dairy cows before calving with beta-carotene.
R. C. Oliveira*, B. M. Guerreiro*, N. N. Morais Junior*, R. L. Araujo*, R. A. N. Pereira* and M. N. Pereira* 1Universidade Federal de Lavras, Lavras, Brazil, 2Universidade de São Paulo, São Paulo, Brazil, 3Instituto Federal de Educação, Ciência e Tecnologia do Espírito Santo, Colatina, Brazil, 4Empresa de Pesquisa Agropecuária de Minas Gerais, Lavras, Brazil, 5Better Nature Research Center, Ijaci, Brazil

1895 W354 Relationship Between Residual Feed Intake and Mitochondrial Function.
M. M. Masiero*, M. S. Kerley and W. J. Sexten, University of Missouri, Columbia

1896 W355 Bioavailability of Rumen Protected Choline Sources When Supplemented at Different Concentrations.

1897 W356 Effect of method of flaxseed processing and tannins on the growth performance and carcass fatty acid profile of lambs.
E. Castillo-Lopez*, M. Edrosolam, P. J. Shand, 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*, T. E. Engle*, S. C. Valadares Filho*, P. P. Rotta*, M. I. Marcondes*, B. C. Silva* and M. V. C. Pacheco*, 1Colorado State University, Fort Collins, 2Universidade Federal de Viçosa, Department of Animal Science, Viçosa, Minas Gerais, Brazil, 3Universidade Federal de Viçosa, Víciosa, Brazil, 4Universidade Federal de Viçosa, Viçosa, Minas Gerais, 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*, I. Filya*, V. Akay* and A. Kamalak*, 1University of Uludag, Faculty of Agriculture, Department of Animal Sciences, Bursa, Turkey, 2Global Nutritech Biotechnology LLC, Richmond, VA, 3University 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*, West Virginia University, Morgantown, WV

1919 W360 Anthelmintic activity of selected aldehydes and ketones against sheep gastro-intestinal nematodes.
E. Ortu*, G. Sanna*, A. Scala*, G. Pulina*, M. I. Marcondes and L. Pan*, 1Faculty of Agriculture, Department of Animal Sciences, University of Sassari, Sassari, Italy, 2Dipartimento di Medicina Veterinaria, University of Sassari, Sassari, Italy, 3Dipartimento 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*, J. G. Hickford*, W. R. Lamberson*, B. C. Shanks* and S. Azarpajouh*, 1Department of Agriculture and Environmental Sciences, Lincoln University, Jefferson City, MO, 2Lincoln University, Lincoln, New Zealand, 3University of Missouri, Columbia

1921 W362 The Effects of Gonadotropic Stimulation on Fertility of Progesterone-treated Nulliparous Ewes Bred During Seasonal Anestrus.
A. K. Redhead*, 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. Cavini1, S. Iraira1, A. Siurana2, A. Foskolos1, A. Ferre1, M. A. Gomez2, and S. Calsamiglia1, 1Animal Nutrition and Welfare Service, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra 08193, Spain, 3Nutega/Novation, Madrid, Spain

1924 W365 Nutrients intake and performance of lambs fed diets with two levels of crude protein and concentrate. 
R. S. Santos1, K. G. Ribeiro2, O. G. Pereira3, S. C. Valadares Filho1, S. D. J. Villela4, J. L. Silva1 and P. G. F. Duarte1, 1Federal University of Viçosa, Viçosa, Minas Gerais, Brazil, 2Universidade Federal de Viçosa, Viçosa, Minas Gerais, Brazil, 3Universidade Federal de Viçosa, Viçosa, 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. Polizel1, R. S. Gentil1, E. M. Ferreira1, R. A. Souza1, M. V. C. Ferraz Jr2, M. C. A. Sucupira2 and I. Susin1,1 Escola 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. Souza1, R. S. Gentil1, E. M. Ferreira1, D. M. Polizel1, A. P. A. Freire1, J. A. Faleiro Neto1 and I. Susin1,1 Escola 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. Freire1, I. F. L. M. Silva1, D. M. Polizel1, R. A. Souza1, R. S. Gentil1, R. C. Araujo2 and I. Susin1,1 Escola 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. Dávila-Ramos1 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. Penna1, M. I. Simão2, F. P. Paula3, M. O. Leite4, M. P. Cerqueira1, L. M. Fonseca1, M. R. Souza1 and I. Borges1, 1Universidade Federal de Minas Gerais (School of Veterinary Medicine), Belo Horizonte, Brazil, 2Universidade Federal de Minas Gerais (Veterinary School/ UFMG), Belo Horizonte, Brazil, 3Faculdade Universitária Rural, 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. Turner1, M. B. Gordon2, T. Gow2, J. A. Small2 and D. M. W. Barrett1, 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. Adewumi1 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. Angulo1, I. C. Perez2, A. Plascencia1, H. L. Lopez1, P. M. Peraza2, E. I. Gonzalez1 and F. G. R. Rincon1, 1Universidad Autonoma Of Sinaloa, Culiacan Sinaloa, Mexico, 2Universidad Autonoma De Sinaloa, Culiacan Sinaloa, Mexico, 3Unesp, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, SP, Brazil, 4Unesp, Jaboticabal, Brazil, 5Unesp, Univ Estadual Paulista, Department of Animal Science, Jaboticabal, Brazil, 6State University of Sao Paulo, Jaboticabal, Brazil

1934 W375 Performance of lambs fed with crude glycerin diets. 
V. B. Carvalho1, J. M. Bertocco Ezequiel2, R. F. Leite3, S. F. F. Petrorossi2, T. R. Delphino2, H. L. Perez2, J. R. Paschoaloto2, T. M. C. Almeida3, V. R. Favaro2 and E. H. Fernandes3, 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
1935 W376 Sexual response of anovulatory dorper x pelibuey nulliparous and multiparous ewes exposed to males + estrogenized females.  
M. D. L. A. De Santiago*, Universidad Autonoma Agraria Antonio Narro, Torreon, Mexico

1936 W377 Feeding behavior of feedlot lambs fed with high levels of crude glycerin.  
V. B. Carvalho1, J. M. Bertocco Ezequiel2, R. F. Leite1, S. F. F. Petrozzi1, T. R. Delphino1, M. T. C. Almeida2, J. R. Paschoaloto1, H. L. Perez1, V. R. Favaro2, E. M. Oliveira1 and A. P. D’Aurea1, 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 W378 Withdrawn

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. Figueroa1,2, D. Solá-Oriol3, R. Davin4, E. Borda5, S. A. Guzmán-Pino5 and J. F. Pérez4, 1SNiBA, Departament de Ciencia Animal i dels Aliments, Universitat Autònoma de Barcelona, Bellaterra, Spain, 2Universidad de Chile, Santiago, Chile, 3Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain, 4Universidad de Chile, Santiago, Chile, 5Animal Nutrition and Welfare Service, Department of Animal and Food Sciences, Universitat Autònoma de Barcelona, Bellaterra, Spain, 6Bioiberica, Barcelona, Spain

