

WESTERN SECTION AMERICAN SOCIETY OF ANIMAL SCIENCE

SUMMARY OF SCHEDULED EVENTS

Tuesday, June 18, 2002

4:00 p.m. – 7:00 p.m.	Registration and Check-in at	Corbett Hall Dormitory
5:30 p.m. – 7:00 p.m.	WSASAS Executive Com- Conference Room	mittee Meeting, ARDEC

Wednesday, June 19, 2002

7:00 a.m. – 5:00 p.m.	Registration, Clark Building	Northwest Foyer
8:00 a.m. – 5:00 p.m.	Symposium, Efficiency of Pastures and Rangeland, Clark Building A101	Beef Production on Western
5:00 p.m. – 6:00 p.m.	Poster Set-up, Clark Building	Foyer
6:00 p.m. – 9:00 p.m.	Informal reception, Corbett	Hall Complex

Thursday, June 20, 2002

7:00 a.m. – 5:00 p.m.	Registration, Clark Building	Northwest Foyer
8:15 a.m. – 10:00 a.m.	Graduate Student Competi- tion, Clark Building A101	
10:00 a.m. – 10:30 a.m.	Break	
10:30 a.m. – 12:00 p.m.	Graduate Student Competi- tion, Clark Building A101	
12:00 p.m. – 1:30 p.m.	Graduate Student Luncheon (lunch provided) Livestock Pavilion	and Career Forum (Box
12:00 p.m. – 1:30 p.m.	WSASAS Advisory and Meeting, Animal Sciences Building Room 8	Coordinating Committee
1:45 p.m. – 3:30 p.m.	Graduate Student Competi- tion, Clark Building A101	
1:00 p.m. – 3:00 p.m.	Extension Symposium,	Clark Building A103
1:00 p.m. – 2:45 p.m.	Behavior and Breeding and Genetics I,	Clark Building A104
3:15 p.m. – 3:45 p.m.	Break	
3:30 p.m. – 5:15 p.m.	Environment I, Clark Building	A103
3:30 p.m. – 5:15 p.m.	Physiology I, Clark Building	A104
3:30 p.m. – 5:00 p.m.	Ruminant Nutrition I, Clark Building	A101
3:30 p.m. – 5:00 p.m.	Posters I – <i>Physiology and Ruminant Nutrition</i> ,	Clark Building Atrium
5:00 p.m. – 6:30 p.m.	Walking Tour of Animal Sciences Livestock Facilities at	ARDEC
6:30 p.m. – 10:00 p.m.	Barbecue Dinner and Awards Program, CSU Agriculture, Research, Development, and Education Center (ARDEC)	

Friday, June 21, 2002

- 7:00 a.m. – 8:00 a.m. Poster Set-up Clark Building, Clark Building Atrium
- 8:00 a.m. – 12:00 p.m. Registration, Clark Building Northwest Foyer
- 8:00 a.m. – 8:55 a.m. Business Meeting, Clark Building A101
- 9:00 a.m. – 10:00 a.m. Environment II, Natural Resources Building 113
- 9:00 a.m. – 10:00 a.m. Physiology II, Clark Building A104
- 9:00 a.m. – 10:00 a.m. Ruminant Nutrition II, Clark Building A101
- 9:00 a.m. – 10:00 a.m. Pastures and Forages I, Clark Building A103
- 9:00 a.m. – 12:00 p.m. Posters II – *Behavior, Breeding and Genetics, Environment, Extension, Growth, Meat Science, Non-ruminant Nutrition, and Pastures and Forages*, Clark Building Foyer
- 9:00 a.m. – 12:00 p.m. Congressional Insight Political Education Program, Natural Resources Building 108
- 10:00 a.m. – 10:30 a.m. Break
- 10:30 a.m. – 11:15 a.m. Environment III, Natural Resources Building 113
- 10:30 a.m. – 11:30 a.m. Pastures and Forages II, Clark Building A103
- 10:30 a.m. – 12:15 p.m. Physiology III, Clark Building A104
- 10:30 a.m. – 11:30 a.m. Ruminant Nutrition III, Clark Building A101
- 12:15 p.m. Adjourn
- 12:30 p.m. – 2:00 p.m. WSASAS Executive Committee Meeting Animal Sciences Building Room 8
- 1:00 p.m. – 3:00 p.m. Tour of Equine Sciences Research and Teaching Facilities, Foothills Campus-meet in Animal Sciences Parking Lot

A Practice Room will be available in Natural Resources Building Room 115 for viewing computer presentations and slides. CD's with the previously submitted computer presentations will be available to presenters. No editing of computer presentations will be permitted. Rooms will be staffed 7:00 am to 5:00 pm on Wednesday and Thursday and from 7:00 am to 11:00 am on Friday.

PROGRAM

Wednesday, June 19, 2002

SYMPOSIUM

Efficiency of Beef Production on Western Pastures and Rangelands

Dr. Jack Whittier, Colorado State University, Presiding

Wednesday, 7:00 a.m. – 5:00 p.m.
Clark A101

Time

7:00-8:00 Registration & Continental Breakfast,
Clark Building Foyer

8:00-8:15 Introductions & Welcome
Dr. Jim Oltjen, UC-Davis, Davis, CA,
WSASAS President
Dr. Jim Sprinkle, University of AZ,
Payson, AZ, Symposium Chair

Characterization of Rangeland and Pasture Resources in the West

8:15-8:55 Rangeland Overview: Challenges to
Forage Based Beef Production
Systems in the West
Dr. Tim DelCurto, Department of
Animal Sciences, Oregon State
University, Eastern Oregon
Agricultural Research Center,
Union Station, OR

8:55-9:45 Technology to Complement Forage Based Beef Production Systems in the West
Dr. Jan Bowman, Department of Animal and Range Sciences, Montana State University,
Bozeman, MT

9:45-10:15 BREAK

Energy Efficiency in Forage Based Beef Production Systems

10:15-10:45 History of Energetic Efficiency Research: Where Have We Been and Where are We Going?

Dr. Don Johnson, Department of Animal Sciences, Colorado State University, Fort Collins, CO

- 10:45-11:25 Genetic Variation in Energy Efficiency: Limits and Opportunities
Dr. Merlyn Nielsen, Department of Animal Science, University of Nebraska-Lincoln, Lincoln, NB
- 11:25-11:35 Introduction of Sponsors
- 11:35-1:00 LUNCH (not provided)
- 1:00-1:45 Residual Feed Intake: Predictive Value and Application Challenges
Dr. Robert Herd, Senior Research Scientist, NSW Agriculture Beef Industry Centre
University of New England, Armidale, New South Wales, Australia
- 1:45-2:25 Behavioral Adaptations by Grazing Cattle to Enhance Energetic Efficiency
Dr. Ed Fredrickson, Research Scientist, Agricultural Research Service
USDA Jornada Experimental Range, Las Cruces, New Mexico
- 2:25-3:00 BREAK
- Future Opportunities for Forage Based Beef Production**
- 3:00-3:30 Cattle Finishing Programs on Grassland: Costs, Benefits, Efficiency, and Final Product Acceptability
Dr. Randy Weidmeier, Dept. of Animal, Dairy, and Veterinary Science, Utah State University, Logan, UT
- 3:30-4:00 Opportunities for Production of Natural or Organic Beef
Dr. John Scanga, Extension Meat Specialist
Department of Animal Sciences, Colorado State University, Fort Collins, CO
- 4:00-4:30 Panel Discussion: Range and Grassland Beef Production Systems: Real Life Experiences
Panel Moderator: Dr. Keith Belk, Department of Animal Sciences, Colorado State University, Fort Collins
Rocky Mountain Beef
Robbie Baird LeValley, Area Livestock Extension Agent, Colorado State University, Delta, CO
Yampa Valley Beef
C. J. Mucklow, Ag Ext. Agent & County Director, Colorado State University, Yampa County
Other Panel Members: Dr. Tim DelCurto, Dr. Jan Bowman, Dr. Randy Weidmeier, Dr. John Scanga
- 4:30-5:00 Questions to Panel from Audience

Informal Reception

Wednesday, 6:00 p.m. – 9:00 p.m.
Corbett Hall Complex

GRADUATE STUDENT COMPETITION I – ORAL

CHAIR: Dr. Bret Hess, University of Wyoming

Thursday, 8:15 a.m. - 10:00 a.m.

