American Society of Animal Science

73rd Annual Meeting

Montana State University
Bozeman, Montana
June 20–22, 2001
W ESTERN  S ECTION
A MERICAN  S OCIETY
O F  A NIMAL  S CIENCE
S UMMARY  O F  SCHEDULED  E VENTS

T uesday, June 19, 2001
4:00 p.m. – 7:00 p.m. Registration, North Hedges Dormitory

W ednesday, June 20, 2001
7:00 a.m. – 5:00 p.m. Registration, Northwest Lounge, Strand Student Union Building (SUB)
8:00 a.m. – 4:30 p.m. Symposium “Using Science and Marketing in Producing and Delivering Value-Added Products for the Consumer”, Theater, SUB.
5:00 p.m. – 6:00 p.m. Poster Set-up, Ballroom A, SUB (posters remain in place until Friday 12:00 p.m.)
6:00 p.m. – 9:00 p.m. Informal Reception, Ballroom A, SUB

T hursday, June 21, 2001
7:00 a.m. – 5:00 p.m. Registration Booth, Ballroom A, SUB
8:00 a.m. – 8:40 a.m. Distinguished Service Award Presentation, Dr. G. Eric Bradford, University of California, Davis, Ballroom B, SUB
8:45 a.m. – 10:00 a.m. Graduate Student Competition, Ballroom B, SUB
10:00 a.m. – 10:30 a.m. Break, Ballroom A, SUB
10:30 a.m. – 11:45 a.m. Graduate Student Competition, Ballroom B, SUB
12:00 p.m. – 1:00 p.m. Graduate Luncheon and Career Forum, Room 276, SUB
1:15 p.m. – 3:00 p.m. Graduate Student Competition, Ballroom B, SUB
1:00 p.m. – 3:00 p.m. Extension Symposium, Ballroom C, SUB
1:00 p.m. – 3:15 p.m. Breeding and Genetics, Room 275, SUB
3:00 p.m. – 3:30 p.m. Break, Ballroom A, SUB
3:30 p.m. – 5:00 p.m. Extension; Environment & Livestock Management, Ballroom C, SUB
3:30 p.m. – 5:00 p.m. Physiology, Room 275, SUB
3:30 p.m. – 5:00 p.m. Ruminant Nutrition, Ballroom B, SUB
3:30 p.m. – 5:00 p.m. Posters, Ballroom A, SUB
6:30 p.m. – 9:00 p.m. Barbecue Dinner and Awards Program, American Simmental Association, (1 Simmental Way, Bozeman)

Friday, June 22, 2001
8:00 a.m. – 12:00 p.m. Registration, Conference Service (Room 280), SUB
8:00 a.m. – 8:55 a.m. Business Meeting, Ballroom B, SUB
9:00 a.m. – 10:00 a.m. Environment & Livestock Management, Ballroom C, SUB
9:00 a.m. – 10:00 a.m. Physiology, Room 275, SUB
9:00 a.m. – 10:00 a.m. Ruminant Nutrition, Ballroom B, SUB
9:00 a.m. – 10:00 a.m. Posters, Ballroom A, SUB
10:00 a.m. – 10:30 a.m. Break, Ballroom A, SUB
10:30 a.m. – 12:00 p.m. Environment & Livestock Management, Ballroom C, SUB
10:30 a.m. – 12:00 p.m. Pastures and Forages, Room 275, SUB
10:30 a.m. – 12:00 p.m. Ruminant Nutrition, Ballroom B, SUB
10:30 A.M. – 12:00 p.m. Posters, Ballroom A, SUB

Saturday, June 23, 2001
Tours depart and return south end Strand Student Union Building (SUB)
7:30 a.m. – 5:30 p.m. Ranch Tour (Flying D. Bison Ranch, Sitz Angus Ranch, Cooper Hereford Ranch)
7:30 a.m. – 2:00 p.m. Ranch Tour (Flying D Bison Ranch, Sitz Angus Ranch)
11:00 a.m. – 5:30 a.m. Ranch Tour (Sitz Ranch, Cooper Hereford Ranch)
PROGRAM
Wednesday, June 20, 2001

SYMPOSIUM

Using Science and Marketing in Producing and Delivering Value Added Products for the Consumer

Dr. Jim Sprinkle, University of Arizona, Presiding

Wednesday, 7:00 a.m. – 4:30 p.m.
Strand Union Theater, SUB

7:00 Registration & Continental Breakfast

8:00 Introductions & Welcome
Dr. Noelle Cockett, USU, Logan, Utah, WSASAS President
Dr. Jim Sprinkle, University of AZ, Payson, AZ, Symposium Chair

Marketing Value-Added Products in the New Economy

8:15 The Changing Market Structure for the American Beef Industry. Dr. Harlan Hughes, North Dakota State University, Fargo.

8:55 Value-Added Beef Production: What Incentives are Needed to Pull Production Systems into the Changing Market? Dr. Wayne Purcell, VA Tech, Blacksburg, VA.

9:30 Future Beef: A Case Study in Beef Production Alliances. Dr. Ronnie Green, Future Beef Operations, LLC.

10:00 BREAK

Adding Value to Beef with Technology to Meet Market Needs

10:25 Available Technology Tools to Produce and Deliver Final Products. Dr. Harlan Ritchie, Michigan State University, East Lansing, MI.
11:05 Using DNA Markers, Carcass EPDs and Carcass Value Indices in Meeting Market Targets Without Sacrificing Maternal Production Traits. Dr. Mike Tess, Montana State University, Bozeman, MT.