F. Han1, 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. Che2, 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. Paul1, M. D. Tokach, S. S. Dritz, J. M. DeRouchey and R. D. Goodband, Kansas State University, Manhattan

L. Hu, L. Che, Y. Liu, Y. Xuan, F. Han, Z. Fang, Y. Lin, S. Xu and D. Wu, Institute of Animal Nutrition, Sichuan Agricultural University, Chengdu, China

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

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


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. Thomas7, Y. V. Thaxton7, A. H. Brown, Jr.7, K. E. Pfalzgraf7, K. D. Christensen7, K. Anschutz7 and C. F. Rosenkrans4, 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*, T. L. Covey*, T. E. Lawrence* and J. T. Richeson*, 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. Herson*, T. A. Thrift and J. V. Yelich, University of Florida, Gainesville
11:00 AM 146 A Meta-analysis of Zilpaterol and Ractopamine Effects on Feedlot.
I. J. Lean1, J. M. Thompson2 and F. R. Dunseh1,3, 1SBScibus, Camden, Australia, 2The University of New England, Armidale, Australia, 3The University Of Melbourne, Parkville, Australia

11:15 AM 147 Evaluation of objective and subjective mobility variables in feedlot cattle supplemented with zilpaterol hydrochloride.
W. C. Burson1, A. J. Thompson1, M. A. Jennings1, J. A. Carroll2, N. C. Burdick Sanchez2, J. E. Hergenreder2, J. O. Baggerman1, B. J. Ragland1, E. S. Murray1, T. R. Schmidt1, K. S. Sharon1, F. R. B. Ribeiro1, B. J. Johnson1 and R. J. Rathmann1, 1Texas Tech University, Lubbock, 2USDA-ARS, Livestock Issues Research Unit, Lubbock, TX

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

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. Xu1, Y. Gong1 and J. A. Lucey2,3, 1University of Wisconsin-Madison, Department of Food Science, Madison, WI, 2Wisconsin Center for Dairy Research, Madison, WI, 3University of Wisconsin - Madison, Madison

10:45 AM 267 Impact of Maillard Modification on the in vitro Carbohydrate Digestibility of WP-Dextran Glycates.
Y. Gong1, L. Xu1 and J. A. Lucey2,3, 1Department of Food Science, University of Wisconsin-Madison, Madison, 2Center 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. Luo1, 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. Liang1, G. Gillies2, H. G. Patel1, L. Matia-Merino1, A. Ye3 and M. Golding1,4, 1Massey University, Palmerston North, New Zealand, 2Fonterra Research and Development Centre, Palmerston North, New Zealand, 3South Dakota State University, Brookings, 4Riddet Institute, Palmerston North, New Zealand

11:30 AM 270 Understanding mechanisms of the plasmin-induced dissociation of the casein micelle.
H. Bhatt1, A. Cucheval1, C. Coker1, H. G. Patel1, A. Carr1 and R. Bennett1, 1Fonterra Research & Development Centre, Palmerston North, New Zealand, 2South Dakota State University, Brookings, 3Massey University, Palmerston North, New Zealand

11:45 AM 271 Heat-induced changes in milk proteins in high-carbohydrate media.
T. Huppers1,2 and H. G. Patel1, 1NIZO food research, Ede, Netherlands, 2South Dakota State University, Brookings

12:00 PM 272 Effects of pH on the Morphology and Mechanical Property of Heat-induced Whey Protein Aggregates.
C. W. Y. Lam1,4 and S. Ikeda1, 1University of Wisconsin-Madison, Madison, 2The University of Wisconsin-Madison, Madison
10:30 AM 274  
Enhancement of Radical Quenching Ability of Sweet Whey and Casein Hydrolysate: Mutual Supplementation with Thermally Generated Maillard Reaction Products.  
Z. Z. Haque1, D. Mukherjee2, Food Science, Nutrition & Health Promotion, Mississippi State University, Miss. State,  
Food 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, J. A. Lucey2 and M. Molitor2, University of Wisconsin - Madison, 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. Dahike2 and D. R. Strohbehn2, Kansas State University, Colby, Iowa 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. Flowers1, R. Baker1, R. Knox1, K. Stalder2, T. Safranski1, M. Knauser1, W. Singleton2, D. Meisinger1, C. Brandhorst2 and W. Winkelman3, Iowa Worldwide Swine Consultancy, Lincoln, NE, Virginia Tech, Suffolk, VA, North Carolina State University, Raleigh, Iowa State University, Ames, University of Illinois, Urbana, University of Missouri, Columbia, Purdue University, Lafayette, IN, US Pork Center of Excellence, Clive, IA, National 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 Haq2, A. Cowling1, H. M. Warriach1, D. M. McGill2 and P. C. Wynn3, Graham Centre for Agricultural Innovation, Charles Sturt University, Wagga Wagga, Australia, BIOMIN-Singapore Pte Ltd, Singapore, Singapore, Buffalo Research Institute, Bhanniki, Pakistan, University of Veterinary and Animal Science, Lahore, 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, National Organization for Drug Control and Research, Giza-Egypt, Department of Microbiology, Giza, Egypt, Food 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. Paradis2 and C. I. Moraru1, Cornell University, Ithaca, NY, McGill 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. Olusola1, O. J. Aremo1 and W. Y. Akweye1, Kwame Nkrumah University Of Science And Technology, Kumasi, Ghana, University of Ibadan, Ibadan, Nigeria

**Forages and Pastures II: Forages for livestock systems**

Chair: Karla H Jenkins, University of Nebraska

2102B

10:30 AM 317  
Interseeding bermudagrass pastures with alfalfa or clovers for growing calves.  
P. Beck1, D. S. Hubbell2, T. Hess2 and J. Jennings3, University of Arkansas SWREC, Hope, AR, University of Arkansas Livestock and Forestry Research Station, Batesville, Department of Animal Science, University of Arkansas, Little Rock
11:00 AM 319 Metagenomic analysis of the rumen microbiome in wheat-induced frothy bloat among steers.
D. W. Pitta\(^1\), W. E. Pinchak\(^1\), B. Veicharreli\(^1\), R. Sinha\(^1\) and D. Fulford\(^1\), \(^1\)University of Pennsylvania, Kennett Square, \(^2\)Texas A&M AgriLife Research, Vernon, TX, \(^3\)University of Pennsylvania, Kennett Square, \(^4\)University of Pennsylvania, Philadelphia, \(^5\)Texas 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. Bisinger\(^*\), 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. Paulson\(^1\), B. J. Heins\(^2\) and D. G. Johnson\(^2\), \(^1\)University of Minnesota, Hutchinson, \(^2\)University 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. Neel\(^1\) and D. P. Belesky\(^2\), \(^1\)USDA-ARS, El Reno, OK, \(^2\)West 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. Heins\(^1\), M. I. Endres\(^1\), J. Paulson\(^2\) and R. D. Moon\(^2\), \(^1\)University of Minnesota West Central Research and Outreach Center, Morris, MN, \(^2\)University of Minnesota, Saint Paul