Room: Clark Building A101

Time	Abstract Number	
8:15	39	Factors influencing the shedding of <i>Escherichia coli</i> and <i>Salmonella spp.</i> in Holstein cattle. A. C. Fitzgerald* ¹ , T. S. Edrington ² , T. R. Callaway ² , R. O. Elder ² , J. D. Thomas ¹ , R. C. Anderson ² , D. J. Nisbet ² , and M. L. Looper ¹ , ¹ New Mexico State University, Las Cruces, ² USDA/Agricultural Research Service-Southern Plains Agricultural Research Center, College Station, TX.
8:30	40	Effect of follicle size at time of GnRH-induced ovulation on luteal function and fertility. G. A. Perry* ¹ , T. W. Geary ² , M. C. Lucy ¹ , and M. F. Smith ¹ , ¹ University of Missouri-Columbia, ² USDA-ARS, Fort Keogh LARRL, Miles City, MT.
8:45	41	Production Responses To Range Supplements With Increasing Concentrations Of Glucogenic Precursors Fed To Young Postpartum Beef Cows. R.C. Waterman* ¹ , L.A. Stalker ¹ , W.D. Bryant ¹ , J.E. Sawyer ¹ , D.E. Hawkins ¹ , E.E. Parker ¹ , S.H. Cox, J.A. Hartung ¹ , F. Valdez ² , J. Horton ² , and M.K. Petersen ¹ , ¹ New Mexico State University, Las Cruces, ² Kemin Industries, Inc., Des Moines, IA/USA.
9:00	42	Effects of Vitamin E Supplementation on Lipid Oxidation and Sensory Characteristics of Irradiated Beef Patties. K. A. Stith* ¹ , H. D. Woody ¹ , M. J. Roeder ² , H. L. Ashraf ¹ , S. Ohene-Adjei ³ , and R. A. Roeder ¹ , ¹ Southern Illinois University at Carbondale, ² Purina Mills, Inc., ³ University of Illinois.
9:15	43	Ability of the uterus in anestrous ewes to resist infections. L. E. Mink* ¹ , M. C. Wulster-Radcliffe ² , and G. S. Lewis ¹ , ¹ USDA, ARS, U.S. Sheep Experiment Station, ² Fort Dodge Animal Health.
9:30	44	Selenium concentration and distribution in range forages from four locations in the Northern Great Plains. T. L. Lawler* ¹ , J. B. Taylor ² , E. E. Grings ³ , J. W. Finley ⁴ , and J. S. Caton ¹ , ¹ North Dakota State University, Fargo, ² USDA-ARS, Dubois, ID, ³ USDA-ARS, Miles City, MT, ⁴ USDA-ARS, Grand Forks, ND.
9:45	45	An Evaluation of Hemogram Values and Pulse Oximetry as Predictors of Pulmonary Arterial Pressure (PAP) Score in Yearling Bulls. J. K. Ahola* ¹ , B. L. Golden ¹ , R. M. Enns ¹ , J. C. Whittier ¹ , T. Holt ² , and P. Perkins ³ , ¹ Colorado State University, Ft. Collins, ² Town and Country Animal Hospital, Gunnison, CO, ³ Heska Corporation, Ft. Collins, CO.

GRADUATE STUDENT COMPETITION II – ORAL

CHAIR: Dr. Bret Hess, University of Wyoming

Thursday, 10:30 a.m. - 12:00 p.m.

Room: Clark Building A101

Time	Abstract Number	
10:30	46	The effects of copper source and concentration on lipid metabolism in growing and finishing steers. L. R. Johnson* ¹ , T. E. Engle ¹ , and C. K. Swenson ² , ¹ Colorado State University, Fort Collins, CO/USA, ² Zinpro Corporation, Eden Prairie, MN/USA.
10:45	47	40-year trends in the Tukumcari New Mexico performance bull test. M.D. Garcia* ¹ , M.G. Thomas ¹ , R.M. Enns ² , and W.R. Parker, ¹ New Mexico State University, Las Cruces, ² Colorado State University, Fort Collins.
11:00	48	Increases in circulating levels of vascular endothelial growth factor (VEGF) during the second trimester of gestation are correlated with calf birth weight in beef heifers. K.A. Vonnahme* and S.P. Ford, University of Wyoming.
11:15	49	Altered steroid profiles of beef cows during and after MGA® Select or 7-11 Synch and resulting differences in interval to estrus. J. E. Stegner*, F. N. Kojima, J. F. Bader, B. E. Salfen, M. R. Ellersieck, M. C. Lucy, M. F. Smith, and D. J. Patterson, University of Missouri, Columbia.
11:30	50	Cow efficiency and calf growth to weaning of purebred Wagyu and Angus cows with purebred and reciprocally crossed calves. P. L. Rogers*, C. T. Gaskins, and K. A. Johnson, Washington State University.
11:45	51	Trace mineral impact on reproductive performance, immune response and calf performance in grazing beef cattle. D. S. Baker*, T. E. Engle, J. C. Whittier, P. D. Burns, R. G. Mortimer, D. N. Schutz, and M. Enns, Colorado State University.

GRADUATE LUNCHEON AND CAREER FORUM

Moderator: Dr. Jason Bruemmer, Colorado State University, Fort Collins

Thursday, 12:00 p.m. – 1:30 p.m.

Room: Livestock Pavilion (box lunches provided)

“What I Wish Someone Would Have Told Me in Graduate School - But Didn’t”

Panel Discussion with Successful Academic and Industry Professionals

All graduate students are welcome. This is a time to socialize, discuss future career opportunities and become better acquainted with colleagues from other universities.

GRADUATE STUDENT COMPETITION III – ORAL

CHAIR: Dr. Bret Hess, University of Wyoming

Thursday, 1:45 p.m. – 3:30 p.m.

Room: Clark Building A101

Time	Abstract Number	
1:45	52	Strategies to reduce antibiotic residues in market dairy cows. C. A. Rogers* ¹ , A. C. Fitzgerald ¹ , M. A. Carr ² , B. R. Covey ¹ , J. D. Thomas ¹ , and M. L. Looper ¹ , ¹ New Mexico State University, Las Cruces, ² Angelo State University, San Angelo, TX.
2:00	53	The influence of cow age on grazing distribution and utilization of mountain riparian areas and adjacent uplands. J.A. Morrison* ¹ , T. DelCurto ¹ , C.T. Parsons ¹ , G.D. Pulsipher ¹ , and E.S. Vanzant ² , ¹ Oregon State University, Union, ² University of Kentucky, Lexington.
2:15	54	Effects of use of four levels of exogenous phytase on growth, performance and carcass characteristics of finishing beef steers. Pablo Loza*, Tim Stanton, Dave Schutz, and Angela Rhoads, Colorado State University.
2:30	55	Resumption of postpartum ovarian cycling activity in first-calf restricted suckled beef cows exposed to a bull or excretory products of bulls. P.S. Joshi*, J.G. Berardinelli, K. Anderson, A. Jacobs, and R. Adair, Montana State University, Bozeman.
2:45	56	Influence of undegradable intake protein mixed with mineralized salt on intake and fermentation profiles of cows grazing dormant winter range. L. A. Stalker* ¹ , J. E. Sawyer ¹ , M. G. Thomas ¹ , C. Baily ¹ , D. Wood ¹ , and M. K. Petersen ¹ , ¹ New Mexico State University.
3:00	57	Pasture, feedlot, and carcass responses to grazing management and protein supplementation of beef steers summer-grazing Old World bluestem. T. N. Bodine* ¹ , P. D. Kircher ² , H. T. Purvis II ¹ , G. W. Horn ¹ , and C.J. Ackerman ³ , ¹ Oklahoma Agricultural Experiment Station, Stillwater, ² University of Missouri Cooperative Extension Service, Higginsville, ³ Oregon State University, Corvallis.
3:15	58	Nutritional manipulation of reproductive and growth parameters of beef cows and subsequent offspring. B.J. Renquist*, J.W. Oltjen, R.D. Sainz, J.M. Connor, and M.L. Sween, University of California, Davis.

