

Western Section

# American Society of Animal Science

*80th Annual Meeting*



University of Wyoming

Laramie, Wyoming

June 24–26, 2008

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# **Western Section American Society of Animal Science**

**June 24-26, 2008**

**University of Wyoming**

**Laramie, Wyoming**

## **Summary of Scheduled Events**

### **Monday, June 23, 2008**

4:00 pm – 7:00 pm      Registration  
University of Wyoming Conference  
Center, Grand Ballroom Lobby

### **Tuesday, June 24, 2008**

7:00 am – 8:00 pm      Registration  
Grand Ballroom Lobby

9:30 am – 12:00 pm      Beef Symposium “Addressing high input  
costs in the beef cattle industry: Striving  
for greater efficiency” Salon C & D

12:00 pm – 1:30 pm      Lunch

1:30 pm – 2:15 pm      Beef Symposium, Salon C & D

2:15 pm – 2:30 pm      Break, Grand Ballroom Lobby

2:30 pm – 4:00 pm      Beef Symposium, Salon C & D

4:30 pm – 6:00 pm      WSASAS Executive Committee Meeting  
UW Boardroom

6:30 pm – 9:00 pm      Welcome Reception  
Grand Ballroom

### **Wednesday, June 25**

7:00 am – 12:30 pm      Registration  
Grand Ballroom Lobby

8:10 am – 9:45 am      Graduate Student Competition  
Salon C & D

9:45 am – 10:00 am      Break, Grand Ballroom Lobby

10:00 am – 11:00 am      Graduate Student Competition  
(Continued)  
Salon C & D

11:00 am – 11:30 am      Distinguished Service Award Paper, Dr.  
Noelle Cockett, Utah State University,  
Salon C & D

11:30 am – 1:00 pm      Lunch Break

1:00 pm – 2:30 pm	Breeding and Genetics Salon B
1:00 pm – 3:20 pm	Extension Symposium Salon D
1:00 pm – 4:45 pm	Ruminant Nutrition Salon C
3:00 pm – 3:15 pm	Break, Grand Ballroom Lobby
3:30 pm – 4:45 pm	Extension Salon D
4:45 pm – 5:00 pm	Nonruminant Nutrition Salon C
1:00 pm – 3:00 pm	Poster Presentations Salon E (Behavior, Environment & Livestock Management, Growth & Development, Meat Science & Muscle Biology, Pastures and Forages, Physiology)
6:30 pm – 9:00 pm	Awards Program/Banquet Laramie Country Club

### **Thursday, June 26**

8:00 am - 9:00 am	WSASAS Business Meeting Salon C
9:15 am – 11:00 am	Environment and Livestock Management Salon C
9:15 am – 10:45 am	Pastures and Forages Salon D
9:15 am – 11:15 am	Physiology Salon B
10:00 am – 10:15 am	Break, Grand Ballroom Lobby
11:15 am – 11:30 am	Behavior Salon B
9:15 am – 11:15 am	Poster Presentations Salon E (Breeding and Genetics, Extension, Nonruminant Nutrition, Ruminant Nutrition)
11:45 am – 1:15 pm	WSASAS Executive Committee Meeting UW Boardroom

\*ARPAS exams will be scheduled as applications are received. Contact the ARPAS headquarters to schedule an exam ([arpas@assoqh.org](mailto:arpas@assoqh.org)).