12:15 PM 324 Chemical composition and in vitro gas production of forage cereals associated with common vetch (Vicia sativa).
M. Gonzalez Ronquillo\(^1\), E. Y. Aguilar Lopez\(^2\), A. Morales\(^2\), M. G. Gutierrez\(^2\) and O. Castelan Ortega\(^2\), \(^1\)Universidad Autonoma del Estado de Mexico, Toluca, Mexico, \(^2\)Universidad 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-Mena\(^1\), A. J. Heinrichs\(^1\), C. M. Jones\(^1\), T. M. Hil\(^2\) and J. D. Quigley\(^2\), \(^1\)The Pennsylvania State University, University Park, \(^2\)Provimi 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. Yohe\(^1\), 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. Kelly\(^1\), J. V. O’Doherty\(^1\), D. A. Kenny\(^1\), T. M. Boland\(^2\) and K. M. Pierce\(^2\), \(^1\)School of Agriculture and Food Science, University College Dublin, Dublin, Ireland, \(^2\)Teagasc Grange, Meath, Ireland

11:15 AM 373 Non-Genomic Effects of Trenbolone Acetate on Bovine Satellite Cell Proliferation.
K. J. Thornton\(^1\), E. Kamango-Sollo, M. E. White and W. R. Dayton, University of Minnesota, Saint Paul

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. Hergenreder\(^1\), J. O. Baggerman\(^1\), A. J. Thompson\(^1\), M. A. Jennings\(^1\), K. S. Spivey\(^1\), W. C. Burson\(^1\), A. J. Laurent\(^1\), G. J. Vogel\(^1\) and B. J. Johnson\(^1\), \(^1\)Texas Tech University, Lubbock, \(^2\)Elanco Animal Health, Greenfield, IN

11:45 AM 375 Identification of Potential Serum Biomarkers for Feed Efficiency in Young Pigs.
J. K. Grubbs\(^1\), S. M. Lonergan, J. C. M. Dekkers and C. K. Tuggle, Iowa State University, Ames

12:00 PM 376 Enhanced Protein Accretion and Vital Organ Growth with Intermittent Bolus Compared to Continuous Feeding in Neonatal Pigs.
S. W. El-Kadi\(^1\), C. Boutry\(^1\), A. Suryawan\(^1\), M. C. Gazzanella\(^1\), R. A. Orellana\(^1\), N. Srivastava\(^1\), H. V. Nguyen\(^1\), S. R. Kimball\(^1\), M. L. Fiorotto\(^1\) and T. A. Davis\(^1\), \(^1\)USDA/ARS - Children’s Nutrition Research Center, Baylor College of Medicine, Houston, TX, \(^2\)Animal and Poultry Sciences, Virginia Tech, Blacksburg, \(^3\)Cellular 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. Dorea, F. Batissel and D. F. A. Costa, University of Sao 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. Mirmahmoudi1,2 and B. S. Prakash2,3,1Department 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. Satter1, A. G. Tarin1, N. Ahmad1, K. Javed1, M. Ahmad2, A. Razzaq1, K. Ahmad2 and M. Younis2,3,1Department 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, Rajanpur, 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. Mercadante1,2, L. E. Kozicki1, F. M. Ciriacoi, D. D. Henry1, C. R. Dahlen1, R. N. Funston1, J. E. Larson1, G. A. Perry3, T. L. Steckler1 and G. C. Lamb4,1University of Florida, Marianna, FL, 2Pontifical Catholic University (PUCPR), Curitiba, Brazil, 3North Dakota State University, Fargi, 4University of Nebraska, North Platte, NE, 5Mississippi State University, Mississippi State, 6South Dakota State University, Brookings, 7University of Illinois, Simpson, IL

P. D. Carvalho1,2, M. J. Fuenzalida2, A. Ricci2, M. Luchterhand2, J. M. Mulcahy2, R. V. Barletta2, G. M. Baez2, V. G. Santos2, M. C. Amundson2, J. N. Guenther2, A. H. Sousa1,2,3, M. C. Wiltbank1 and P. M. Fricke1,1University 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. Roberts1,2, R. C. Vann3, D. A. Neuendorff4, B. P. Littlejohn5, D. G. Riley4, J. A. Carroll5, 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.
M. I. Naveed, A. Husnain, U. Riaz, M. Hassan, A. Sattar and N. Ahmad, Department of Theriogenology, University of Veterinary and Animal Sciences, Lahore, Pakistan

12:00 PM 527
Effects of prenatal transportation stress on endogenous and exogenously-induced LH secretion in sexually mature Brahman bulls.
B. P. Littlejohn1,2, M. C. Roberts1,2, M. N. Bedenbaugh2, A. W. Lewis2, D. A. Neuendorff2, D. G. Riley3, J. A. Carroll2, R. C. Vann3, 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, 3USDA-ARS, Livestock Issues Research Unit, Lubbock, TX.

12:15 PM 528
Comparison of methods for isolation of miRNA from bovine mi
Dublin, Dublin 4, Ireland, M. R. Sheehy

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, M. A. Coutinho da Silva1, L. H. Cruppe1, M. L. Mussard1, B. R. Harstone1, G. A. Bridges2, T. W. Geary3 and M. L. Day1, 1The Ohio State University, Columbus, 2University of Florida, NFREC, Marianna, FL, 3University of Florida, Marianna, 4Hettinger Research Extension Center, Hettinger, ND, 5North Dakota State University, Streeter

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. Wijma3 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

10:30 AM 559
Zilpaterol Hydrochloride Repartitions Chemical Components of the Empty Body of Holstein Steers.
T. J. McEvers1, N. D. May1, L. A. J. Walter1, J. P. Hutcheson1 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. Moor2 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

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 Barki 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. Nielson1, J. D. Harms1, A. F. Summers1, R. A. Vraspir1 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

12:00 PM 565
Comparison of methods for isolation of mRNA from bovine milk whey.
X. L. Jin1, H. Y. Liu2, 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. Huang, 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