11:50 Introduction of Sponsors

12:00 LUNCH (not provided)

1:30 Integrating Innovative Management Strategies (Implants, Nutrition, Sorting etc.) to Alter Growth Patterns and Meet Market Targets. Dr. Robbi Pritchard, South Dakota State University, Brookings, SD.

2:10 Integrating Harvest and Post-Harvest Technologies to Meet Market Needs. Dr. Tommy Wheeler, USDA-Meat Animal Research Center, Clay Center, NE.

2:45 BREAK

Putting It Together

3:05 Panel Discussion: Creating and Marketing Value-Added Products
Panel Moderator: Dr. John Paterson, Montana State University, Bozeman

Improving Competitiveness of Domestic Beef by Adding Value.
Mr. Jim Peterson, Peterson Ranch, Buffalo, MT

New Product Development for the Consumer.
Ms. Charlene Schuster, Montana Beef Council, Helena, MT

Role of Seedstock Breeder in Supplying Genetics for Value-Added Products.
Mr. Lee Leachman, Leachman Cattle Co., Billings, MT
Other Panel Members: Dr. Harlan Hughes, Dr. Wayne Purcell, Dr. Harlan Ritchie, Dr. Ronnie Green

3:55 Questions to Panel from Audience
Informal Reception
Wednesday, 6:00 p.m. – 9:00 p.m.
Ballroom A, Strand Student Union Building (SUB)

Thursday, June 21, 2001

Distinguished Service Award Presentation
Thursday, 8:00 a.m. – 8:40 a.m.
Ballroom B, Strand Student Union Building (SUB)

2000 Awardee
Dr. G. Eric Bradford, University of California, Davis
Prospects for the Western Range Livestock Industry

GRADUATE STUDENT COMPETITION I - ORAL

Chair: Dr. James Strickland (Chair of Competition Committee) New Mexico State University, Las Cruces

Thursday, 8:45 a.m. – 10:00 a.m.
Room: Ballroom B, SUB

<table>
<thead>
<tr>
<th>Time</th>
<th>Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>9:15</td>
<td>42</td>
<td>Effect of an endothelin-1 receptor antagonist on serum progesterone levels in the mid-luteal bovine corpus luteum. D.J. Denniston*, K.K. Kane,</td>
</tr>
<tr>
<td>Time</td>
<td>Number</td>
<td>Abstract</td>
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**GRADUATE STUDENT COMPETITION II - ORAL**

Chair: Dr. James Strickland, New Mexico State University, Las Cruces

Thursday, 10:30 a.m. – 11:45 a.m.  
Room: Ballroom B, SUB

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<tr>
<th>Time</th>
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<th>Abstract</th>
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GRADUATE LUNCHEON and CAREER FORUM
Moderator: Dr. Jan Bowman, Montana State University, Bozeman
Thursday, 12:00 p.m. – 1:00 p.m.
Room 276, SUB
Box lunch courtesy of Western Section Executive Committee

GRADUATE STUDENT COMPETITION III - ORAL
Chair: Dr. James Strickland, New Mexico State University, Las Cruces
Thursday, 1:15 p.m. – 3:00 p.m.
Room: Ballroom B, SUB

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<tr>
<th>Time</th>
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<th>Abstract</th>
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<tbody>
<tr>
<td>1:15</td>
<td>51</td>
<td>Effect of the progesterone receptor antagonist, mifepristone, on progesterone secretion from the early and mid cycle bovine corpus luteum. L. Canales*, D. J. Denniston, K. K. Kane, W. D. Bryant, R. Kelling, and D. E. Hawkins, New Mexico State University, Las Cruces.</td>
</tr>
<tr>
<td>2:00</td>
<td>55</td>
<td>A mutation at the <em>agouti</em> locus is associated with recessive black coat color in sheep. M. A. Smit*, T. L. Shay, and N. E. Cockett, Utah State University, Logan.</td>
</tr>
<tr>
<td>2:15</td>
<td>56</td>
<td>Performance and metabolic characteristics of multiparous Angus and Brahman cows grazing in the Chihuahuan desert. B.S. Obeidat*, M.G. Thomas¹, C.C. Bailey¹, D.M. Hallford¹, D.H. Keisler², M.L. Petersen¹, W.D. Bryant¹, J.A. Hernandez¹, M.D. Garcia¹, and R. Lopez¹, New Mexico State University, Las Cruces, ²University of Missouri, Columbia.</td>
</tr>
<tr>
<td>2:30</td>
<td>57</td>
<td>Feeding strategies affect conjugated linoleic acid content and quality of beef. C. S. Poulson*, T. R. Dhiman, D. Cornforth, and K. C. Olson, Utah State University, Logan.</td>
</tr>
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EXTENSION SYMPOSIUM

Chair: Dr. Rick Funston, Montana State University, Bozeman

Thursday, 1:00 p.m. – 3:00 p.m.
Room: Ballroom C, SUB

1:00 Source Verification and Approaches to Reduce Calf Morbidity. John Paterson, Montana State University.

1:15 Inside Beef and Risk Management From Ranch to Rail. Ron Torell, University of Nevada.

1:30 Producer educational initiatives: The Use of Science and Research to Improve Consumer Confidence and Acceptance of Beef. Deb Roeber, Colorado State University.

1:45 Compliance with the Clean Water Act: Animal Feeding Operations and the EPA. Randy Mills and John Williams, Oregon State University.

2:00 The Use of Sheep in Natural Resource Management Programs. Rodney Kott, Montana State University.