Extension Symposium

Innovative Extension Program Ideas from Throughout the West

Chair: Dr. Clay Mathis, New Mexico State University

Thursday, 1:00 p.m. – 3:00 p.m.

Room: Clark Building A103

Time	Abstract Number	
1:00		Cattle College: Bringing The Yellow Book To Life On The Coast – A Multi-State Collaboration. J. Harper, A. Ruddell, S. Larson, and G. Markegard, University of California Cooperative Extension, Davis and Oregon State University Extension Service, Corvallis.
1:15		Composting Of Bovine Mortalities On New Mexico Dairies. M. L. Looper, A. C. Fitzgerald, and C. A. Rogers, New Mexico State University, Las Cruces.
1:30	37	Do-it-yourself Comprehensive Nutrient Management Plan workshops for livestock producers. J.G. Davis* ¹ , K.V. Iversen ¹ , J. Andrews ² , J.L. Sharkoff ² , P. Shelton ² , G. Brown ³ , and B. Stevens ³ , ¹ Colorado State University, ² USDA-Natural Resources Conservation Service, ³ University of Wyoming.
1:45	38	Utah's Intermountain Beef 3910 Workshop - Partnering with industry in Extension education. D. R. ZoBell*, D. Whittier, C. Kim Chapman, C. Burrell, C. Bagley, and K. Heaton, Utah State University.
2:00		Producing Consumer Products From Sheep: The Sheep Safety And Quality Assurance Program. D. L. Roeber, K. E. Belk, S. B. LeValley, J. A. Scanga, J. N. Sofos, P. Rodgers and G. C. Smith, Colorado State University, Fort Collins; American Sheep Industry Association, Denver, CO
2:15		Adding Value To Culled Beef Cows. J. E. Sawyer and C. P. Mathis, Clayton Livestock Research Center, Clayton, NM; and New Mexico State University, Las Cruces.
2:30		University Response To A Community Natural Resource Crisis. R. L. Hathaway, W. S. Braunworth, S. K. Cartwright, T. J. Gallagher, and P. C. Case, Oregon State University, Corvallis.
2:45		An Extension Program For Toxic Plant Management In Texas Using Integrated Pest Management (Ipm). B. B. Carpenter, C. R. Hart, J. C. Reagor, and A. C. Barr, Texas Cooperative Extension, Ft. Stockton, TX; and Texas Veterinary Medical Diagnostic Laboratory, College Station, TX

BEHAVIOR AND BREEDING AND GENETICS – ORAL

CHAIR: Dr. Andy Herring, Texas A&M University

Thursday, 1:00 – 2:45 p.m.

Room: Clark Building A104

Time	Abstract Number	
1:00	1	Effects of rearing from the second week to weaning on heifers behavior in maze learning ability tests. J.J.J. Broucek* ¹ , C.W. Arave ² , T.H. Friend ³ , M. Uhrincat ¹ , S. Mihina ¹ , P. Kisac ¹ , A. Hanus ¹ , and S. Marenca ¹ , ¹ Research Institute of Animal Production, Nitra, Slovakia, ² Utah State University, Logan, ³ Texas A&M University, College Station.
1:15	2	The relationship between Bos taurus feedlot cattle temperament and cannon bone measurements. J. L. Lanier* and T. Grandin, Colorado State University.
1:30	4	Genetic variation in domestic reindeer and wild caribou (<i>Rangifer tarandus</i>). M. A. Cronin* ¹ , J. C. Patton ² , and M. D. MacNeil ³ , ¹ LGL Alaska Research Assoc. Inc., Anchorage, ² Texas A&M University, College Station, ³ USDA-ARS, Miles City, MT.
1:45	5	Quality of sperm morphology in Angus yearling bulls may be related to hair whorl shape. M. Meola*, T. Grandin, P. Burns, and R.G. Mortimer, Colorado State University.
2:00	6	Genetic distance between a multi-breed composite and two inbred lines of Hereford cattle. C. G. Kealey* ¹ , M. D. MacNeil ¹ , and B. L. Golden ² , ¹ USDA-ARS, Miles City, MT, ² Colorado State University, Fort Collins.
2:15	7	A genome-wide scan for QTL affecting carcass traits at constant fat depth in a Hereford x composite double backcross population. M. D. MacNeil* ¹ and M. D. Grosz ² , ¹ USDA-ARS, Miles City, MT, ² Monsanto, Chesterfield, MO.
2:30	8	Carcass characteristics of steers sired by high marbling EPD or high percent retail product EPD bulls. K. C. Davis, M. W. Tess, R. P. Ansotegui, and S. Yamamoto*, Montana State University, Bozeman.

ENVIRONMENT I – ORAL

CHAIR: Dr. Temple Grandin, Colorado State University

Thursday, 3:30 p.m. – 5:15 p.m.

Room: Clark Building A103

Time	Abstract Number	
3:30	16	Seroprevalence of respiratory infectious diseases in breeding cattle in northwest Mexico. F.J. Monge*, A. Barreras, and S. Cueto, Universidad Autonoma de Baja California, Mexicali, B.C., Mexico.
3:45	17	Center for Animal Agriculture and Community Enhancement. J.G. Davis*, Colorado

		State University.
4:00	18	Feeding value of cholla cactus. R. L. Endecott*, J. E. Sawyer, V. A. Munn, C. A. Loest, and M. K. Petersen, New Mexico State University.
4:15	19	Fenceline contact of beef calves with their dams at weaning reduces the negative effects of separation on behavior and growth rate. E.O. Price* ¹ , J.E. Harris ¹ , S.M. Mongold ¹ , R.E. Borgwardt ¹ , M.I. Sween ¹ , and J.M. Connor ² , ¹ University of California, Davis, ² University of California Sierra Foothill Research & Extension Center, Browns Valley.
4:30	20	Daily vs alternate day supplementation of soybean meal or wheat middlings to steers consuming low quality hay. T. R. Shirley* ¹ , C. J. Ackerman ¹ , G. D. Pulsipher ² , T. DelCurto ² , C. S. Schauer ³ , and T. R. Currier ³ , ¹ Oregon State University, Corvallis, ^{2,3} Eastern Oregon Agricultural Research Center, ² Union, ³ Burns.
4:45	21	An evaluation of production efficiency in a cow/calf system designed to add value. R. V. Anderson*, R. J. Rasby, T. J. Klopfenstein, and C. N. Macken, University of Nebraska, Lincoln.
5:00	22	Using sheep in grain production systems to reduce pesticide use I. Control of wheat stem sawfly infestations in wheat stubble. H. B. Goosey*, T. Spezzano, P. G. Hatfield, S. L. Blodgett, P. M. Denke, and R. W. Kott, Montana State University, Bozeman.

PHYSIOLOGY I – ORAL

CHAIR: Dr. Patrick Burns, Colorado State University

Thursday, 3:30 p.m. – 5:15 p.m.

Room: Clark Building A104

Time	Abstract Number	
3:30	87	Characterization of estrous behavior in farmed muskox cows. M. P. Shipka*, M. C. Sousa, and J. E. Rowell, University of Alaska, Fairbanks.
3:45	88	Residual feed intake in beef steers: II. Correlations with hematological parameters and serum cortisol concentrations. C.M. Theis* ¹ , G.E. Carstens ¹ , R.J. Hollenbeck ¹ , M.W. Kurz ¹ , T.M. Bryan ¹ , L.J. Slay ¹ , R.D. Randel ² , and T.H. Welsh, Jr. ¹ , ¹ Texas Agricultural Experiment Station, College Station, ² Overton, TX.
4:00	89	Effect of fishmeal supplementation on fertility in young beef cows grazing pasture. P.D. Burns*, E.R. Downing, T.E. Engle, J.C. Whittier, and R.M. Enns, Colorado State University, Fort Collins.
4:15	90	Comparison of two synchronization protocols on estrus characteristics, synchronization rates, and conception rates of beef heifers. C. A. Rogers* ¹ , T. W. Drummond ² , H. L. Vaughn ³ , R. Flores ¹ , C. P. Mathis ¹ , and M. L. Looper ¹ , ¹ New Mexico State University, Las Cruces, ² Catron County Extension, Reserve, NM, ³ Triangle C Ranch, Magdalena, NM.
4:30	91	Synchronization of estrus in beef cows using long-term MGA Select-Synch with estrus AI or timed AI 78 or 96 h after PG with or without a second GnRH injection. J. K. Ahola* ¹ , J. C. Whittier ¹ , G. E. Seidel ¹ , R. S. Walker ¹ , and G. Sides ² , ¹ Colorado State University, Ft. Collins, ² Intervet, Inc., Millsboro, DE.