11:00 AM 669 Hepatic Acetyl CoA Concentration Decreases following Feeding in Early-postpartum but not in Late-lactation Dairy Cows. P. Piantoni, 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. Rico and J. W. McFadden, 1,2 West Virginia University, Morgantown, WV, 3Johns 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. Rico and J. W. McFadden, 1,2 West Virginia University, Morgantown, WV, 3Johns Hopkins University, Baltimore, MD

11:45 AM 672 Effects of yeast product supplementation on production, feeding behavior, and metabolism in transition dairy cows. K. Yuan, T. Liang, M. Muckey, L. Mendonca, L. Hubert, L. Mamedova, C. C. Elrod and B. Bradford, 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. Lawrence, E. Kennedy, M. O’Donovan, T. M. Boland, A. Lawless and J. Patton, 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, Dunsany, 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. Lawrence, M. O’Donovan, T. M. Boland, E. Lewis and E. Kennedy, 1Teagasc, Animal and Grassland Research and Innovation Center, Moorepark, Fermoy, Co. Cork, Ireland, 3School of Agriculture and Food Science, University College Dublin, Belfield, Dublin 4, Ireland, 5Teagasc, 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. Lin, C. Zou, F. Cox, G. Henderson, P. H. Janssen, X. Liang and G. Atwood, 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. Pitta, N. Indugula, S. Kumar, K. B. Prajapath, A. K. Patel, N. Parmar, A. B. Patel, B. Reddy and C. Joshi, 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. Li, M. A. Steele, P. Azevedo, M. Carson, J. C. Plazier, H. Derakhshani and E. Khafi Pour, 1,2Department 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\textsuperscript{1,2,3}, D. K. A. Silva\textsuperscript{2}, H. D. Naumann\textsuperscript{4}, T. R. Callaway\textsuperscript{5} and L. O. Tedesco\textsuperscript{1,6} 1Texas A&M University, College Station, 2Federal Rural University of Pernambuco, Garanhuns, Brazil, 3University of Missouri, Columbia, 4USDA-ARS, College Station, TX

Use of avian antibodies against lipopolysaccharides to improve gastrointestinal function in early lactation dairy cows.
L. Ibarbia\textsuperscript{7}, F. Cunha\textsuperscript{8}, K. N. Galvão\textsuperscript{8}, F. Mannselli\textsuperscript{9}, A. Donovan\textsuperscript{1} and N. Di Lorenzo\textsuperscript{10} 1Department of Large Animal Clinical Sciences; University of Florida, Gainesville, 2University of Florida, Marianna, FL

Large-subunit rDNA based differentiation of anaerobic rumen fungi using restriction fragment length polymorphism.
D. Sumit\textsuperscript{1,2,3}, S. Kumar\textsuperscript{2,4}, D. W. Pitta\textsuperscript{5}, J. Edwards\textsuperscript{6}, T. Callaghan\textsuperscript{1}, G. Griffith\textsuperscript{1}, P. Mudgil\textsuperscript{2} and A. Punia\textsuperscript{2} 1Aberystwyth University, Aberystwyth, United Kingdom, 2National Dairy Research Institute, Karnal, India, 3Agharkar Research Institute, Pune, India, 4University of Pennsylvania, Kennett Square

Responses in rumen microbiomes of Bos taurus and Bos indicus steers fed rice straw and supplemented protein.
E. A. Latham\textsuperscript{1,2}, J. C. McCann\textsuperscript{3}, K. Weldon\textsuperscript{4}, T. A. Wickersham\textsuperscript{5}, J. Coverdale\textsuperscript{1} and W. E. Pichak\textsuperscript{6} 1Texas A&M University, College Station, 2University of Illinois, Urbana, 3Texas 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\textsuperscript{1,2}, A. K. Watson\textsuperscript{1}, R. G. Bondurant\textsuperscript{3}, S. C. Fernando\textsuperscript{4} and G. E. Erickson\textsuperscript{1} 1University of Nebraska-Lincoln, Lincoln, 2University 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\textsuperscript{1} 1University of Illinois at Urbana-Champaign, Urbana, IL

Procedures and methodology for determining the net energy content of feedstuffs.
C. M. Nyachoti\textsuperscript{1} 1University of Manitoba, Winnipeg, MB, Canada

Procedures for determining digestible and metabolizable energy contents of feedstuffs.
O. Adeola\textsuperscript{1} 1Department 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\textsuperscript{1} 1ERS, USDA, Washington, DC

Water Sources and Chemical Quality Considerations for Animal Production and Food Processing.
A. M. Dietrich\textsuperscript{1} 1Virginia Tech, Blacksburg

Y. Wang\textsuperscript{2}, A. D. Henderson\textsuperscript{3} and O. Jolliet\textsuperscript{4} 1Innovation Center for U.S. Dairy, Rosemont, IL, 2University of Texas, Houston, TX, 3University of Michigan, Ann Arbor, MI

Rethinking the dairy supply chain: Innovative opportunities for creating value, efficiency and sustainability.
R. T. Stroili\textsuperscript{1} 1Cargill Dairy Enterprise Group, Windsor, CO

Water usage at cattle feedlots and the potential for water conservation.
K. D. Casey\textsuperscript{1}, J. M. Sweeten\textsuperscript{2} and R. Hagevoort\textsuperscript{3} 1Texas A&M AgriLife Research, Amarillo, TX, 2New Mexico State University, Clovis, NM
Animal Behavior & Well-Being III

Chair: Peter D Krawczel, The University of Tennessee
2505A

2:00 PM Breeding may simultaneously reduce pig aggressiveness at regrouping and in stable social groups but management may not. S. P. Turner*, S. Desire1, R. B. D'Eath1, L. Canario2 and R. Roehe1, 1SRUC, Edinburgh, United Kingdom, 2INRA UMR1388, F-31326 Castanet-Tolosan, France

2:30 PM 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 Montbui-Barcelona, Spain, 2Department of Ruminant Production, IRITA, Caldes de Montbui, Spain, 3IRTA - Department of Ruminant Production, Caldes De Montbui, Spain

2:45 PM Impact of using an electrified crowding gate on milk yield and milk flow. I. Guasch1, A. Pinto2 and A. Bach3, 1Blanca, Hostalets d Tost, Spain, 2Department of Ruminant Production, IRITA, Caldes de Montbui, Spain, 3IRTA - Department of Ruminant Production, Caldes De Montbui, Spain

3:00 PM Using designer diets to reduce aggression in pregnant sows. A. Sapkota1, J. N. Marchant-Forde2, B. T. Richert1 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 Selection and Breeding for Improved Feed Efficiency Alters Gilt Behavioral Responsiveness to a Novel Object. J. D. Colpoys1, 2, N. K. Gabler1, C. E. Abell2, A. F. Keating1, S. T. Millman3, J. M. Siegfried3 and A. K. Johnson1, 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 Milk Quality and Milk Components in Lactating Dairy Goats Fed OmniGen-AF® from Dry Off Through the Entire Lactation. A. D. Rowson*, T. J. Boyle, D. J. McLean, S. A. Armstrong and S. B. Puntenney, Prince Agri Products, Inc, Quincy, IL