2:30 Missouri Show-Me-Select Replacement Heifer Program. Dave Patterson, University of Missouri.

2:45 Livestock Information Databases. Bob Kattnig, University of Arizona.

BREEDING AND GENETICS - ORAL

Chair: Dr. Michael Tess, Montana State University, Bozeman

Thursday, 1:00 p.m. – 3:15 p.m.
Room 275, SUB

Abstract

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<th>Time</th>
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<th>Description</th>
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<tbody>
<tr>
<td>1:00</td>
<td>1</td>
<td>Evaluation of F1 crosses from Angus, Charolais, Salers, Piedmontese, Tarentaise and Hereford sires. I. Calf performance and heifer devel-</td>
</tr>
</tbody>
</table>
1:15 2 Evaluation of F1 crosses from Angus, Charolais, Salers, Piedmontese, Tarentaise and Hereford sires. II: Feedlot and carcass traits. D.C. Anderson1, D.D. Kress2, D.W. Bailey1, D.L. Boss1, and K.C. Davis2, 1Northern Agricultural Research Center, Havre, Montana, 2Montana State University, Bozeman.

1:30 3 Evaluation of F1 crosses from Angus, Charolais, Salers, Piedmontese, Tarentaise and Hereford sires. III. Cow traits of young dams. K. C. Davis*, D.D. Kress1, D.C. Anderson2, D.L. Boss2, and D. W. Bailey2, 1Northern Agricultural Research Center, Havre, MT, 2Montana State University, Bozeman.

1:45 4 Evaluation of F1 crosses from Angus, Charolais, Salers, Piedmontese, Tarentaise or Hereford sires. IV. Calf traits from 2-yr-old and 3 and 4-yr-old dams. K. C. Davis*1, D. D. Kress1, D. C. Anderson2, D. L. Boss2, and D. L. Bailey1, 1Montana State University, Bozeman, 2Northern Agricultural Research Center, Harve, MT.

2:00 5 Evaluation of F1 crosses from Angus, Charolais, Salers, Piedmontese, Tarentaise or Hereford sires V: Grazing distribution patterns. D. W. Bailey*1, D. D. Kress2, D. C. Anderson1, D. L. Boss1, and K. C. Davis2, 1Northern Agricultural Research Center, Havre, MT, 2Montana State University, Bozeman.


2:30 7 Heritability and repeatability of sexual performance. G. D. Snowder*, J. N. Stellflug1, and L. D. Van Vleck2, 1USDA, ARS, U. S. Sheep Experiment Station, Dubois, ID, 2USDA, ARS, MARC, Lincoln, NE.


3:00 9 The effect of the callipyge mutation on genes in the distal end of ovine chromosome 18. T. L. Shay1, C. A. Bidwell1, C. Charlier1, K. Segers1, S. Berghmans1, M. Georges1, and N. E. Cockett1, 1Utah State University, Logan, 2Purdue University, West Layfayette, IN, 3University of Liege, Liege, Belgium.
# EXTENSION; ENVIRONMENT and LIVESTOCK MANAGEMENT I - ORAL

Chair: Dr. Clay Mathis, New Mexico State University, Las Cruces

Thursday, 3:30 p.m. – 5:00 p.m.
Room: Ballroom C, SUB

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<tr>
<th>Time</th>
<th>Number</th>
<th>Abstract</th>
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<tbody>
<tr>
<td>3:30</td>
<td>37</td>
<td>Meeting carcass quality specifications and carcass characteristics of Northern California cattle in alliance, futurity and youth programs. D.J. Drake* and L.C. Forero, University of California-Davis, Cooperative Extension.</td>
</tr>
<tr>
<td>4:00</td>
<td>15</td>
<td>Development of Holstein heifers grazing irrigated grass-legume pastures. R. Flores**, R. Lopez*, M. Looper†, C. Krehbiel†, E. Hanson⁵, K. Duncan⁶, M. Murray⁵, M. Thomas¹, G. Donart¹, and R. Flynn³, ¹New Mexico State University, Las Cruces, ²NMSU Agricultural Science Center, Artesia, New Mexico.</td>
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<tr>
<td>4:15</td>
<td>16</td>
<td>Orientation of beef cattle grazing foothill winter range in Montana. B.E. Olson* and R.T. Wallander, Montana State University, Bozeman.</td>
</tr>
<tr>
<td>4:30</td>
<td>17</td>
<td>Sheep and cattle response when grazed together on sagebrush-grass rangeland. B.C. Glidewell¹, J.C. Mosley², and J.W. Walker³, ¹USDA-ARS Grazing Lands Research Lab, El Reno, OK, ²Montana State University, Bozeman, ³Texas Agricultural Experiment Station, San Angelo.</td>
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<tr>
<td>4:45</td>
<td>18</td>
<td>The influence of cattle grazing on elk forage conditions and habitat selection. K.K. Crane¹, J.C. Mosley², T.K. Brewer², W.L. Torstenson³, and M.W. Tess³, ¹University of Wyoming, Laramie, ²Montana State University, Bozeman.</td>
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<td>Time</td>
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<td>3:30</td>
<td>84</td>
<td>Synchronization of estrus in beef cows using GnRH and PGF with estrus AI or timed AI 72 h after PGF with or without a second GnRH injection. T.W. Geary*, J. C. Whittier, R. G. Mortimer, J. W. Young, and R. R. Salverson, USDA-ARS, Miles City, MT, Colorado State University, Fort Collins, Flex Ranch, Whitman, NE, Select Sires, Columbus, OH.</td>
</tr>
<tr>
<td>4:00</td>
<td>86</td>
<td>Half dose GnRH does not affect pregnancy rates with the CO-Synch synchronization protocol. H. Foster, J.C. Whittier, P.D. Burns, J. Breummer, T. Field, and T.W. Geary, Colorado State University, Ft. Collins, USDA-ARS, Miles City, MT.</td>
</tr>
<tr>
<td>4:45</td>
<td>89</td>
<td>Transcervical artificial insemination in sheep: Effects of a modified transcervical artificial insemination instrument and traversing the cervix. M. C. Wulster-Radcliffe and G. S. Lewis, USDA-ARS U.S. Sheep Experiment Station, DuBois, ID.</td>
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</table>
# Ruminant Nutrition I - Oral