**Tuesday, June 24**

## **SYMPOSIA AND ORAL SESSIONS**

### **Beef Symposium**

**Addressing high input costs in the beef cattle industry: striving for greater efficiency**

**Chair: Dr. Benton Glaze, University of Idaho  
Salon C & D**

- 9:30 AM **Welcome and Introduction.** Kenneth C. Olson, *Department of Animal & Range Sciences, South Dakota State University, WSASAS President*, Douglas Hixon, *Department Head, Department of Animal Science, University of Wyoming*; J. Benton Glaze, Jr., *Department of Animal & Veterinary Sciences, University of Idaho, WSASAS Symposium Chair.*
- 9:45 AM **The Beef Industry in Transition.** Tom Field, *Department of Animal Sciences, Colorado State University.*
- 10:30 AM **Matching Genetics with Feedstuffs in an Era When Feed Costs are Increasing.** Michael D. MacNeil, *USDA - Research Service, Miles City, Montana.*
- 11:15 AM **Fitting Feed Efficiency Into the Beef Profit Equation.** Gordon Carstens, *Department of Animal Science, Texas A&M University.*
- 12:00 PM **Lunch.**
- 1:30 PM **The Effect of High Input Costs on the Cattle Feeding Industry.** Tom Brink, *Five Rivers Ranch Cattle Feeding LLC, Loveland, Colorado.*
- 2:15 PM **Break.**
- 2:30 PM **The Effect of High Input Costs on Cow-Calf Producers.** Chip Ramsay, *Rex Ranch, Ashby, Nebraska.*
- 3:15 PM **Questions, Answers, and Discussion.** Speaker Panel.

### **Opening Reception**

**Tuesday 6:30 – 9:00 PM**

**Grand Ballroom**

# Wednesday, June 25

## Graduate Student Paper Competition

Chair: Dr. Amin Ahmadzadeh, University of Idaho  
Salon C & D

- 8:10 AM Introductions.
- 8:30 AM 1 **Effect of supplemental energy on post-ruminal utilization of methionine by growing lambs.** S. A. Kuykendall\*, C. A. Loest, G. G. Gilliam, D. M. Griego, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 8:45 AM 2 **An evaluation of extruded-expelled cottonseed meal as a protein supplement to beef cows consuming low quality forage.** S. J. Winterholler\*, D. L. Lalman, M. D. Hudson, and C. L. Goad, *Oklahoma State University, Stillwater.*
- 9:00 AM 3 **Traditional and self-fed cull cow feeding programs: Evaluation of performance and economics.** F. D. Niemela\*, C. L. Loehr, and S. I. Paisley, *University of Wyoming, Laramie.*
- 9:15 AM 4 **Effects of branched-chain amino acid supplementation on growing steers during an endotoxin challenge.** G. G. Gilliam\*, B. C. Graham, J. W. Waggoner, K. L. DeAtley, D. M. Hallford, and C. A. Loest, *New Mexico State University, Las Cruces.*
- 9:30 AM 5 **Reproductive abnormalities in omega-3 fatty acid desaturase transgenic mice.** W. E. Pohlmeier\*, K. A. Lewis, and A. L. Van Eenennaam, *University of California, Davis.*
- 9:45 AM **BREAK.**
- 10:00 AM 6 **The effects of dietary potassium, source, and water quality on performance and carcass characteristics of finishing cattle.** J. L. Lacey\*<sup>1</sup>, J. J. Wagner<sup>1</sup>, T. E. Engle<sup>1</sup>, J. W. Spears<sup>2</sup>, and S. L. Archibeque<sup>1</sup>, <sup>1</sup>*Colorado State University, Fort Collins*, <sup>2</sup>*North Carolina State University, Raleigh.*
- 10:15 AM 7 **Gestational nutrition affects growth and adipose tissue deposition in steers.** K. R. Underwood\*<sup>1</sup>, J. F. Tong<sup>1</sup>, J. M. Kimzey<sup>1</sup>, P. L. Price<sup>1</sup>, E. E. Grings<sup>2</sup>, B. W. Hess<sup>1</sup>, W. J. Means<sup>1</sup>, and M. Du<sup>1</sup>, <sup>1</sup>*University of Wyoming, Laramie*, <sup>2</sup>*USDA-ARS, Miles City, MT.*
- 10:30 AM 8 **Effect of duration of intravaginal progesterone insert (CIDR) treatment on pregnancy rate per AI in dairy heifers using a timed-AI protocol.** C.R. Johnson\*<sup>1</sup>, A. Ahmadzadeh<sup>2</sup>, K.S. Jensen<sup>3</sup>, S. Etter<sup>4</sup>, R. Wilson<sup>5</sup>, N. Dalton<sup>6</sup>, and J.C. Dalton<sup>1</sup>, <sup>1</sup>*Caldwell Research and Extension Center, Caldwell, ID*, <sup>2</sup>*University of*

Idaho, Moscow, <sup>3</sup>University of Idaho, Marsing, <sup>4</sup>University of Idaho, Caldwell, <sup>5</sup>University of Idaho, Emmett, <sup>6</sup>Intermountain Pet Hospital, Meridian, ID.