2:15 PM 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. E. L. Nace, S. C. Nickerson1, F. M. Kautz, S. Breidling, D. Wochele, L. O. Ely and D. J. Hurley, UGA, Athens, GA

2:30 PM Restriction in energy or protein affects differentially behavior of lactating dairy cows. V. Fischer1, E. Forgiarini Vizzotto1, F. Andre Schmidt2, D. Wernek3, A. Susenbach de Abreu1 and A. Thaler Neto2, 1Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil, 2Universidade Estadual de Lages, Lages, Brazil

2:45 PM Dynamics of Culling for Jersey, Holstein, and Crossbred Cows in Large Multi-breed Dairy Herds. P. J. Pinedo1, 2, A. M. Daniels2, J. Shumaker2 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 Effect of an Organic Certified Treatment (Optimum Uterflush®) for Toxic Puerperal Metritis on Cure and Reproductive Performance of Dairy Cows. P. J. Pinedo1, 2, 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 Effects of yeast product supplementation on immunity and uterine inflammation in transition dairy cows. K. Yuan1, L. 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 Hyperketonemia in early lactation dairy cattle: component and total cost per case. J. A. A. McArt1, D. V. Nydam2 and M. W. Overturf3, 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 The effects of grain-induced subacut ruminal acidosis on interleukin-6 and acute phase response in dairy cows. S. C. Li1, A. M. Danscher2, P. H. Andersen2, E. Khatipour1, N. B. Kristensen2 and J. C. Plaizier3, 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

Genomic Selection of Nili-Ravi Buffalo.
M. Moaeen-ud-Din1, G. Bilal2 and M. S. Khan2, 1PMAS-Arid Agriculture University, Rawalpindi, Pakistan, 2University of Agriculture, Faisalabad, Pakistan

Chair: Greg Aldrich, Kansas State University

3501D

2:00 PM
Introductory Remarks

2:10 PM
193 Challenges In Training Companion Animal Biologists: Missing The Research Component, How To Overcome It?
J. P. McNamara*, Washington State University, Pullman

2:40 PM
L. Karr-Lilienthal*, University of Nebraska-Lincoln, Lincoln

3:10 PM
Break

3:25 PM
195 A circuitous route: Preparing for a career in the companion animal industry.
A. K. Shoveller*, The University of Guelph, Guelph, ON, Canada

3:55 PM
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
276 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
277 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
278 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
279 Milk fat globule membrane components and gut health effects.
R. Ward* and K. Hintze, Utah State University, Logan

4:00 PM
280 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. Lippolis, National Animal Disease Center
Nonruminant Nutrition: Fat, Fiber, Fermentation, and Residual Feed intake
Chair: Zach J Rambo, Purdue University
2502

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-Vega, C. L. Walk and H. H. Stein, University of Illinois, Urbana, AB Vista Feed Ingredients, Marlborough, United Kingdom, University 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. Foulse, S. Moehn, J. Gao, T. Vasanthan, M. Izydorczyk, A. D. Beattie and R. T. Zijlstra, University of Alberta, Edmonton, AB, Canada, Canadian Grain Commission, Winnipeg, MB, Canada, University 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. Lei, 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. Gatrell, 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. Woyengo, R. Jha, E. Beltranena and R. T. Zijlstra, University of Alberta, Edmonton, AB, Canada, University 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 Filho, L. S. Murata, C. A. Silva Júnior, H. dos Santos Sena, F. Lopes da Silva, F. Nishimoto Gomes da Costa, T. F. Braga and J. F. Athayde Oliveira, University of Brasilia, Brasilia, Brazil, Universidade de Brasília, 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. Vigors, T. Sweeney, A. K. Kelly, C. J. O’Shea, D. N. Doyle and J. V. O’Doherty, School of Agriculture and Food Science, University of College Dublin, Dublin, Ireland, College 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. Vigors, J. V. O’Doherty, C. J. O’Shea and T. Sweeney, School of Agriculture and Food Science, University of College Dublin, Dublin, Ireland, College 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
2103C

2:00 PM 531 Recent advances in the hypothalamic control of reproduction.
I. Clarke, Monash University, Clayton, Victoria 3800, Australia

2:35 PM 532 Influence of Stress on Male Reproductive Physiology.
T. H. Welsh, Jr., N. H. Ing and R. D. Randel, Texas A&M University Department of Animal Science, College Station,
Mechanisms linking infection and innate immunity in the female genital tract with infertility in dairy cattle.
I. M. Sheldon\textsuperscript{1}, Swansea University, Singleton Park, Swansea, United Kingdom

Influences of Heat Stress and Uterine Diseases on Reproduction of Dairy Cows.
J. E. P. Santos\textsuperscript{1}, E. S. Ribeiro\textsuperscript{1}, E. Karakayan\textsuperscript{1}, K. N. Galvão\textsuperscript{1} and F. S. Lima\textsuperscript{1}, \textsuperscript{1}Department of Animal Sciences, University of Florida, Gainesville, \textsuperscript{1}University of Florida, Gainesville, \textsuperscript{1}Department of Large Animal Clinical Sciences; University of Florida, Gainesville, \textsuperscript{4}Cornell University, Ithaca, NY

Cellular and molecular mechanisms of heat stress related to bovine ovarian function.
Z. Roth\textsuperscript{1}, The Hebrew University of Jerusalem, Rehovot, Israel

Production, Management, and the Environment: Economics of different management practices

Chair: TBA
2104B

Effects of technology use in feedlot production systems on feedlot performance and carcass characteristics.
C. L. Maxwell\textsuperscript{1}, B. C. Bernhard\textsuperscript{1}, C. F. O'Neill\textsuperscript{1}, B. K. Wilson\textsuperscript{1}, C. Hixon\textsuperscript{1}, C. Haviland\textsuperscript{1}, A. Grimes\textsuperscript{1}, M. S. Calvo-Lorenzo\textsuperscript{1}, D. L. VanOverbeke\textsuperscript{1}, G. G. Maji\textsuperscript{1}, C. J. Richards\textsuperscript{1}, D. L. Step\textsuperscript{1}, B. P. Holland\textsuperscript{1} and C. R. Krehbiel\textsuperscript{1}, \textsuperscript{1}Oklahoma State University, Stillwater, \textsuperscript{2}Merck Animal Health, DeSoto, KS