4:45	92	Evaluation of melengestrol acetate/prostaglandin (MGA/PGF), Select Synch, and 7 d MGA/Select Synch estrous synchronization protocols in beef heifers. R. N. Funston* ¹ , R. P. Ansotegui ¹ , R. J. Lipsey ² , and T. W. Geary ³ , ¹ Montana State University, Bozeman, ² American Simmental Association, Bozeman, MT, ³ USDA-ARS, Fort Keogh LARRL, Miles City, MT.
5:00	93	A fixed-time AI program for beef cows with 7-11 Synch. F. N. Kojima*, J. E. Stegner, B. E. Salfen, R. L. Eakins, M. F. Smith, and D. J. Patterson, University of Missouri, Columbia.

RUMINANT NUTRITION I – ORAL

CHAIR: Dr. Cal Ferrell, Meat Animal Research Center

Thursday, 3:30 p.m. – 5:00 p.m.

Room: Clark Building A101

Time	Abstract Number	
3:30	117	Effects of concentration and source of trace minerals on performance, immunity, mineral and lipid metabolism and carcass characteristics of beef steers. A.R. Rhoads*, T.L. Stanton, T.E. Engle, and C.V. Kimberling, Colorado State University.
3:45	118	Effect of high selenium feeds on selenium status in finishing beef steers. J. B. Taylor* ¹ , T. L. Lawler ² , J. W. Finley ³ , and J. S. Caton ² , ¹ USDA, ARS, Dubois, ID, ² North Dakota State University, Fargo, ³ USDA, ARS, Grand Forks, ND.
4:00	119	Effects of time of daily cracked corn supplementation on site and extent of digestion in cattle grazing summer cool-season pasture. B. W. Hess*, P. A. Ludden, E. J. Scholljegerdes, and V. Nayigihugu, University of Wyoming.
4:15	120	Effect of degradable intake protein level on performance of cattle fed corn- or barley-based finishing diets. L. R. Kennington* ¹ , C. W. Hunt ¹ , D. D. Hinman ² , J. I. Szasz ¹ , and S. J. Sorensen ² , ¹ University of Idaho, Moscow, ² Caldwell R&E Center, University of Idaho, Caldwell.
4:30	121	Residual feed intake in beef steers: I. Correlations with performance traits and ultrasound measures of body composition. G.E. Carstens* ¹ , C.M. Theis ¹ , M.B. White ¹ , T.H. Welsh, Jr. ¹ , B.G. Warrington ² , R.D. Randel ³ , T.D.A. Forbes ² , H. Lippke ² , L.W. Greene ⁴ , and D.K. Lunt ⁵ , ¹ Texas Agricultural Experiment Station, College Station, ² Uvalde, ³ Overton, ⁴ Amarillo, ⁵ McGregor.
4:45	122	Effect of Age and Grain Processing Method on Diet Digestibility of Beef Cattle. B. M. Rainey* ¹ , J. A. Paterson ¹ , R. J. Lipsey ² , R. N. Funston ¹ , G. W. Brester ¹ , and W. T. Choat ¹ , ¹ Montana State University, ² American Simmental Association.

POSTER I

Thursday, 3:30 p.m. – 5:00 p.m.

Room: Clark Building Foyer

Authors Present

3:00 p.m. – 5:00 p.m.

Physiology

Abstract Number

- 94 Effects of the *Veratrum* alkaloid, cyclopamine and a synthetic analog on in vitro bovine oocyte maturation and subsequent embryo development. K.E. Panter*¹, S. Wang², W. Gaffield³, L.F. James¹, R.C. Evans², and T.D. Bunch², ¹Poisonous Plant Research Laboratory, USDA-ARS, Logan, UT, ²Utah State University, Logan, ³Western Regional Research Center, USDA-ARS, Albany, CA.
- 95 Changes in reticular and rectal temperature during the peri-estrous period in cows. P.D. Burns*¹, W.R. Wailes, Jr¹, and P.B. Baker², ¹Colorado State University, Fort Collins, ²Phase IV Engineering, Boulder, CO.
- 96 Evaluation of pituitary responsiveness to GnRH and GHRH as a predictor of first observed estrus in developing heifers. K.L. Shirley*¹, M.G. Thomas¹, D.M. Hallford¹, R.M. Enns², L.A. Narro¹, M.D. Garcia¹, and J.A. Winder³, ¹New Mexico State University, Las Cruces, ²Colorado State University, Fort Collins, ³Samuel Roberts Noble Foundation, Ardmore, OK.
- 97 Serum thyroxine and ovarian cyclicity in Rambouillet ewes receiving decreasing dosages of propylthiouracil before onset of anestrus. J. A. Hernandez*, D. M. Hallford, and N. H. Wells, New Mexico State University, Las Cruces.
- 98 Precision-cut liver slice methodology for study of snakeweed toxicity. R. L. Ashley*¹, J. R. Strickland², T. T. Ross², A. K. Clayshulte¹, and M. A. Siepel², ¹Colorado State University, ²New Mexico State University.
- 99 Ontogeny of adiposity, serum leptin, and hypothalamic-pituitary expression of leptin receptors in wethers treated with zeranol. L.A. Narro*¹, M.G. Thomas¹, G.A. Silver¹, K.J. Rozeboom², and D.H. Keisler², ¹New Mexico State University, ²University of Missouri.
- 100 Swainsonine toxicokinetics of acute versus subacute oral exposure in sheep. A.K. Clayshulte*¹, J.R. Strickland², R.L. Ashley¹, M.A. Siepel², and M.D. Remmenga², ¹Colorado State University, ²New Mexico State University.
- 101 Primary postmortem findings in catheterized vessels in sheep. M.L. Barraza*¹, J.R. Strickland², H. Zepeda³, and C.R. Krehbiel⁴, ¹Universidad A. de Ciudad Juarez, ²New Mexico State University, ³Texas Tech University, ⁴Oklahoma State University.
- 102 Swainsonine effects on para-aminohippuric acid clearance in wethers consuming a locoweed/blue grama hay diet. M.A. Siepel*¹, J.R. Strickland¹, A.K. Clayshulte², R.A. Ashley², and M.D. Remmenga¹, ¹New Mexico State University, ²Colorado State University.
- 103 Effect of time and duration of MGA prefeeding on estrous response and pregnancy rate in beef heifers when synchronized with Select-Synch. D. S. Baker, W. M. Mackay*, J. C. Whittier, M. Osborne, and P. D. Burns, Colorado State University, Fort Collins.
- 104 Using body surface temperature to predict calving. C.L. Coppola*¹, R.J. Collier², and R.M. Enns¹, ¹Colorado State University, ²University of Arizona.
- 105 Use of MGA or MGA plus ECP to resynchronize estrus in previously inseminated beef heifers of unknown pregnancy status. S.K. Johnson* and J.S. Stevenson, Kansas State University.