- 10:45 AM 9 **Effects of ractopamine hydrochloride and feeding period on carcass quality and sensory characteristics in market dairy cows.** J. D. Allen<sup>\*1</sup>, J. K. Ahola<sup>2</sup>, M. Chahine<sup>3</sup>, J. I. Szasz<sup>1</sup>, and C. W. Hunt<sup>1</sup>, <sup>1</sup>University of Idaho, Moscow, <sup>2</sup>University of Idaho, Caldwell, <sup>3</sup>University of Idaho, Twin Falls.

## 2007 Distinguished Service Award

**Chair: Dr. Richard Battaglia, University of Idaho  
Salon C & D**

- 11:00 AM **The future of animal scientists at western land-grant institutions: Challenges and opportunities.** Dr. Noelle Cockett. *Utah State University.*

## Breeding and Genetics

**Chair: Dr. Kristi Cammack,  
University of Wyoming  
Salon B**

- 1:00 PM 10 **Relationship between residual feed intake and growth performance, EPD profiles, and value indices of spring-born Angus bulls.** J. M. Cardin<sup>\*1</sup>, S. P. Doyle<sup>1</sup>, J. A. Harrington<sup>1</sup>, K. L. Coopridge<sup>1</sup>, C. R. Johnson<sup>1</sup>, and L. Rechel<sup>2</sup>, <sup>1</sup>California State University, Chico, <sup>2</sup>Snyder Livestock Company, Inc., Yerington, NV.
- 1:15 PM 11 **Altered growth curve characteristics and pregnancy rate levels in 34 years of Brangus cattle production in the Chihuahuan Desert.** P. Luna-Nevarez<sup>\*1</sup>, D. VanLeeuwen<sup>1</sup>, D. W. Bailey<sup>1</sup>, R. M. Enns<sup>2</sup>, S. A. Soto-Navarro<sup>1</sup>, G. A. Silver<sup>1</sup>, and M. G. Thomas<sup>1</sup>, <sup>1</sup>New Mexico State University, Las Cruces, <sup>2</sup>Colorado State University, Fort Collins.
- 1:30 PM 12 **Effect of previous experience on grazing distribution and diet quality of Brangus cows in the Chihuahuan Desert.** D. W. Bailey<sup>\*1</sup>, M. G. Thomas<sup>1</sup>, J. W. Walker<sup>2</sup>, B. K. Witmore<sup>1</sup>, D. Tolleson<sup>3</sup>, and C. C. Bailey<sup>1</sup>, <sup>1</sup>New Mexico State University, Las Cruces, <sup>2</sup>Texas A&M University, San Angelo, <sup>3</sup>Texas A&M University, College Station.

- 1:45 PM 13 **Evaluation of Columbia, USMARC-Composite, Suffolk, and Texel rams as terminal sires: Effects of ram breed on ewe productivity and F<sub>1</sub> lamb survival and growth.** T. D. Leeds\*<sup>1</sup>, M. R. Mousel<sup>1</sup>, D. R. Notter<sup>2</sup>, K. A. Leymaster<sup>3</sup>, and G. S. Lewis<sup>1</sup>, <sup>1</sup>USDA, ARS, U.S. Sheep Experiment Station, Dubois, ID, <sup>2</sup>Virginia Polytechnic Institute and State University, Blacksburg, <sup>3</sup>USDA, ARS, U.S. Meat Animal Research Center, Clay Center, NE.
- 2:00 PM 14 **Association of microsatellite ETH10 genotypes with growth and carcass trait levels in Brangus cattle.** K. L. DeAtley\*<sup>1</sup>, G. Rincon<sup>2</sup>, C. R. Farber<sup>2</sup>, J. F. Medrano<sup>2</sup>, R. M. Enns<sup>3</sup>, G. A. Silver<sup>1</sup>, and M. G. Thomas<sup>1</sup>, <sup>1</sup>New Mexico State University, Las Cruces, <sup>2</sup>University of California, Davis, <sup>3</sup>Colorado State University, Fort Collins.
- 2:15 PM 15 **Genotypic variation at the prion protein gene among Suffolk, Rambouillet, and Targhee sheep.** M. K. Thompson\* and C. L. Gasser, Southern Utah University, Cedar City.