**Chair:** Dr. David Bohnert, Oregon State University, Burns

**Date and Time:** Thursday, 3:30 p.m. – 5:00 p.m.

**Room:** Ballroom B, SUB

<table>
<thead>
<tr>
<th>Time</th>
<th>Abstract Number</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>3:30</td>
<td>105</td>
<td>Response of old world and little bluestem to spring prescribed fire.</td>
<td>T. N. Bodine, H. T. Purvis II, and D. M. Engle, Oklahoma Agricultural Experiment Station, Stillwater.</td>
</tr>
<tr>
<td>3:45</td>
<td>106</td>
<td>Effects of methionine hydroxy analog (MHA) and(or) fat added to a liquid supplement on ruminal and postruminal digestion and duodenal flow of nutrients in beef steers consuming low-quality lovegrass hay.</td>
<td>G. D. Pulsipher*, C. R. Krehbiel, L. A. Balstad, M. K. Petersen*, D. V. Dhuyvetter, M. S. Brown, and B. M. Capitan, Eastern Oregon Agriculture Research Center, Union, Oklahoma State University, Stillwater, New Mexico State University, Las Cruces, Farmland Industries, Kansas City, MO, West Texas A&amp;M University, Canyon, TX.</td>
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<tr>
<td>4:00</td>
<td>107</td>
<td>Site and extent of digestion in beef cattle consuming restricted amounts of forage and supplemental undegradable intake protein.</td>
<td>E. J. Scholljegerdes*, J. Gould, B. W. Hess, and P. A. Ludden, University of Wyoming, Laramie.</td>
</tr>
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POSTER I

Thursday, 3:30 p.m. – 5:00 p.m.
Room: Ballroom A, SUB
Authors Present

Environment and Livestock Management

Abstract Number

19 Late spring calving lowers cow wintering costs with minimal impact to calf performance. M. A. Smith*, J. W. Waggoner, Jr., D. M. Perry¹, and R. H. Hart². ¹University of Wyoming, Laramie, ²USDA-ARS-High Plains Grassland Research Station, Cheyenne, Wyoming.


21 Feedlot performance and carcass characteristics of Texas Rambouillet feeder lambs implanted with Zeranol implants. J. R. Stultz, B. J. May*, G. R. Engdahl, M. A. Carr, C. B. Scott, and R. L. Reed, Angelo State University, TX.

22 Preliminary characterization of swainsone absorption and elimination in sheep following acute exposure. A. K. Clayshulte*, J. R. Strickland¹, J. B. Taylor², R. L. Ashley³, and M. A. Siepel¹, ¹New Mexico State University, Las Cruces, ²North Dakota State University, Fargo.

23 Serum GH, insulin and thyroxine and body weight, and mammary changes of ewes in response to weaning methods. J.A. Hernandez*, N.H. Wells¹, D.W. Holcombe², and D.M. Halford¹, ¹New Mexico State University, Las Cruces, ²University of Nevada, Reno.

24 Growth of dairy calves fed with two different milk replacers in Mexico. J.S. Saucedo-Quintero*, L. Avendao-Reyes, and F.D. Alvarez-Valenzuela, University of Baja California, Calexico.

25 Influence of body temperature and metabolic disorders on milk production and reproduction in postpartum dairy cattle. A.C. Fitzgerald*, J.C. Hilliard², C.A. Rogers¹, and M.L. Looper¹, ¹New Mexico State University, Las Cruces, New Mexico, ²BJZ Dairy, Mesquite, New Mexico.

26 Semen collection from rams: Artificial vagina versus a vaginal collection vial. M. C. Wulster-Radcliffe, M. A. Williams, J. N. Stellflug, and G. S. Lewis*, USDA-ARS Sheep Experiment Station, Dubois, ID.
Meat Science and Muscle Biology

Abstract Number

59  A possible role of the leptin assay in assessing carcass fat and composition in beef cattle. T.W. Geary1, E.L. McFadin-Buff2, M.D. MacNeil1, R.N. Funston1, R.E. Short1, E.E. Grings1, and D.H. Keisler2, 1USDA-ARS Ft. Keogh LARRL, Miles City, MT, 2University of Missouri, Columbia.

60  Genotype effects on cholesterol and fatty acids in longissimus and semitendinosus muscles from Hereford, Limousin, and Piedmontese F2 crossbred cattle at slaughter. D. C. Rule1, J. M. Rule2, R. E. Short2, E. E. Grings2, and M. D. MacNeil2, 1University of WY, Laramie, 2USDA-ARS Ft. Keogh LARRL, Miles City, MT.


62  Comparison of muscle cholesterol and fatty acid profiles of bison, beef cattle, elk, and chicken. D. C. Rule1, K. S. Broughton1, and G. Maiorano2, 1University of Wyoming, Laramie, 2Universiti degli Studi del Molise, Campobasso, Italy.