Ruminant Nutrition

Abstract Number

- 123 Forage type and concentrated separator by-product effects on intake, site of digestion and microbial efficiency in beef steers. T. D. Maddock*, J. E. Leonard, M. L. Bauer, G. P. Lardy, V. I. Burke, T. C. Gilbery, and J. S. Caton, North Dakota State University, Fargo.
- 124 Influence of NutriDense corn on intake, digestion, and nitrogen retention by ruminants. M.H. Knight*, J.S. Caton, G.P. Lardy, and M.L. Bauer, North Dakota State University.
- 125 Effects of finishing system (confinement vs pasture), supplemental fat, and copper on performance, carcass characteristics, and lipid metabolism in finishing steers. M. K. Woolley*¹, T. E. Engle¹, J. W. Spears², and V. Fellner², ¹Colorado State University, Fort Collins, ²North Carolina State University, Raleigh.
- 126 Effects of copper source and concentration on performance, copper status, and immune function in growing and finishing feedlot steers. K. L. Dorton*¹, T. E. Engle¹, D. W. Hamar¹, P. D. Siciliano¹, R. S. Yemm¹, and C. K. Swenson², ¹Colorado State University, Fort Collins, ²Zinpro Corporation, Eden Prairie, MN.
- 127 Gestational effects on trace mineral absorption in the cow and ewe. M. M. Vierboom*, T. E. Engle, P. D. Siciliano, and C. V. Kimberling, Colorado State University, Fort Collins.
- 128 Effect of ruminal protein degradability and supplementation frequency on lamb growth and gastrointestinal organ mass. P. A. Ludden*, D. E. Carter, V. Nayigihugu, E. J. Scholljegerdes, R. S. Townsend, B. W. Hess, and D. C. Rule, University of Wyoming.
- 129 Effect of level of supplemental degradable intake protein and carbohydrate types on low-quality forage utilization by beef steers. J. I. Arroquy*, R.C. Cochran, M Villarreal, T. A. Wickersham, D. A. Llewellyn, E. C. Titgemeyer, and D. E. Johnson, Kansas State University.
- 130 Effect of 7-day, pre-harvest 40-g betaine regimen on dressing percent of feedlot steers. J.R. Brethour¹, B.J. Bock*², and S.R. Goodall³, ¹Agricultural Research Center - Hays, Kansas State University, ²Fort Hays State University, ³Gladwin A. Read Co., Omaha, NE.
- 131 Influence of flake thickness of temper roasted rolled barley on beef cattle feedlot performance. D. D. Hinman* and S. J. Sorensen, University of Idaho, Caldwell.
- 132 In situ ruminal digestion rate of dry matter, protein and starch as influenced by roasted wheat flake thickness. Sharon Sorensen* and Dan Hinman, University of Idaho, Caldwell.
- 133 Dietary phosphorus requirements of calf-fed Holstein steers during the early growing period. R. A. Zinn*¹, M. Machado¹, A. Plascencia^{1,2}, S. A. Rodriguez¹, N. Torrentera^{1,2}, and R. A. Ware¹, ¹University of California, Davis, ²Universidad Autonoma de Baja California (Mexicali, Mexico).
- 134 Determination of free amino acids in serum by capillary gas chromatography. L. Chen*¹, W. Allen¹, and J. R. Strickland¹, ¹New Mexico State University.
- 135 Methylglyoxal: A novel tool to assess nitrogen status of the rumen. S. L. Lodge-Ivey*, M.K. Petersen, and T. May, New Mexico State University.
- 136 Influence of barley grain processing on the site and extent of digestion of feedlot cattle. R. A. Zinn¹, E. G. Alvarez², L. Corona*^{1,2}, D. D. Hinman³, M. F. Montano², A. Plascencia², and S. Sorensen³, ¹University of California, ²Universidad Autonoma de Baja California, ³University of Idaho.
- 137 Partial substitution of alfalfa hay with grass hay (sudangrass, elephant grass) in diets for lactating dairy cattle: Digestive function. E. G. Alvarez-Almora*¹, E. Arellano¹, M. A. Gastelum¹, V. M. Gonzalez¹, A. Lopez-Soto¹, A. Plascencia¹, and R. A. Zinn², ¹Universidad Autonoma de Baja California (Mexicali, Mexico), ²University of California, Davis.

- 138 Comparison of acid detergent insoluble ash (ADIA) as an internal marker with total fecal collection to estimate digestibility coefficients of forage-based diets fed to beef steers. T. N. Bodine*¹, L. A. Appeddu², H. T. Purvis II¹, A. La Manna¹, R. Basurto¹, and J. S. Weyers¹, ¹Oklahoma Agricultural Experiment Station, Stillwater, ²USDA-ARS Grazinglands Research Laboratory, El Reno, OK.
- 139 Niche-targeted versus conventional finishing programs for beef steers. J. E. Sawyer*, C. A. Loest, C. P. Mathis, D. A. Walker, K. J. Malcolm-Callis, L. A. Blan, and R. Taylor, Clayton Livestock Research Center, New Mexico State University, Clayton.
- 140 Utilization of low-quality forage as affected by beef cow body condition score. R. D. Wiedmeier*, K. C. Olson, B. A. Kent, and P. R. Schmidt, Utah State University, Logan.
- 141 Interaction of steam delivery rate and tempering on feeding value of flaked corn for feedlot cattle. S. Rodriguez*¹, J. F. Calderon², M. Machado¹, R. A. Ware¹, and R. A. Zinn¹, ¹University of California, Davis, ²Universidad Autonoma de Baja California.
- 142 Performance of beef cows wintered on ammoniated wheat straw as affected by limiting intake. R. D. Wiedmeier*, K. C. Olson, B. A. Kent, and P. R. Schmidt, Utah State University.
- 143 Effect of feeding Megalac on milk yield, milk composition, body weight change, and feed intake in lactating does. I. Tovar-Luna*¹, R. Espinosa-Santiago¹, and D. M. Hallford², ¹Universidad Autónoma Chapingo, URUZA, Bermejillo, Dgo, ²New Mexico State University, Las Cruces.
- 144 Influence of level of yellow grease addition on the comparative feeding value of finishing diets for feedlot cattle. A. Plascencia*¹, E. G. Alvarez¹, M. F. Montano¹, M. Machado², S. Rodriguez², R. A. Ware², and R. A. Zinn², ¹Universidad Autonoma de Baja California (Mexicali, Mexico), ²University of California, Davis.
- 145 Effect of increasing levels of byproducts on in vitro organic matter digestibility of various quality forages. T. A. Baumann*, J. S. Caton, V. L. Anderson, and G. P. Lardy, North Dakota State University, Fargo.
- 146 Influence of enzyme supplementation on digestive function of cattle. M. F. Montano*¹, L. Corona², J. Rosales², and R. A. Zinn², ¹Universidad Autonoma de Baja California (Mexicali, Mexico), ²University of California, Davis.
- 147 Influence of pelletization on the feeding value of rice straw in growing-finishing diets for feedlot cattle. R. A. Ware*¹, E. G. Alvarez², M. Machado¹, M. F. Montano², S. Rodriguez¹, and R. A. Zinn¹, ¹University of California, Davis, ²Universidad Autonoma de Baja California (Mexicali, Mexico).
- 148 Phase feeding strategies to meet metabolizable protein requirements of calf-fed Holstein steers. M. Machado*¹, J. F. Calderon², and R. A. Zinn¹, ¹University of California, Davis, ²Universidad Autonoma de Baja California (Mexicali, Mexico).
- 149 Influence of level of enzyme supplementation on growth performance of growing-finishing cattle. J. Rosales*¹, E. G. Alvarez², M. Machado¹, A. Plascencia², S. Rodriguez¹, R. A. Ware¹, and R. A. Zinn¹, ¹University of California, Davis, ²Universidad Autonoma de Baja California (Mexicali, Mexico).
- 150 Effects of fibrolytic enzymes on ruminal degradability of mature forages *in vitro*. V. A. Munn*, C. A. Loest, C. P. Mathis, M. K. Petersen, R. L. Endecott, T. Powers, and R. C. Waterman, New Mexico State University, Las Cruces.
- 151 Effect of salt levels on growth performance, carcass characteristics, cost of gain and manure salinity on finishing beef steers. W.R. Flatt*¹, T.L. Stanton², D. Schutz³, J. Davis², and T.E. Engle², ¹Premium Standard Farms, ²Colorado State University-Fort Collins, ³Eastern Colorado Research Center.

WALKING TOUR

Thursday, 5:00 p.m. – 6:30 p.m.

Walking Tour of Animal Sciences Livestock Facilities at ARDEC

In 2000 Colorado State University Animal Sciences Department relocated their livestock facilities for teaching, research and outreach to the Colorado State University Agricultural Research, Development and Education Center (ARDEC) 8 miles north of Ft. Collins, just off Interstate 25. As part of the events for Thursday evening's Award's Barbeque, a walking tour of the facilities will be provided for those interested. This tour will include the livestock units, conference center, and the intensive nutrition research building

WSASAS AWARDS

BARBECUE DINNER

Thursday, 6:30 p.m. – 10:00 p.m.