## Extension Symposium

Chair: Dr. Jason Ahola,  
University of Idaho, Caldwell  
Salon D

- 1:00 PM 16 **Essential components for development, implementation, and evaluation of integrated research and extension proposals submitted to the USDA National Research Initiative (NRI) Competitive Grants Program.** M. A. Mirando\*, *Competitive Programs, Cooperative State Research, Education, and Extension Service, Washington, DC.*
- 1:40 PM 17 **New Mexico Range Improvement Task Force: An integrated team.** T. T. Baker\*, C. P. Mathis, J. Boren, S. Smallidge, G. Hawkes, S. Fernald, C. Allison, and J. Fowler, *New Mexico State University, Las Cruces.*
- 2:20 PM **Successful extension programming examples in Wyoming.** D. Mount, *University of Wyoming, Laramie.*
- 3:00 PM **Panel Discussion: What factors are critical for an integrated research and extension program to be successful? An interactive panel with discussion with USDA-NRI, extension, and research perspectives.**



# Ruminant Nutrition

Chair: Scott Lake and Shawn Archibeque,  
University of Wyoming and  
Colorado State University  
Salon C

- 1:00 PM 18 **Limit feeding non-lactating, non-pregnant beef cows with bunkered WDGS or distillers' solubles.** L. M. Kovarik\*, M. K. Luebbe, R. J. Rasby, and G. E. Erickson, *University of Nebraska, Lincoln.*
- 1:15 PM 19 **Effects of distiller's dried grains with solubles and crude glycerin on performance and carcass characteristics in early weaned beef calves.** P. J. Gunn\*, R. P. Lemenager, M. C. Claeys, and S. L. Lake, *Purdue University, West Lafayette, IN.*
- 1:30 PM 20 **Diverse diets: The inclusion of distillers dried grains and field peas in feedlot rations.** B. R. Ilse\* and V. L. Anderson, *North Dakota State University, Carrington.*
- 1:45 PM 21 **Effects of added dietary protein and fat on subcutaneous adipose tissue when fed differing levels of dried distiller's grains with solubles.** M. L. Van Emon\*<sup>1</sup>, A. F. Musselman<sup>1</sup>, P. J. Gunn<sup>1</sup>, E. J. Scholljegerdes<sup>2</sup>, M. K. Neary<sup>1</sup>, R. P. Lemenager<sup>1</sup>, and S. L. Lake<sup>1</sup>, <sup>1</sup>*Purdue University, West Lafayette, IN*, <sup>2</sup>*USDA-ARS Northern Great Plains Research Laboratory, Mandan, ND.*
- 2:00 PM 22 **Evaluation of in vitro degradation of plant cell walls with ruminal microbes.** R. Reyna-Islas, S. L. Lodge-Ivey\*, J. Browne-Silva, R. Creamer, and R. Al-Khatib, *New Mexico State University, Las Cruces.*
- 2:15 PM 23 **Effects of short-term oilseed supplementation on plasma fatty acid composition in lactating beef cows.** E. J. Scholljegerdes\*<sup>1</sup>, L. A. Lekatz<sup>2</sup>, and K. A. Vonnahme<sup>2</sup>, <sup>1</sup>*USDA-ARS, Northern Great Plains Research Laboratory, Mandan, ND*, <sup>2</sup>*North Dakota State University, Fargo.*
- 2:30 PM 24 **Site and extent of nutrient digestion in lambs fed whole canola, brown mustard, or camelina seeds.** P. L. Price\*, V. Nayigihugu, D. C. Rule, J. M. Krall, and B. W. Hess, *University of Wyoming, Laramie.*
- 2:45 PM 25 **Effects of maternal nutrition and selenium supply during gestation on jejunal growth, vascularity, and mRNA expression of angiogenic factors and receptors in offspring.** T. L. Neville\*<sup>1</sup>, J. J. Reed<sup>1</sup>, K. A. Vonnahme<sup>1</sup>, P. P. Borowicz<sup>1</sup>, J. B. Taylor<sup>2</sup>, D. A. Redmer<sup>1</sup>, J. S.