Pastures and Forages

Abstract Number

66  Estimation of forage mass using a visual obstruction technique. C. J. Ackerman, J. Sumner, and T. R. Shirley*, Oregon State University, Corvallis.

67  Beet pulp supplementation of heifers grazing native flood meadow: performance and ruminal fermentation. D. W. Bohnert1, C. S. Schauer1, and T. DelCurto2, 1Eastern Oregon Agriculture Research Center, Oregon State University, Burns, 2Eastern Oregon Agriculture Research Center, Oregon State University, Union.


Brief exposure of suckling beef calves to low-quality forages improves performances when re-exposed to these forages as mature cows. R. D. Wiedmeier*, F. D. Provenza, B. Burritt, and B. A. Kent, Utah State University, Logan.


**WSASAS AWARDS**

**BARBECUE DINNER**

Thursday, 6:30 p.m. – 9:00 p.m.
American Simmental Association
(1 Simmental Way, Bozeman)

Western Music by THE RINGLING FIVE,
Ringling, MT

**Friday, June 22, 2001**

**BUSINESS MEETING**

Friday, 8:00 a.m. – 8:55 p.m.
Room: Ballroom B, SUB
### ENVIRONMENT and LIVESTOCK MANAGEMENT II - ORAL

Chair: Dr. Elaine Grings, USDA-ARS, Miles City, MT

Friday, 9:00 a.m. – 10:00 a.m.
Room: Ballroom C, SUB

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<th>Abstract</th>
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<tr>
<td>9:00</td>
<td>27</td>
<td>Influence of beef breeds (Brangus, Charlaris, or Hereford) on locoweed consumption. G. C. Duff*, M. H. Ralphs†, D. A. Walker†, J. D. Graham†, J. D. Rivera†, and L. F. James†. Clayton Livestock Research Center, New Mexico State University, Clayton, 2USDA-ARS Poisonous Plant Research Laboratory, Logan, UT.</td>
</tr>
<tr>
<td>9:15</td>
<td>28</td>
<td>Acute oral exposure of lactating ruminants to swainsonine and subsequent appearance in the serum, elimination in milk and subclinical toxicity in the mothers and nursing young. J. B. Taylor*† and J. R. Strickland‡. 1North Dakota State University, Fargo, 2New Mexico State University, Las Cruces.</td>
</tr>
<tr>
<td>9:30</td>
<td>29</td>
<td>A model for determining risk of pine needle abortion in cattle calving at different times of the year. R. E. Short*†, M. D. MacNeil, and E. E. Grings, USDA-ARS, Fort Keogh LARRL, Miles City, MT.</td>
</tr>
<tr>
<td>9:45</td>
<td>30</td>
<td>Inhibitory effect of nitrocompounds on ruminal methane production in vitro. R. C. Anderson*†, T. R. Callaway†, J. S. Van Kessel‡, and D. J. Nisbet‡. 1USDA/ARS, Food and Feed Safety Research Unit, College Station, TX, 2USDA/ARS, Animal Waste Pathogen Laboratory, Beltsville, MD.</td>
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### PHYSIOLOGY II - ORAL

Chair: Dr. Dale Holcomb, University of Nevada, Reno

Friday, 9:00 a.m. – 10:00 a.m.
Room 275, SUB

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<th>Abstract</th>
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<tr>
<td>9:15</td>
<td>91</td>
<td>Treatment with estradiol benzoate and progesterone to induce emergence of a new ovulatory</td>
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</table>

16


9:45 93 Serum thyroxine, body weights, and ovarian cyclicity in fine wool ewes subjected to thyroid suppression immediately before onset of anestrus. J.A. Hernandez*, D.M. Hallford, and N.H. Wells, New Mexico State University, Las Cruces.

RUMINANT NUTRITION II - ORAL

Chair: Dr. Marc Bauer, North Dakota State University, Fargo

Friday, 9:00 a.m. – 10:00 a.m.
Room: ballroom B, SUB

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<th>Time</th>
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<tr>
<td>9:00</td>
<td>111</td>
<td>Relationship between hip height and live weight on growth characteristics and carcass composition of calf-fed Holstein steers. M. Machado*, N. Torrentera, and R.A. Zinn, University of California, Davis.</td>
</tr>
<tr>
<td>9:30</td>
<td>113</td>
<td>Effects of vitamin E supplementation on performance and health of beef cattle. J.D. Rivera*, G.C. Duff1, M.L. Galyean2, D.A. Walker1, and G.A. Nunnery2. 1New Mexico State University, Clayton Livestock Research Center, Clayton, NM, 2Texas Tech University, Lubbock.</td>
</tr>
<tr>
<td>9:45</td>
<td>114</td>
<td>Phytic acid levels in barley. N. Taylor*, J.G.P. Bowman1, T.K. Blake1, L.M.M. Surber1, K. Anderson1, V. Raboy2, and J. Broyles1, 1Montana State University, Bozeman, 2USDA-ARS, National Small Grains Germplasm Research Facility, Aberdeen, ID.</td>
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POSTER II

Friday 9:00 a.m. – 10:00 a.m.
Room: Ballroom A, SUB
Authors Present

Breeding and Genetics

Abstract Number


14 Estimates of genetic and phenotypic parameters of 368-day weight, total feed consumption, daily gain, and feed conversion in Limousin cattle in Samalayuca, Mexico. A.P. Marquez*, J. Guerrero, J.F. Castillo, and J.H. Herrera, 1Instituto de Ciencias Agricolas, 2University of California, Holtville, 3Universidad Autonoma de Ciudad Juarez, 4Colegio de Posgraduados, Montecillos.