The effects of technology use in feedlot production systems on the health status of finishing steers.
B. C. Bernhard\textsuperscript{1}, C. L. Maxwell\textsuperscript{1}, C. F. O'Neill\textsuperscript{1}, B. K. Wilson\textsuperscript{1}, C. G. Hixon\textsuperscript{1}, C. Haviland\textsuperscript{1}, A. Grimes\textsuperscript{1}, M. S. Calvo-Lorenzo\textsuperscript{1}, C. J. Richards\textsuperscript{1}, D. L. Step\textsuperscript{1}, B. P. Holland\textsuperscript{1} and C. R. Krehbiel\textsuperscript{1}, \textsuperscript{1}Oklahoma State University, Stillwater, \textsuperscript{2}Merck, Volga, SD

Survey of BQA Cattle Handling Practices That Occurred During Processing Feedlot Cattle.
R. Woiwode\textsuperscript{1} and T. Grandin, Colorado State University, Fort Collins

The effects of technology use in feedlot production systems on cattle behavior and mobility.
B. C. Bernhard\textsuperscript{1}, C. L. Maxwell\textsuperscript{1}, C. F. O'Neill\textsuperscript{1}, B. K. Wilson\textsuperscript{1}, C. J. Richards\textsuperscript{1}, D. L. Step\textsuperscript{1}, B. P. Holland\textsuperscript{1} and C. R. Krehbiel\textsuperscript{1}, \textsuperscript{1}Oklahoma State University, Stillwater, \textsuperscript{2}Merck, Volga, SD

Predicting dry matter intake by growing and finishing beef cattle: Evaluation of current methods and equation development.
U. Y. Anele\textsuperscript{1}, E. M. Domby\textsuperscript{2} and M. L. Galvean\textsuperscript{1}, \textsuperscript{1}Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada, \textsuperscript{2}Cargill Animal Nutrition, Amarillo, TX, \textsuperscript{3}Texas Tech University, Lubbock

Optimizing concurrently dairy farm profitability and environmental performance.
D. Liang\textsuperscript{1} and V. Cabrera\textsuperscript{2}, \textsuperscript{1}University of Wisconsin-Madison, Madison, \textsuperscript{2}University of Wisconsin-Madison, Madison

Economics of transition cow management of dairy herds.
G. M. Schuennemann\textsuperscript{1} and K. N. Galvão\textsuperscript{2}, \textsuperscript{1}Department of Veterinary Preventive Medicine, The Ohio State University, Columbus, \textsuperscript{2}Department of Large Animal Clinical Sciences; University of Florida, Gainesville

The impact of selected milking, feeding, and housing management systems on the profitability of quebec dairy herds.
H. A. Delgado\textsuperscript{1}, R. I. Cue\textsuperscript{1}, A. Sewalem\textsuperscript{2}, R. Lacroix\textsuperscript{2}, D. Lefevre\textsuperscript{2}, E. Bouchard\textsuperscript{2}, D. Haine\textsuperscript{3} and K. Wade\textsuperscript{1}, \textsuperscript{1}McGill University, Sainte Anne de Bellevue, QC, Canada, \textsuperscript{2}McGill University, Department of Animal Science, Ste-Anne-de-Bellevue, QC, Canada, \textsuperscript{3}Agriculture and Agri-Food Canada AAFC, Guelph, ON, Canada

Grazing Alfalfa as an alternative to reduce production costs in intensive milk production systems.
F. A. Kiwahara\textsuperscript{1}, A. M. Pedroso\textsuperscript{2}, G. B. Souza\textsuperscript{4} and R. P. Ferreira\textsuperscript{1}, \textsuperscript{1}UNESP/FMVZ, Botucatu, Brazil, \textsuperscript{2}EMBRAPA, São Carlos, Brazil

Comparison of Productivity and Management Practices on Dairy Herd Improvement Association (DHIA) and Non-DHIA Herds in the United States.

Optimization of Reproductive Management Programs using Lift Chart Analysis and Cost-Sensitive Evaluation of Classification Errors.
S. Shahinfar\textsuperscript{1}, J. N. Guenther\textsuperscript{2}, D. Page\textsuperscript{1}, A. Samia- Kalantari\textsuperscript{1}, V. Cabrera\textsuperscript{1}, P. M. Fricke\textsuperscript{1} and K. A. Weigel\textsuperscript{1}, \textsuperscript{1}Department of Dairy Science University of Wisconsin, Madison, \textsuperscript{2}Department of Dairy Science, University of Wisconsin-Madison,
E. Rollin1,2 and M. W. Overton2,1 University Of Georgia College of Veterinary Medicine, Athens, GA, 2Elanco Animal Health - Dairy, Athens, GA

Ruminant Nutrition IX

Chair: TBA
2103A

Effects of supplemental zinc, copper, and manganese concentration on growth and intake of dairy calves.
S. J. Whelan1, T. M. Boland2, V. P. Gath3, J. C. Jacquier4 and K. M. Pierce5,1 School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland, 2School of Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland

Decreasing Dietary Calcium to Potentiate Changes in Beef Tenderness with Zilpaterol Hydrochloride Supplementation.
C. L. Van Biber-Krueger*, K. A. Miller and J. S. Drouillard, Kansas State University, Manhattan

Optimizing phosphorus utilization by dairy cows.
J. C. Plautz1*, K. H. Omini and E. J. McGeough, University of Manitoba, Winnipeg, MB, Canada

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. Jacquier2 and K. M. Pierce2,1 School of Agriculture and Food Science, University College Dublin, Dublin 4, Ireland, 2School of Veterinary Medicine, University College Dublin, Belfield, Dublin 4, Ireland

Evaluation of liver mitochondrial oxygen consumption of lactating Holstein dairy cows supplemented with Cobalt, Copper, Manganese and Zinc in organic and inorganic forms.

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. Kalscheur4 and D. Casper5,1 South Dakota State University, Brookings, 2Ralco Nutrition, Marshall, MN

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, M. B. Kegley1, J. Hawley1, J. A. Hornsby1, J. L. Reynolds1 and S. B. Lauder2,1 Department of Animal Science, University of Arkansas Division of Agriculture, Fayetteville, AR, 2Micronutrients, Indianapolis, IN

Effect of inorganic or organic selenium supplementation during gestation and lactation on cow and pre-weaning calf performance.
C. R. Muegge4,5, K. M. Brennan4, R. P. Lemenager5 and J. P. Schoonmaker4,1 Purdue University, West Lafayette, IN, 5Alltech Inc., Nicholasville, KY

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. Rasby1, M. K. Luebbe3, G. E. Erickson1 and T. J. Klopfenstein1,2,3 University of Nebraska, Lincoln, 2University of Nebraska, Scottsbluff, NE, 3University of Nebraska-Lincoln, Lincoln

Can treatments of barley grain with lactic and citric acid improve performance of male calves.
K. Rezagahi1, M. Nemati and M. Dehghan Banadaki, 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

Starter crude protein concentrations on growth and intake of dairy calves.
S. A. McCullough1, B. Houin2 and T. D. Nennich*,1 Purdue University, West Lafayette, IN, 2Homestead Dairy, Plymouth, IN

Influence of dietary carbohydrate fractions on growth and development of prepubertal dairy heifers.
T. S. Dennis1, J. E. Tower, A. M. Mosiman 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 Welcoming Remarks

2:05 PM 735 Pasture Development and Sustainable Grazing Management.