CSU Agriculture, Research, Development and Education Center (ARDEC), CR. 56, Fort Collins

Friday, June 21, 2002

BUSINESS MEETING

Friday, 8:00 a.m. - 8:55 a.m.

Room: Clark Building A101

ENVIRONMENT II – ORAL

CHAIR: Dr. David Ames, Colorado State University

Friday, 9:00 a.m. 10:00 a.m.

Room: Natural Resources Building 113

Time	Abstract Number	
9:00	23	Surveillance system in abattoirs for the detection of bovine tuberculosis during 1995 to 1998, in Baja California, Mexico. M. Montano, R. Searcy*, and G. Lopez, Universidad Autónoma de Baja California, Mexicali, B.C., Mexico.
9:15	24	Predicting the time of parturition in spring-calving beef cows. J.R. Jaeger* ¹ , K.C. Olson ² , T. DelCurto ¹ , and A. Qu ¹ , ¹ Oregon State University, Corvallis, ² Utah State University, Logan.
9:30	25	Using sheep in grain production systems to reduce pesticide use II. Comparing stubble grazing with tillage and burning on weed and soil characteristics. T. M. Spezzano*, H.

B. Goosey, P. G. Hatfield, S. L. Blodgett, P. M. Denke, and R. W. Kott, Montana State University, Bozeman.

- 9:45 26 Evaluation of Drought Management Strategies for Cow-Calf Enterprises: A Practical Predictor of Growing Season Forage Production. R. E. Kruse*¹, M.W. Tess¹, R. K. Heitschmidt², J. P. Paterson¹, and K. Clement², ¹Montana State University, Bozeman, ²USDA Ft. Keogh Livestock Animal and Range Research Laboratory, Miles City, MT.

PHYSIOLOGY II – ORAL

CHAIR: Dr. Amin Ahmadzaden, University of Idaho

Friday 9:00 a.m. – 10:00 a.m.

Room: Clark Building A104

Time	Abstract Number	
9:00	106	MGA® Select improves estrous response in postpartum beef cows in situations accompanied with high rates of anestrous. D. J. Patterson*, J. E. Stegner, F. N. Kojima, and M. F. Smith, University of Missouri, Columbia.
9:15	107	An evaluation of the MGA-Select treatment to synchronize estrus in postpartum beef cows. E.R. Downing*, J.C. Whittier, L.D. Downing, P.D. Burns, and G.E. Seidel, Colorado State University, Fort Collins.
9:30	108	Effects of feeding high linoleate Safflower seeds prepartum on leptin concentration, weaning, and re-breeding performance of beef heifers. T. W. Geary* ¹ , E. E. Grings ¹ , M. D. MacNeil ¹ , and D. H. Keisler ² , ¹ USDA-ARS, Miles City, MT, ² University of Missouri, Columbia.
9:45	109	Influence of supplementation with safflower seeds on prostaglandin F metabolite in serum of postpartum beef cows. M. H. J. Grant* ¹ , B. W. Hess ¹ , J. D. Bottger ¹ , D. L. Hixon ¹ , E. A. Van Kirk ¹ , B. M. Alexander ¹ , T. M. Nett ² , and G. E. Moss ¹ , ¹ University of Wyoming, ² Colorado State University.

RUMINANT NUTRITION II – ORAL

CHAIR: Dr. Joel Caton, North Dakota State University

Friday, 9:00 a.m. – 10:00 a.m.

Room: Clark Building A101

Time	Abstract Number	
9:00	152	Feeding value of barley vs. corn in finishing diets. J. J. Kincheloe*, J.G.P. Bowman, L.M.M. Surber, D. L. Boss, K. A. Anderson, and T. K. Blake, Montana State University, Bozeman.
9:15	153	Effects of level of supplemental soybean oil on duodenal fatty acid flow in beef heifers fed bromegrass hay. E. J. Scholljegerdes*, B. W. Hess, M. B. Whitney, and D. C. Rule, University of Wyoming.

9:30	154	Effects of supplemental corn and high-oil corn on duodenal fatty acid flows for beef heifers grazing summer pasture. S. L. Lake*, B. W. Hess, E. J. Scholljegerdes, L. Brokaw, and D. C. Rule, University of Wyoming.
9:45	155	Effect of supplemental soybean oil on duodenal flow of long chain fatty acids in beef heifers grazing summer pasture. D. E. Carter*, B. W. Hess, E. J. Scholljegerdes, and D. C. Rule, University of Wyoming.

PASTURES AND FORAGES I – ORAL

CHAIR: Dr. Tim Stanton, Colorado State University

Friday, 9:00 a.m. – 10:00 a.m.

Room: Clark Building A103

Time	Abstract Number	
9:00	80	Comparison of urea and biuret as nitrogen supplements to low-quality forage: daily and alternate day supplementation effects on efficiency of nitrogen use in lambs. T. A. Currier* ¹ , D. W. Bohnert ¹ , S. J. Falck ¹ , and S. J. Bartle ² , ¹ Eastern Oregon Agriculture Research Center, Burns, ² ADM Alliance Nutrition, Inc., Quincy, IL.
9:15	81	Comparison of urea and biuret as nitrogen supplements to low-quality forage: daily and alternate day supplementation effects on digestion and ruminal fermentation in steers. T. A. Currier ¹ , D. W. Bohnert* ¹ , S. J. Falck ¹ , C. S. Schauer ¹ , and S. J. Bartle ² , ¹ Eastern Oregon Agriculture Research Center, Burns, ² ADM Alliance Nutrition, Inc., Quincy, IL.
9:30	82	Effect of bale density, moisture content, and ammoniation level on in situ degradability of bluegrass straw. A. V. Grove*, C. W. Hunt, and R. W. Lewis, University of Idaho, Moscow.
9:45	83	Evaluation of barley from the core collection of the USDA National Small Grains Collection for forage quality and yield. L.M.M. Surber*, J.G.P. Bowman, W. L. Bengochea, P. F. Hensleigh, and T. K. Blake, Montana State University, Bozeman.

CONGRESSIONAL INSIGHT POLITICAL EDUCATION PROGRAM

The program is an interactive computer game designed to simulate a two-year term of office in Congress. The workshop is a lot of fun, time passes incredibly quickly, and participating will illustrate to you why politicians must (or should) make some of the decisions they do.

Attend and see if you get re-elected!

Friday 9:00 a.m. - 12:00 p.m.

Room: Natural Resources Building 108

POSTER II

Friday 9:00 a.m. – 12:00 p.m.

Room: Clark Building Foyer

Authors Present

Even abstract numbers 9:00 a.m. – 10:00 a.m.

Odd abstract numbers 10:00 a.m. – 11:00 p.m.

Behavior and Breeding and Genetics

Abstract Number

- 3 Use of Naloxone Challenge to Predict Sexual Performance of Eight and Seventeen Month-Old Rams. J.N. Stellflug*, USDA-ARS US Sheep Experiment Station, Dubois ID.
- 9 Predicted rate of inbreeding for a closed line of Hereford cattle. Batchimeg Tseveenjav*¹, Maiwashe Norman¹, Bruce L Golden¹, and Harvey D. Blackburn², ¹Colorado State University, Fort Collins, ²National Animal Germplasm Program, ARS-USDA, Fort Collins, CO.
- 10 Effects of stressful hot conditions on milk yield and reproductive traits of first lactation cows grouped by coat color. L San Juan¹, S Cobos¹, J Rodriguez¹, F Bueno¹, A Marquez*¹, and J Guerrero², ¹Universidad Autonoma de Baja California, ²University of California- Agricultural & Nat. Resources.
- 11 Comparison of scrotal circumferences in the progeny of Limousin sires mated to dams involving inheritance of Limousin in a herd in Samalayuca, Mexico. A Marquez¹, J Ponce¹, J Rodriguez¹, F Trejo¹, H Gonzalez², and J Guerrero³, ¹Universidad Autonoma de Baja California, ²Universidad Autonoma de Ciudad Juarez, ³University of California- Agricultural & Nat. Resources.
- 12 Estimates of genetic and reproductive parameters in a Holstein dairy herd in the desertic at northwest region of Mexico. A Marquez¹, A Quintana¹, J Rodriguez¹, S Cobos¹, F Bueno¹, V Vizcarra¹, H Gonzalez², and J Guerrero³, ¹Universidad Autonoma de Baja California, ²Universidad Autonoma de Ciudad Juarez, ³University of California- Agricultural & Nat. Resources.
- 13 Estimates of genetic parameters for birth weight in crossbred calves Jersey x Holstein. A Marquez¹, S Cobos¹, J Bañuelos¹, and J Guerrero², ¹Universidad Autónoma de Baja California, ²University of California- Agricultural & Nat. Resources.
- 14 Comparison of component EPD between Herefords with high versus low values for a maternal productivity index. D. H. Crews, Jr.* , Agriculture and Agri-Food Canada Research Centre, Lethbridge, Alberta, Canada.
- 15 Average effect of gene substitution for milk protein loci on first lactation production in dairy cattle. A. Barreras-Serrano*, J.C. Cruz-Lopez, and O. Robinson-Navarro, Universidad Autónoma de Baja California, Mexicali, B.C., Mexico.