Extension

Abstract Number

## Nonruminant Nutrition

### Abstract Number

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<tr>
<th>Number</th>
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<tbody>
<tr>
<td>63</td>
<td>Ileal digestibility of amino acids in pigs fed wheat diets supplemented with a fungal protease.</td>
<td>M.A. Morales¹, M. Cervantes², M. Cuca¹, J.L. Figueroa¹, A. Pro¹, A.B. Araiza², S. Espinoza², V. Gonzalez², and N. Torrenera², ¹Colegio de Postgraduados, Montecillos, Edo. Mx, ²Instituto de Ciencias Agrícolas, UABC, Mexicali, B.C.</td>
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<td>64</td>
<td>Limiting amino acids in wheat for growing-finishing pigs.</td>
<td>M. Cervantes¹, A. Pichardo², M. Cuca², A. B. Araiza¹, and N. Torrenera¹, ¹Instituto de Ciencias Agrícolas, UABC, Mexicali, B.C., ²Colegio de Postgraduados, Montecillos, Edo.</td>
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## Ruminant Nutrition

### Abstract Number

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<tr>
<td>115</td>
<td>Influence of re-alimentation protocol on ruminal parameters of feedlot cattle following a missed feeding.</td>
<td>M.F. Montano*¹ and R. A. Zinn², ¹Universidad Autónoma de Baja California, Mexicali, (Mexico), ²University of California, Davis.</td>
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<td>116</td>
<td>Variation in ruminal starch digestion due to dry rolling versus steam flaking corn and sorghum can be reliably predicted based on changes in starch solubility and 6-h amylase reactive insoluble starch.</td>
<td>S. Rodriguez*¹, J. F. Calderon¹, and R. A. Zinn², ¹Universidad Autónoma de Baja California, Mexicali (Mexico), ²University of California, Davis.</td>
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<td>117</td>
<td>Influence of dietary forage on the comparative feeding value of dry rolled and whole shelled corn.</td>
<td>N. Torrenera*¹, R. A. Ware², and R. A. Zinn², ¹Universidad Autónoma de Baja California, Mexicali (Mexico), ²University of California, Davis.</td>
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<td>118</td>
<td>Fermentation characteristics of a diet containing equal portions of forage and concentrate as affected by pH in continuous cultures of rumen contents.</td>
<td>B. H. Thran*, H. S. Hussein, and H. Han, University of Nevada-Reno.</td>
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<td>119</td>
<td>Effect of nutritional management for either constant or stair-stepped rates of gain on subsequent breeding performance of beef heifer calves.</td>
<td>W. Poland* and K. Ringwall, North Dakota State University, Dickinson.</td>
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<td>120</td>
<td>Development of a low-cost, easy-to-assemble, and durable ruminal cannula for cattle.</td>
<td>E. G. Alvarez* and R. A. Zinn, University of California, Davis.</td>
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Comparison of one or two sustained-release chromic oxide boluses for sheep to estimate fecal output in calves. H.Q. Winger¹, K.C. Olson*¹, J.A. Walker², and B.R. Bowman¹, ¹Utah State University, Logan, ²South Dakota State University, Pierre.

**ENVIRONMENT and LIVESTOCK MANAGEMENT II - ORAL**

Chair: Dr. Bret Hess, University of Wyoming, Laramie

Friday, 10:30 a.m. – 12:00 p.m.
Room: Ballroom C, SUB

<table>
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<tr>
<th>Time</th>
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<tr>
<td>11:15</td>
<td>34</td>
<td>Comparison of Maximum Stabilized Enzyme of Russelville, Arkansas and monensin/tylosin as feed additives for feedlot steers. D. W. Bailey¹, D. C. Anderson¹, D. L. Boss¹, G. R. Welling**, and D. D. Kress², Northern Agricultural Research Center, Havre, MT, Montana State University, Bozeman.</td>
</tr>
<tr>
<td>11:45</td>
<td>36</td>
<td>Evaluation of market impacts on growth path management strategy. B.J. Renquist* and J.W. Oltjen, University of California, Davis.</td>
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## Abstracts

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<tr>
<td>10:30</td>
<td>78</td>
<td>Fibrous and non-fibrous carbohydrate supplementation to ruminants grazing forage from small grain crops.</td>
<td>D. E. Mount*, J. C. Whittier, T. J. Steffens, and D. Schutz, Colorado State University, Fort Collins.</td>
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<tr>
<td>11:00</td>
<td>80</td>
<td>Effect of ammoniation and exogenous fibrolytic enzymes on in vitro degradability of bluegrass straw.</td>
<td>A. V. Grove*, C. W. Hunt, G. T. Pritchard, and J. I. Szasz, University of Idaho, Moscow.</td>
</tr>
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<td>11:30</td>
<td>82</td>
<td>Influence of rumen protein degradability and supplementation frequency on performance and nitrogen use in ruminants consuming low-quality forage: cow performance and efficiency of nitrogen use in wethers.</td>
<td>D. W. Bohnert*, C. S. Schauer1, and T. DelCurto2, 1Eastern Oregon Agriculture Research Center, Oregon State University, Burns, 2Eastern Oregon Agriculture Research Center, Oregon State University, Union.</td>
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<tr>
<td>11:45</td>
<td>83</td>
<td>Influence of rumen protein degradability and supplementation frequency on steers consuming low-quality forage: ruminal fermentation and site of digestion.</td>
<td>D.W. Bohnert*, C.S. Schauer, M. L. Bauer, and T. DelCurto, 1Eastern Oregon Agriculture Research Center, Oregon State University, Burns, 2North Dakota State University, Fargo, 3Eastern Oregon Agriculture Research Center, Oregon State University, Union.</td>
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## Ruminant Nutrition III – Oral