Luther<sup>1</sup>, C. J. Hammer<sup>1</sup>, L. P. Reynolds<sup>1</sup>, and J. S. Caton<sup>1</sup>, <sup>1</sup>*North Dakota State University, Fargo*, <sup>2</sup>*USDA, ARS, U. S. Sheep Experiment Station, Dubois, ID*.

- 3:00 PM **Break.**
- 3:15 PM 26 **Use of a self-fed, small-package protein supplement for beef cows post-weaning.** R. L. Endecott\*<sup>1</sup> and R. C. Waterman<sup>2</sup>, <sup>1</sup>*Montana State University, Miles City*, <sup>2</sup>*USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT*.
- 3:30 PM 27 **Energy value of corn and barley in beef finishing diets.** A. V. Grove\*, J. A. Cookson, T. K. Blake, and J. G. P. Bowman, *Montana State University, Bozeman*.
- 3:45 PM 28 **Sorghum silage digestibility in sheep.** G. Abdelrahim\*<sup>1</sup>, C. Melton<sup>2</sup>, V. Allen<sup>2</sup>, and K. Pond<sup>2</sup>, <sup>1</sup>*Alabama A&M University, Norma*, <sup>2</sup>*Texas Tech University, Lubbock*.
- 4:00 PM 29 **Effects of elevated dietary nitrate on production and reproduction parameters in Suffolk ewes.** R. Cockrum, K. Austin, P. Ludden, and K. Cammack\*, *University of Wyoming, Laramie*.
- 4:15 PM 30 **Effects of vitamin E, zinc, by-pass protein, and chlortetracycline supplemented to ewes of different age and body condition on lamb production, and indices of immune function.** R. R. Redden\*<sup>1</sup>, R. W. Kott<sup>1</sup>, J. A. Boles<sup>1</sup>, A. W. Layton<sup>2</sup>, and P. G. Hatfield<sup>1</sup>, <sup>1</sup>*Montana State University, Bozeman*, <sup>2</sup>*Montana Department of Livestock, Bozeman, MT*.
- 4:30 PM 31 **Natural source vitamin E supplementation and reproductive efficiency in beef cows.** M. J. Richardson\*<sup>1</sup>, R. P. Lemenager<sup>1</sup>, N. Pyatt<sup>2</sup>, and S. L. Lake<sup>1</sup>, <sup>1</sup>*Purdue University, West Lafayette, IN*, <sup>2</sup>*ADM Animal Nutrition Research, Decatur, IN*.

## **Nonruminant Nutrition**

**Chair: Scott Lake and Shawn Archibeque, University of Wyoming and Colorado State University  
Salon C**

- 4:45 PM 37 **Effect of sepiolite supplementation on broiler growth performance and carcass yield.** M. Hadjayed\*<sup>1</sup>, I. Zghal<sup>1</sup>, and B. Rekik<sup>2</sup>, <sup>1</sup>*Institut Supérieur Agronomique, Chott Mariem, Sousse, Tunisia*, <sup>2</sup>*Ecole Supérieure d'Agriculture, Mateur, Tunisia*.