Environment and Growth

Abstract Number

- 27 Effects of steroidal glycoalkaloids from potatoes (*Solanum tuberosum*) on in vitro bovine embryo development. S. Wang*¹, K.E. Panter², W. Gaffield³, R.C. Evans¹, and T.D. Bunch¹, ¹Utah State University, Logan, ²Poisonous Plant Research Laboratory, USDA-ARS, Logan, UT, ³Western Regional Research Center, USDA-ARS, Albany, CA.

- 28 Frecuency, distribution and risk factors asociated to presence of bovine tuberculosis in dairy cattle of Baja California, Mexico. G. Lopez*¹, H. Magdaleno², A. Barreras¹, R. Searcy¹, and E. Sanchez¹, ¹Universidad Autonoma de Baja California, Mexicali, B.C., Mexico, ²Secretareda de Agricultura Ganadereda Pesca y Alimentos, Mexicali, B.C., Mexico.
- 29 Incidence of genetic susceptibility to scrapie in selected purebred and commercial flocks. B. M. Alexander*¹, R. H. Stobart¹, W. C. Russell¹, K. I. O'Rourke², A. N. Taylor¹, and G. E. Moss¹, ¹Univer- sity of Wyoming, ²USDA-ARS.
- 30 Effects of thyroid inhibition during gestation on serum thyroxine and weight responses of fine-wool ewes. J. L. Duffey, D. M. Hallford, C. A. Gifford, and R. L. Rosencrans, New Mexico State University, Las Cruces.
- 31 Serum thyroxine and environmental conditions during three stages of the reproductive cycle of Ram- bouillet ewe lambs in southern New Mexico. C. A. Gifford, N. H. Wells, J. A. Hernandez, J. L. Duffey, R. L. Rosencranz, D. M. Hallford, New Mexico State University, Las Cruces.
- 32 Comparison of progesterone containing sponge and controlled internal drug releasing device pes- saries on estrous behavior and pregnancy in sheep. T. J. Stow*¹, B. R. Faris¹, T. T. Ross¹, and M. L. Looper², ¹New Mexico State University, ²Extension Animal Resources, New Mexico State University.
- 33 Impacts of implants on carcass quality and gross income. C. J. Ackerman, R. R. Mills, R. L. Dickson, and M. J. Fisher*, Oregon State University.
- 34 Effects of pH on survival of *Escherichia coli* O157:H7 in continuous cultures of rumen contents. B. H. Thran¹, H. S. Hussein*¹, D. Redelman², and G. C. J. Fernandez³, ¹Department of Animal Biotechnol- ogy, ²Flowcytometry Center, ³Nevada Agricultural Experiment Station, University of Nevada-Reno.
- 59 Effects of isocupressic acid (ICA), a pine needle abortifacient toxin, on in vitro bovine oocyte matura- tion and subsequent embryo development. S. Wang*¹, K.E. Panter², D.R. Gardner², R.C. Evans¹, and T.D. Bunch¹, ¹Utah State University, Logan, ²Poisonous Research Laboratory, USDA-ARS, Logan, UT.
- 60 Heifer development within three seasons of calving. E. E. Grings*, R. E. Short, T. W. Geary, and M. D. MacNeil, USDA-ARS, Miles City, MT.

Meat Science, and Nonruminant Nutrition

Abstract Number

- 61 Comparison of acidic and alkaline catalysts for preparation of fatty acid methyl esters from ovine muscle with emphasis on conjugated linoleic acid. C. M. Murrieta*, B. W. Hess, and D. C. Rule, University of Wyoming.
- 62 Effects of corn and barley based diets on beef characteristics. C.J. Bergner*¹, J.A. Boles¹, J.G.P. Bow- man¹, D.L. Boss², L.M.M. Surber¹, T. Spinner¹, and K. Groenlund¹, ¹Montana State University, Bozeman, ²Northern Agricultural Research Center, Havre, MT.
- 63 Predicting retail yield of crossbred bulls. N. Torrentera*¹, H. Perez², and R. A. Zinn³, ¹Universidad Autonoma de Baja California (Mexicali, Mexico), ²Grupo Vizur, Culiacan Sinaloa, Mexico, ³University of California, Davis.
- 65 Bio-availability of Venezuela sedimentary phosphates in swine feeding. S. Godoy* and C. F. Chicco, Centro Nacional de Investigaciones Agropecuarias. INIA.

- 66 Fermentation characteristics of soluble fiber sources incubated with colonic bacteria from dogs and cats. Y. Chiang*¹, H. S. Hussein¹, H. Han¹, B. W. Wolf², V. Edirveerasingam¹, and T. Shenkoru, ¹Department of Animal Biotechnology, University of Nevada-Reno, ²Ross Product Division, Abbott Laboratories, Columbus, OH.

Pastures and Forages

Abstract Number

- 67 Influence of different levels of urea supplementation when beef cows grazing winter pasture are supplemented at different frequencies during the prepartum period. C. G. Farmer*, R. C. Cochran, and T. A. Wickersham, Kansas State University.
- 68 Effect of a Fibrolytic Enzyme Preparation on Intake and Digestibility of Bluegrass Seed Straw Fed to Beef Cattle. J.I. Szasz¹, T.M. McCalmant*¹, C.W. Hunt¹, A.V. Grove¹, and L.R. Kennington¹, ¹University of Idaho, Moscow.
- 69 Effect of particle length of forage on digestibility, degradability, and ruminal parameters in sheep fed with basal oat straw diet. H. G. González *^{1,3}, O. B. Ruiz², C. S. V. Velez², C. L. Holguedn², A. E. Orozco¹, A. P. Marquez³, A. C. Correa³, V. V. Gonzalez³, H. C. Hernandez⁴, and L. B. Gerlach⁵, ¹Medicina Veterinaria y Zootecnia - ICB, Universidad Autonoma de Ciudad Juarez, Mexico, ²Universidad Autonoma de Chihuahua, ³Universidad Autonoma de Baja California, ⁴Universidad Autonoma de Baja California Sur, ⁵Universidad de Sonora.
- 70 Effect of particle length of forage on digestibility, degradability, and ruminal parameters in steers fed with basal oat straw diet. H. G. González *^{1,3}, O. B. Ruiz², L. C. De la Vega², A. P. Marquez³, A. C. Correa³, A. E. Orozco¹, E. T. Rubio¹, I. G. Ramos¹, E. S. Garcia¹, and H. C. Hernandez⁴, ¹Medicina Veterinaria y Zootecnia - ICB, Universidad Autonoma de Ciudad Juarez, Mexico, ²Universidad Autonoma de Chihuahua, ³Universidad Autonoma de Baja California, ⁴Universidad Autonoma de Baja California Sur.
- 71 Digestibility and ruminal parameters in steers fed with a basal oat straw diet and supplemented with alfalfa. H. C. Hernández⁴, H. G. González*^{1,3}, O. B. Ruiz², N. E. Bujanda¹, N. A. Loya¹, A. E. Orozco¹, E. T. Rubio¹, O. R. Barrozo¹, R. G. Reyes¹, and H. S. Armendíz¹, ¹Medicina Veterinaria y Zootecnia - ICB, Universidad Autónoma de Ciudad Juárez, México, ²Universidad Autónoma de Chihuahua, México, ³Universidad Autónoma de Baja California, México, ⁴Universidad Autónoma de Baja California Sur, México.
- 72 Comparison of techniques and grinding size to estimate digestibility of forage base ruminant diets. D. Damiran*¹, T. DelCurto¹, D.W. Bohnert¹, G.D. Pulsipher¹, and S. Findholt², ¹Oregon State University, Union, ²Oregon Department of Fish & Wildlife, La Grande.
- 73 Snakeweed (*Gutierrezia spp.*) consumption by grazing beef cattle. S. H. Cox* and T. T. Ross, New Mexico State University.
- 74 Effect of Sheep Grazing or Mowing on the Control of Perennial Pepperweed (*Lepidium latifolium* L.). C.M. Williams*, D.W. Holcombe, D.R. Hanks, J.R. Allen, L.B. Bruce, B.L. Perryman, and G.C.J. Fernandez, University of Nevada, Reno.
- 75 Comparison of immediate washing with storing frozen and subsequent thawing and washing, on in situ residues of DM, OM, N, and ADF from ruminally incubated dacron bags. T. N. Bodine*, H. T. Purvis II, and R. Basurto, Oklahoma Agricultural Experiment Station, Stillwater.
- 76 Energy supplementation of steers grazing early-season, native range: Effects on grazing and subsequent finishing performance and carcass merit. S. P. Montgomery*¹, D. A. Blasi¹, J. C. Forcherio², and R. R. Scott², ¹Kansas State University, Manhattan, ²Purina Mills, St. Louis, MO.