S. P. Hari*, American Institute for Goat Research, Langston University, Langston, OK

2:25 PM 736 Internal parasite anthelmintic resistance and control.

J. E. Miller*, Louisiana State University, Baton Rouge

2:45 PM 737 Genetic selection for enhanced production efficiency.

D. F. Waldron*, Texas A&M AgriLife Research, San Angelo, TX

3:05 PM Break

3:20 PM 738 Efficiency of Small Ruminant Reproductive Management.

M. Knights*, West Virginia University, Morgantown, WV

3:40 PM 739 Managerial Steps to Alleviate the Effects of Heat Stress, Water Deprivation and Low Pasture Quality in Small Ruminants.

P. Y. Aud*1 and S. Abi Saab*2, 1Notre Dame University, Zouk Mosbeh, Lebanon, 2Lebanese University, Faculty of Agricultural Sciences, Dekwaneh, Lebanon

4:00 PM 740 Global Demand for Small Ruminant Products.

G. W. Williams* and D. Anderson, Texas A&M University, College Station

4:20 PM 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. Olukosi2,* 1Scotland’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. Dritz1, R. D. Goodband1, T. A. Houser1, C. A. Fedler1 and K. J. Prusa1,* 1Kansas 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.
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. Connor2,* 1Carthage 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. Adelieve1, 1Institute of Agricultural Research &Training, Obafemi Awolowo University, Ibadan, Nigeria, 2Department of Animal Sciences, Obafemi Awolowo University, Ile-Ife, 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. Dritz1, J. L. Usry2, J. E. Nemechek1, M. D. Tokach1, J. M. DeRouchey1, R. D. Goodband1, J. C. Woodworth1 and G. M. Hill1,* 1Kansas 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,* and U. Hofstetter1,* 1BIOMIN 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,* J. J. Chewning2 and C. L. Walk1,* 1AB 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. Schütz² and C. B. Tucker³, 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. Black⁴, R. J. Grant⁵ and P. D. Krawczel⁶, 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-Luchterhand⁷, P. Basso Silva⁸, R. C. Chebel⁹ and M. I. Endres¹⁰, 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-Luchterhand⁷, P. Basso Silva⁸, R. C. Chebel⁹ and M. I. Endres¹⁰, 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-Luchterhand⁷, P. Basso Silva⁸, R. C. Chebel⁹ and M. I. Endres¹⁰, 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. Haerr* 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. Garcia*, K. L. Kerrisk, 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. Weary*¹ and M. A. G. von Keyserlingk⁸, 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. Burren¹ and B. Stoll², 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. Simmons*, 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

3501A

8:30 AM 174 Variation in Toll-like Receptor Genes and Susceptibility to Clinical Mastitis in Holstein cows.
C. M. Seabury¹, K. N. Galvao*, K. Lager¹ and P. J. Pinedo², 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
Medicine, University of Florida, Gainesville, 1Iowa State University, Extension and Outreach, Ames, IA, 4Texas A&M AgriLife Research, Amarillo, TX

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, Jr.1, S. D. Shackelford2, T. L. Wheeler2, D. A. King2, E. Casas3,4, 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. Vial1 and R. Evans21, INRA Montpellier, Montpellier, France, 2Norwegian 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*, Vereinigte Informationssysteme Tierzuchtung, 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, 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. Guay1 and N. Bergeron2, 1Universite Laval, Quebec, Quebec City, QC, Canada, 2Universite Laval, Quebec City, QC, Canada

9:00 AM 476 Effect of a 6-Phytase derived From Buttelliaxella 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. Desjardins-Li2, R. M. Bold2 and H. H. Stein3, 1Danisco Animal Nutrition, DuPont Industrial Biosciences, Marlborough, United Kingdom, 2Danisco Animal Nutrition, DuPont Industrial Biosciences, Marlborough, United Kingdom, 3University 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. Pettersson1 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 tingase derived from Butiauxella spp. expressed in Trichoderma reesi 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. Vonderohe2*, A. M. Jones1, B. T. Richer1, J. E. Ferrel2, P. D. Matzar2 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. Vitagliano2*, M. A. Bonato2, R. L. D. C. Barbalho2, G. D. Santos2 and L. F. Araújo1, 1Univerisidade 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. Castillojos2, V. F. Button Roll3, J. J. Mallo1 and S. Martin-Orlic1, 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 Elisene 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. Kiari1, S. Indrakumar2 and I. H. Kim1, 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. Grilli1, 1DIMEVET 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. Kraisoon2, J. Thammasarit2, V. Khanthaaseng2 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. Braunez4*, M. E. Lima3, D. A. Velasco Acosta2, L. F. Mielke2, V. O. Freitas2, E. G. Xavier1, A. Schneider1, F. B. Del Pino1, V. R. Rabassa2 and M. Nunes Corrêa1, 1Federal University of Pelotas, Pelotas, Brazil, 2Universidade Federal de Pelotas, Pelotas, Brazil, 3UFRGS, Porto Alegre, Brazil, 4DuPont Industrial Biosciences, Marlborough, MA, USA

9:00 AM 538  
Effects of administration of prostaglandin F2α (PGF) at initiation of the 7-day CO-Synch+CIDR estrus synchronization protocol for suckled beef cows.
Catholic University (PUCPR), Curitiba, Brazil, 1North Dakota State University, Fargo, 2Mississippi State University, Mississippi State, 3University of Missouri, Columbia, 4South Dakota State University, Brookings, 5University of Illinois, Springfield, IL, 6Kansas State University, Manhattan

9:15 AM 539  
Split-time AI: Delayed insemination of non-estrous beef heifers in timed artificial insemination following the 14-d CIDR-PG protocol.  
J. M. Thomas1, M. R. Ellersieck1, S. E. Pook2, M. F. Smith1 and D. J. Patterson1, 1University of Missouri, Columbia, 2University of Missouri-College of Veterinary Medicine, Columbia, MO

9:30 AM 540  
Split-time AI: Delayed insemination of non-estrous beef cows in timed artificial insemination following the 7-d CO-Synch + CIDR protocol.  
J. M. Thomas1, M. R. Ellersieck1, S. E. Pook2, M. F. Smith1 and D. J. Patterson1, 1University of Missouri, Columbia, 2University 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. Voels1, 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. Willmore1, C. Hammons1, J. Peak1, T. M. Nett2 and T. L. Davis Dâvila-Ramos1, 1University of Idaho, Moscow, 2Colorado 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. Burnett1, 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.  