# Extension

Chair: Lance Miller, University of Wyoming  
Salon D

- 3:30 PM      32    **Factors influencing price of North Dakota, South Dakota, and Montana feeder calves.** J. L. Leupp\*<sup>1</sup>, G. P. Lardy<sup>1</sup>, R. Daly<sup>2</sup>, C. L. Wright<sup>2</sup>, and J. A. Paterson<sup>3</sup>, <sup>1</sup>*North Dakota State University, Fargo*, <sup>2</sup>*South Dakota State University, Brookings*, <sup>3</sup>*Montana State University, Bozeman*.
- 3:45 PM      33    **CSUbeef.Com as a web resource for disseminating beef cattle educational information and for on-line access to the Cattle Producer's Library.** J. C. Whittier\*, R. W. Ellis, D. Colburn, M. J. Fisher, M. Jarosz, S. P. Porter, and Western Beef Resource Committee, *Colorado State University, Ft. Collins*.
- 4:00 PM      34    **The effects of age and source verification of calves on value received on Superior Live-stock Video Auctions.** A. Kellom\*, J. Paterson, J. Vanek, M. Watts, and M. Harbac, *Montana State University, Bozeman*.
- 4:15 PM      35    **Management simulation tool for estimating value of individual identification of beef cattle.** J. W. Oltjen\*<sup>1</sup>, D. J. Drake<sup>1</sup>, A. B. Ahmadi<sup>1</sup>, A. J. Romera<sup>2</sup>, S. J. R. Woodward<sup>3</sup>, L. N. Bennett<sup>1</sup>, F. Haque<sup>1</sup>, and L. J. Butler<sup>1</sup>, <sup>1</sup>*University of California, Davis*, <sup>2</sup>*DairyNZ, Hamilton, New Zealand*, <sup>3</sup>*Lincoln Ventures Limited, Hamilton, New Zealand*.
- 4:30 PM      36    **The Montana BVD-PI Biosecurity Project.** M. Harbac\*<sup>1</sup>, C. Peck<sup>1</sup>, J. Paterson<sup>1</sup>, and B. Hoffman<sup>2</sup>, <sup>1</sup>*Montana State University, Bozeman*, <sup>2</sup>*API, Portland, OR*.

# POSTER PRESENTATIONS

Poster sessions will be located in Salon E of the Grand Ballroom. Presenters are to mount their poster for viewing on the appropriate board (see below) prior to the reception on Tuesday evening (June 24). Posters will be removed after the last session on Thursday (June 26). Specific times for manning posters are indicated below.

**Chair: Bret Hess, University of Wyoming  
Salon E**

(Authors Present 1:00 pm – 3:00 pm)

## Behavior

- 38 **Effect of RU486 on development of testicular steroidogenesis and ram sexual behavior.** P. Singh\*, K. J. Austin, V. A. Uthlaut, and B. M. Alexander, *University of Wyoming, Laramie.*

## Environment & Livestock Management

- 39 **Weaning date impacts on backgrounding and finishing performance of May born Angus calves.** M. M. Stamm\*<sup>1</sup>, C. S. Schauer<sup>1</sup>, V. L. Anderson<sup>2</sup>, and B. R. Ilse<sup>2</sup>, <sup>1</sup>*North Dakota State University, Hettinger*, <sup>2</sup>*North Dakota State University, Carrington.*
- 40 **Using a yeast preparation and fibrolytic enzyme as replacements for growth hormone and antibiotic in natural beef production.** D. G. Landblom\*<sup>1</sup>, C. J. Wachenheim<sup>2</sup>, and T. A. Petry<sup>2</sup>, <sup>1</sup>*North Dakota State University, Dickinson*, <sup>2</sup>*North Dakota State University, Fargo.*
- 41 **Cow nutrition impacts feedlot pull rate.** J. T. Mulliniks\*<sup>1</sup>, S. H. Cox<sup>1</sup>, S. L. Ivey<sup>1</sup>, C. P. Mathis<sup>1</sup>, J. E. Sawyer<sup>2</sup>, and M. K. Petersen<sup>1</sup>, <sup>1</sup>*New Mexico State University, Las Cruces*, <sup>2</sup>*Texas A&M University, College Station.*
- 42 **Feedlot performance of lambs backgrounded from weaning to feedlot.** R. R. Redden\*<sup>1</sup>, R. W. Kott<sup>1</sup>, L. M. M. Surber<sup>1</sup>, J. A. Boles<sup>1</sup>, A. W. Layton<sup>2</sup>, and P. G. Hatfield<sup>1</sup>, <sup>1</sup>*Montana State University, Bozeman*, <sup>2</sup>*Montana Department of Livestock, Bozeman, MT.*
- 43 **Evaluation of implantable RFID microchips for readability and measurement of body temperature in mature horses.** L. Wallace\*, J. A. Paterson, L. Gagnon, R. Clark, K. Davis, and M. Miller, *Montana State University, Bozeman.*