**Chair:** Dr. Callan Ackerman, Oregon State University, Corvallis

**Friday, 10:30 a.m. – 12:00 p.m.**

**Room:** Ballroom B, SUB

<table>
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<tr>
<td>10:30</td>
<td>122</td>
<td>Comparison of high fat and protein self fed supplements made from corn distillers byproducts and biuret for pregnant beef cows. S. J. Bartle*, ADM-MoorMan’s, Inc., Quincy, IL.</td>
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<tr>
<td>11:00</td>
<td>124</td>
<td>Prepartum supplementation with protein or fat and protein for grazing cows in three seasons of calving. E. E. Grings*, R. E. Short, M. Blummel, M. D. MacNeil, and R. A. Bellows, USDA-ARS, Fort Keogh LARRL, Miles City, MT.</td>
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<tr>
<td>11:45</td>
<td>127</td>
<td>Enzyme supplementation to overcome the negative associative effects of supplemental fat on fiber digestion in cattle. R. A. Ware* and R. A. Zinn, University of California, Davis.</td>
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POSTER III

Friday, 10:30 a.m. – 12:00 p.m.

Room: Ballroom A, SUB
Authors Present

Physiology

Abstract Number

94  Bovine embryo development in vitro in the medium containing phytohemagglutinin or pokeweed mitogen. S. Wang*, K.E. Panter2, R.C. Evans1, and T.D. Bunch1, 1Utah State University, Logan, 2USDA-ARS, Poisonous Research Laboratory, Logan.


96  Effects of supplemental protein provided to postpartum beef cows in liquid or cube form on metabolic, endocrine and reproductive functions. K. K. Kane*, T. P. Schafer1, J. M. Harris2, D. M. Halford3, M. D. Remmenga3, and D. E. Hawkins3, 1Angelo State University, San Angelo, 2Westway Feed Products, Tomball, TX, USA, 3New Mexico State University, Las Cruces.

97  Differential relationships of metabolic hormones and serum glucose to growth and reproductive development of Angus, Brahman, and Brangus heifers. R Lopez*, M. G. Thomas1, D. M. Halford1, D. H. Keiser2, B. S. Obeidat1, C. D. Morrison2, J. A. Hernandez1, W. D. Bryant1, R. Flores1, and M. D. Garcia1, 1New Mexico State University, Las Cruces, 2University of Missouri, Columbia.

98  Serum thyroxine and reproductive characteristics of Rambouillet ewe lambs treated with propylthiouracil before puberty. N. H. Wells*, D. M. Halford, and J. A. Hernandez, New Mexico State University, Las Cruces.

99  In vitro development of bovine embryos treated with isocupressic acid (ICA), a pine needle abortifacient toxin. S. Wang*, K. E. Panter1, D. R. Gardner2, R. C. Evans1, and T. D. Bunch1, 1Utah State University, Logan, 2Poisonous Research Laboratory, Agricultural Research Service, USDA, Logan, UT.

100  Use of fluorogestone acetate or natural progesterone to induce estrus on seasonal anestrous goats with good or poor body condition. A. Anchondo, A. Martinez, J. Gutierrez, A. Grado, and F. A. Rodriguez-Almeida*, Universidad Autonoma de Chihuahua, Chihuahua, MX.

101  Ram mating behavior is influenced by long-term selection for number of lambs born. J. N. Stellflug*, J. G. Berardinelli2, and P. J. Burfening2, 1USDA-ARS US Sheep
Experiment Station, Dubois, ID, 2Montana State University, Bozeman, MT.

102 Bull introduction hastens the onset of the breeding season in reindeer. M.P. Shipka*, G.L. Finstad1, T.F. Nichols1, and S.P. Ford2, 1University of Alaska, Fairbanks, 2Iowa State University, Ames.

103 Body weight and body condition score changes and reproductive success in ewes fed Megalac® supplements. J.L. Bollinger*, T.T. Ross, D.J. Padilla, and D.M. Hallford, New Mexico State University, Las Cruces.

104 Effect of fasting and intramammary infusions of cephalin benzathine on hormone profiles and mammary characteristics in ewes following weaning. M.E. Surian1, D.W. Holcombe**, D. Redelman1, J.R. Allen1, M. McFarland1, and D.M. Hallford2, 1University Of Nevada, Reno, 2New Mexico State University, Las Cruces.


52 Use of bovine somatotropin in conjunction with CO-Synch and Select Synch protocols for synchronizing estrus and ovulation in beef cows. H. Foster*1, J.C. Whittier1, P.D. Burns1, J. Breummer1, D. Baker, T. Engle1, T. Field1, W.R. Wailes1, T.W. Geary2, D.C. Anderson3, and D.L. Boss3, 1Colorado State University, Ft. Collins, CO, 2USDA-ARS, Miles City, MT, 3Northern Montana Ag. Exp. Sta., Havre, MT.

RUMINANT NUTRITION

Abstract Number

128 Interaction of dietary eNDF level and supplemental fibrolytic enzymes on site and extent of fiber digestion in cattle fed a 35% forage growing diet. M. Ambrosia*, E.G. Alvarez, and R.A. Zinn2, 1Universidad Autonoma de Baja California, Mexicali (Mexico), 2University of California, Davis.