- 77 Growth and reproductive performance of Holstein heifers as affected by ruminal degradation of supplemental protein. J. P. Tanner, H. S. Hussein, H. Han*, S. L. Lake, and D. H. Hanks, University of Nevada-Reno.
- 78 Effect of windrow grazing versus feeding baled hay on forage quality and animal performance. V. Nayigihugu*, B. W. Hess, D. W. Koch, and J. W. Flake, University of Wyoming.
- 79 A comparison of techniques for estimating forage digestion. E. J. Scholljegerdes*, V. Nayigihugu, B. W. Hess, and P. A. Ludden, University of Wyoming.

ENVIRONMENT III – ORAL

CHAIR: Dr. Dennis Lamm, Colorado State University

Friday, 10:30 a.m. - 11:15 a.m.

Room: Natural Resources Building Room 113

Time	Abstract Number	
10:30	35	Effects of water quality on performance and health of growing steers. H. H. Patterson*, P. S. Johnson, T. R. Patterson, and D. B. Young, South Dakota State University, Brookings.
10:45	36	Early weaning effects on feedlot performance and carcass quality: a meta-analysis. A.D. Jinks* ¹ , B.J. Renquist ¹ , and J.W. Oltjen ¹ , ¹ University of California, Davis.
11:00	64	Sheep Pathogen Reduction Interventions and Animal Production Food Safety Practices. S.B. LeValley* ¹ , E.A. Duffy, K.E. Belk, J.D. Tatum, J.N. Sofos, G.C. Smith, and C.V. Kimberling, Colorado State University.

PASTURES AND FORAGES II – ORAL

CHAIR: Dr. Roy Roath, Colorado State University

Friday, 10:30 a.m. 11:30 a.m.

Room: Clark Building A103

Time	Abstract Number	
10:30	84	Effect of soil addition to feces on acid detergent insoluble ash. L.A. Appeddu* ¹ and T.N. Bodine ² , ¹ USDA-ARS Grazinglands Research Laboratory, El Reno, ² Oklahoma Agricultural Experiment Station, Stillwater.
10:45	85	Nutritional quality of windrowed and standing high-sugar corn forage. V. Nayigihugu*, B. W. Hess, D. W. Koch, and J. W. Flake, University of Wyoming.
11:00	86	Grazing Lambs Control Insects In Alfalfa. J.N. Guerrero*, E.T. Natwick, M.I. Lopez, and A.R. dos Santos, University of California Desert Research and Extension Center, Holtville.
11:15	159	Western Center for Integrated Resource Management's dynamic approach to a Master's degree education at Colorado State University. K.E. Miller*, R.K. Peel, J.C. Whittier, and G.D. Niswender, Colorado State University, Fort Collins.

PHYSIOLOGY III – ORAL

CHAIR: Dr. Jason Bruemmer, Colorado State University

Friday 10:30 a.m. – 12:15 p.m..

Room: Clark Building A104

Time	Abstract Number	
10:30	110	Influence of short-term fasting on thyroxine and insulin secretion in ewes. M. McFarland* ¹ , D. M. Hallford ² , E. A. Van Kirk ¹ , Z. Kiyama ¹ , and G. E. Moss ¹ , ¹ University of Wyoming, ² New Mexico State University.
10:45	111	Effects of varying energy intake and sire breed on duration of postpartum anestrus, IGF-1 and GH in mature crossbred cows. A. J. Roberts* and T. G. Jenkins, USDA-ARS, Meat Animal Research Center, Clay Center, NE.
11:00	112	Effects of exposure to bull or excretory products of bulls on the breeding performance of first-calf restricted suckled beef cows using a modified CO-Synch protocol. K. Anderson*, J.G. Berardinelli, P.S. Joshi, and R. Robison, Montana State University, Bozeman.
11:15	113	Effect of incorporating a low dose of estradiol cypionate (ECP) into a timed artificial insemination protocol on estrous behavior and conception rates in beef cattle. Amin Ahmadzadeh* ¹ , G. A. Johnson ¹ , D. G. Falk ¹ , A. V. Grove ¹ , and J. B. Glaze ² , ¹ University of Idaho, Moscow, ² University of Idaho, Twin Falls R & E Center, Twin Falls.
11:30	114	Evaluation of thermal status of cattle using infrared thermography. C. L. Coppola* ¹ , R. J. Collier ² , and R. M. Enns ¹ , ¹ Colorado State University, ² University of Arizona.
11:45	115	Dexamethasone (DEX) effects on Pig Lymphocyte Proliferation and Immunoglobulin M (IgM) Production <i>in vitro</i> . C.A. Davila* ¹ , T.H. Welsh, Jr. ² , and J.C. Laurenz ¹ , ¹ Texas A&M University-Kingsville, ² Texas A&M University, College Station.
12:00	116	Effects of introduction of bulls at different days postpartum and restricted suckling on resumption of ovarian cycling activity in first-calf beef cows. J.G. Berardinelli*, P.S. Joshi, K. Anderson, R. Robison, and R. Adair, Montana State University, Bozeman.

RUMINANT NUTRITION III – ORAL

CHAIR: Dr. Bret Hess, University of Wyoming

Friday, 10:30 a.m. – 11:15 a.m.

Room: Clark Building A101

Time	Abstract Number	
10:30	156	Comparison of elk (<i>Cervus elaphus</i>) fecal and rumen microbial suspension to predict feed degradation and adaptation. M. Blummel*, R. E. Short, and E. E. Grings, USDA-ARS, Miles City, MT.
10:45	157	The effect of various extrusion temperatures on protein utilization of canola meal by chicks. J. A. Southwick*, R. O. Kellems, N.P. Johnston, D. L. Eggett, and B. L. Webb, Brigham Young University, Provo.

11:00 158 Predicting efficiency of microbial production in diets by in situ and in vitro degradation characteristics of diet ingredients. M. Bluemmel*¹, E. Zerbini², S. Fernandez-Rivera¹, A. Karsli³, and J. R. Russell³, ¹ILRI India/Ethiopia, ²Agribrands Europe Regional Lab, ³Iowa State University, Ames.

EQUINE TOUR

Friday, 1:00 p.m. – 3:00 p.m.

Tour of Equine Sciences Research and Teaching Facilities

Colorado State University is renowned for its Equine Science Program in research, teaching and short-courses. On Friday afternoon, June 21st, a tour of the facilities and program located at the CSU Foothills Campus will be available for a cost of \$5.00 to defray transportation costs. This tour will be conducted by faculty in Equine Sciences and will depart from the Animal Science Building on the main CSU campus at 1:00. Those desiring to participate in this tour must so indicate on the meeting pre-registration form.

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