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 Proovulatory Concentration of Estradiol and Length of Proestrus on Pregnancy Rate to Timed-AI and Embryo Transfer in Beef Cows.  
L. H. Cruppe1, R. S. Cipriano2, F. M. Abreu1, M. L. Massard3, K. J. Wells1, G. E. Fogle1, B. R. Harstine1, M. D. Utt1, G. A. Bridge1 and M. L. Day1, 1The Ohio State University, Columbus, 2UniSalesiano, Araçatuba, Brazil, 3Select Sires Inc, Plain City, OH, 1University 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. Salama1,2, N. Nayan1, A. Contreras-Jodar1, S. Hamzaoul1 and G. Caja1, 1Group of Ruminant Research (G2R), Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain, 2Animal Production Research Institute, Dokki, Giza, Egypt, 1Department 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. Wallage1, J. B. Gaughan1, A. Lisle1, L. Beard1, A. J. Cawdell-Smith1, C. W. Collins1 and S. Johnston1, 1The University of Queensland, Gatton, Australia, 2University 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. Lees1, 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. Lees1, J. B. Gaughan, A. M. Lees and M. L. Sullivan, The University of Queensland, Gatton, Australia
9:30 AM  582  Differences in panting score and shade usage between Brahman, Angus and Charolais steers with and without access to shade during summer.

10:00 AM  583  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

10:15 AM  584  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

10:30 AM  585  Effects of metabolizable energy intake on tympanic temperature and ADG of steers finished in southern Chile during wintertime.
  R. A. Arias1, T. Brown-Brandt2 and T. L. Mader3, 1Universidad Católica de Temuco. Núcleo de Investigación en Producción Alimentaria, Temuco, Chile, 2ARS-USDA, Clay Center, NE, 3Mader Consulting, LLC, Gretna, NE

10:45 AM  586  Conductive cooling as an alternative to cool down dairy cows.
  X. A. Ortiz1, J. F. Smith1, F. Rojano1, C. Y. Choi1, J. Bruer1, T. Steele1, N. Schuring4, J. D. Allen4 and R. J. Collier6, 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

11:00 AM  587  Comparison of winter feeding systems for the evaluation of beef cow performance, reproductive efficiency and system costs.
  D. Jose1, G. B. Penner2, J. J. McKinnon3, K. Larson2 and B. Lardner2, 1University of Saskatchewan, Saskatoon, SK, Canada, 2Western Beef Development Centre, Humboldt, SK, Canada

11:15 AM  588  Effect of two winter housing systems on production, body weight, somatic cell count, BCS, and dry matter intake of organic dairy cows.
  L. S. Sjostrom1, B. J. Heins2, M. I. Endres3, R. D. Moos1 and U. S. Sorge1, 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, St. Paul, 4University of Minnesota, Department of Veterinary Population Medicine, St. Paul, MN

Ruminant Nutrition X

Chair: TBA
2505A

8:30 AM  701  Evaluation of 2013 Survey of Beef Producers in Nebraska.
  M. Jones, University of Nebraska-Lincoln, Lincoln

8:45 AM  702  Meta-analysis of concentrate supplement effects on voluntary intake in high and low quality pastures.
  J. R. R. Dórea1 and F. A. P. Santos2, 1University of Sao Paulo, Piracicaba, Brazil, 2University of Sao Paulo, Piracicaba, Brazil

9:00 AM  703  Determining the preference and in situ digestibility of a microalgae co-product for beef cattle.
  M. L. Van Emon1, S. L. Hansen and D. D. Loy, Iowa State University, Ames

9:15 AM  704  Digestibility of traditional and Adding Cellulosic Ethanol wet distillers grains in finishing lambs.
  E. L. Lundy1, M. L. Van Emon2, D. D. Loy and S. L. Hansen, Iowa State University, Ames

9:45 AM  705  Effect of sugarcane fiber digestibility and mode of conservation on intake and ruminal short chain fatty acids of growing steers.
  D. Sousa1, B. Mesquita1, J. Diniz-Magalhães1, F. Rodriguez2, I. Bueno1 and L. F. P. Silva2, 1University of São Paulo, Pirassununga, Brazil, 2University of São Paulo, Pirassununga, Brazil

10:00 AM  706  Evaluation of a mixture of crude glycerol and molasses as an energy supplement for beef cattle consuming bermudagrass hay.

10:15 AM  707  The effects of dietary energy density and intake restriction on apparent maintenance energy requirements of beef cows.
  L. A. Trubenbach1, T. A. Wickersham and J. E. Sawyer, Texas A&M University, College Station

10:30 AM  708  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. Lancaster, 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. Casper, J. P. Acharya and D. Miller, South Dakota State University, Brookings, Miller-Casper Life Sciences, Brookings, SD

Application of fecal nirs profiling to predict diet characteristics and voluntary intake in beef cattle.


Ruminant Nutrition XI

Chair: TBA

2504

A comparison between propylene glycol and a multiple component drench on energetic variables in early lactating Holstein cows.


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. Shahzad, J. S. Osorio, D. N. Luchini and J. J. Loor, University of Illinois, Urbana-Champaign; University of Illinois, Champaign, IL; Adisseo 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. Guo, S. L. Li, Z. J. Cao, X. Xu and Y. Zou, State Key Laboratory of Animal Nutrition, College of Animal Science and Technology, China Agricultural University, Beijing, China; Shijiazhuang 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. Baldin, J. Y. Ying, G. I. Zanton and K. J. Harvatine, Penn State University, University Park; Novus 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. Rico, 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. Wood, T. Schaiger, J. C. Plattier, K. A. Beauchemin and G. B. Penner, University of Saskatchewan, Saskatoon, SK, Canada; University of Manitoba, Winnipeg, MB, Canada; Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, AB, Canada

Induction of Subacute Ruminal Acidosis Affects the Rumen Microbiome.

J. C. McCann, 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. Wu, J. K. Bernard, K. P. Zanzalari and J. D. Chapman, University of Georgia, Tifton, GA; Prince Agri Products, Inc., Franklin, IN; Prince Agri Products, Inc., Quincy, IL

Effect of Pre-calving Dietary Cation Anion Difference on Milk Production: A Meta-analysis.

I. J. Lean, R. Rodney, P. J. DeGaris, D. M. McNeil and E. Block, SBScibus, Camden, Australia; Tarwin Veterinary Group, Leongatha, Australia; University of Queensland, Gatton, Australia; Church 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 Veth1,2,3,1University 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, K. E. Hales2, 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 3501G

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