129 Influence of Fibrozyme on growth performance of yearling steers. A. Peirera* and R.A. Zinn, University of California, Davis.

130 The effect of feeding wheat middlings to growing and finishing beef steers on production, digestibility, and carcass characteristics. D.R. ZoBell*, K.C. Olson, C.A. Stonecipher, and R.D. Wiedmeier, Utah State University, Logan.

131 Feedlot performance and carcass characteristics of Tarentaise and Red Angus steers as affected by fish oil supplementation of a high-forage finishing diet. S.L. Lake*, H.S. Hussein1, H.A. Glimp1, T.P. Rinkob1, and J. Johnson2, 1University of Nevada-Reno, 2Omega Protein.
132 Influence of fat titer and method of addition on characteristics of ruminal and total tract digestion. A. Plascencia¹, M. Cervantes*¹, and R. A. Zinn², ¹Universidad Autonoma de Baja California, Mexicali (Mexico), ²University of California, Davis.

133 Comparative feeding value of tallow vs yellow grease in finishing diets for feedlot cattle. A. Plascencia*¹, M. Cervantes¹, and R. A. Zinn², ¹Universidad Autonoma de Baja California, Mexicali (Mexico), ²University of California, Davis.

134 Effect of roasting dry or tempered Gallatin barley on in situ extent and rate of ruminal disappearance. S. J. Sorensen* and D. D. Hinman, University of Idaho, Caldwell.


RANCH TOUR
Saturday, June 23, 2001

Leave from south end of Strand Student Union Building (SUB)
Return times are approximate

7:30 a.m. – 5:30 p.m. Flying D Bison Ranch, Sitz Angus Ranch, Cooper Hereford Ranch

7:30 a.m. – 2:00 p.m. Flying D Bison Ranch, Sitz Angus Ranch

11:00 a.m. – 5:30 p.m. Sitz Angus Ranch, Cooper Hereford Ranch
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1966-67 V.B. Swanson, Colorado State University
1965-66 O.O. Thomas, Montana State University
1964-65 R. Bogart, Oregon State University
1963-64 P.O. Stratton, University of Wyoming
1962-63 T.D. Bell, University of Idaho
1961-62 J.A. Bennett, Utah State University
1961 O.F. Pahnish, University of Arizona
1960 G. P. Lofgreen, University of California
1959 M.E. Ensminger, Washington State University
1958 J.F. Kidwell, University of Nevada
1957 N.W. Hilston, University of Wyoming
1956 F.F. McKenzie, Oregon State University
1955 L.E. Washburn, Colorado State University
1954 H. Heitman, Jr., University of California
1953 J.L. VanHorn, Montana State University
1952 L.E. Harris, Utah State University
1951 C.E. Terrill, USDA, Idaho
1950 A.W. Oliver, Oregon State University
1949 R.F. Miller, University of California
1948 E.B. Stanley, University of Arizona
1947 F.S. Hultz, University of Wyoming
1943-46 J.H. Knox, New Mexico State University
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1941 H.R. Guilbert, University of California
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1938-39 J.E. Norby, University of Idaho
1937 E.H. Hughes, University of California
1935-36 C.W. Hickman, University of Idaho
1934 F.S. Hultz, University of Wyoming
1932-33 J.F. Wilson, University of California
1930-31 J.A. Hill, University of Wyoming
1929 E.L. Potter, Oregon State University
AWARDS
Western Section
American Society of Animal Science

Distinguished Service Awards

2000  G.E. Bradford, University of California
1999  R.E. Short, USDA, Montana
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1996  R.A. Field, University of Wyoming
1995  C.F. Kockles, Colorado State University
1994  K. Koong, Oregon State University
1993  J.S. Bringks, Colorado State University
1992  J.D. Wallace, New Mexico State University
1991  C.B. Theurer, University of Arizona
1990  M.H. Kennington, California State Poly Univ.
1989  C.W. Newman, Montana State University
1988  C.J. Kercher, University of Wyoming
1987  D.C. England, Oregon State University
1986  W.N. Garrett, University of California-Davis
1985  R.L. Blackwell, Montana State University
1984  V.R. Bohman, University of Nevada-Reno
1983  R.A. Bellows, LARC, Montana
1982  D.C. Church, Oregon State University
1981  W.H. Hale, University of Arizona
1980  R.J. Raleigh, Oregon State University
1979  J.K. Matsushima, Colorado State University
1978  P.T. Cupps, University of California-Davis
1977  J.P. Bowland, University of Alberta
1976  G.P. Lofgreen, University of California-Davis
1975  I.A. Dyer, Washington State University
1974  J.E. Oldfield, Oregon State University
1973  H.H. Stonaker, Colorado State University
1972  L.E. Harris, Utah State University
1971  R. Bogart, Oregon State University

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2000  T.J. DelCurto, Oregon State University
1999  K.E. Belk, Colorado State University
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1997  J.G.P. Bowman, Montana State University
1996  M.E. Mirando, Washington State University
1995  M.B. Judkins, University of Nevada-Reno
1994  M.E. Wise, University of Arizona
1993  J.D. Tatum, Colorado State University
1992  M.K. Petersen, New Mexico State University
1991  W.J. Murdock, University of Wyoming
1990  D.C. Adams, USDA, Miles City
1989  A.R. Menino, Oregon State University
1988  M.L. Galyean, New Mexico State University
1987  R. Allen, University of Arizona
1986  J.R. Males, Washington State University
1985  G.B. Anderson, University of California-Davis
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