## Growth & Development

- 44      **Development of AMP-activated protein kinase fluorescence constructs for monitoring pluripotential cell differentiation.** J. M. Kimzey\*, R. J. McCormick, M. M. Stayton, and M. Du, *University of Wyoming, Laramie.*

## Meat Science & Muscle Biology

- 45      **AMP-activated protein kinase (AMPK) mediates phosphorylation of forkhead protein (FOXO) independent of insulin-like growth factor-1 (IGF-1)/PKB pathway in C2C12 myotubes.** J. F. Tong\*, K. R. Underwood, X. Yan, M. J. Zhu, and M. Du, *University of Wyoming, Laramie.*

## Pastures and Forages

- 46      **Use of the Cornell net carbohydrate and protein system (CNCPS) for predicting beef cattle cow-calf production in Hawaii.** K. Buck<sup>1</sup>, J. R. Carpenter\*<sup>1</sup>, M. K. Thorne<sup>1</sup>, and B. W. Mathews<sup>2</sup>, <sup>1</sup>*University of Hawaii at Manoa, Honolulu*, <sup>2</sup>*University of Hawaii at Hilo, Hilo.*
- 47      **In vitro digestibility and chemical composition of kikuyugrass as influenced by soil silicon, liming and genotype.** J. R. Carpenter\*<sup>1</sup>, L. E. Sollenberger<sup>2</sup>, and B. W. Mathews<sup>3</sup>, <sup>1</sup>*University of Hawaii at Manoa, Honolulu*, <sup>2</sup>*University of Florida, Gainesville*, <sup>3</sup>*University of Hawaii at Hilo, Hilo.*
- 48      **Nutritional value, milk yield and gas production of corn silage cut at different height.** D. Domínguez\*<sup>1</sup>, A. Corral<sup>1</sup>, G. Villalobos<sup>1</sup>, H. Castillo<sup>1</sup>, S. Ramírez<sup>1</sup>, J. Ortega<sup>1</sup>, and A. Muro<sup>2</sup>, <sup>1</sup>*Universidad Autónoma de Chihuahua, Chihuahua, Chihuahua, México*, <sup>2</sup>*Universidad Autónoma de Zacatecas, Zacatecas, Zacatecas, México.*
- 49      **Effects of compost, manure, and urea on yield and forage quality when topdressed on a perennial forage mix of irrigated, cool season grasses.** K. C. Doesken\*, J. G. Davis, J. E. Brummer, and T. E. Engle, *Colorado State University, Fort Collins.*
- 50      **Planting system and maturity stage on production and nutritional value of oat hay.** D. Domínguez\*<sup>1</sup>, S. Ramírez<sup>1</sup>, J. Salmerón<sup>2</sup>, G. Villalobos<sup>1</sup>, A. Corral<sup>1</sup>, and J. Ortega<sup>1</sup>, <sup>1</sup>*Universidad Autónoma de Chihuahua, Chihuahua, Chihuahua, México*, <sup>2</sup>*INIFAP, Cuauhtémoc, Chihuahua, México.*
- 51      **Evaluation of winter cereals for pasture in Montana.** A. N. Hafila\*<sup>1</sup>, S. D. Cash<sup>1</sup>, L. M. M. Surber<sup>1</sup>, J. A. Paterson<sup>1</sup>, A. Lensen<sup>2</sup>, A. L. Todd<sup>1</sup>, and M. S. Huffman<sup>1</sup>, <sup>1</sup>*Montana State University, Bozeman*, <sup>2</sup>*Northern Plains Agricultural Systems Research Unit, Sidney, MT.*
- 52      **Nutritional implications of fatty acid composition of marrow of four bones from grass-fed cattle.** D.

C. Rule\*<sup>1</sup>, C. M. Murrieta<sup>1</sup>, K. Fulton<sup>2</sup>, and L. Cordain<sup>2</sup>,  
<sup>1</sup>University of Wyoming, Laramie, <sup>2</sup>Colorado State University, Fort Collins.

- 53 **Perennial forage kochia for improved productivity of grass dominated winter grazing pastures.** L. K. Greenhalgh<sup>1</sup>, K. C. Olson<sup>2</sup>, D. R. ZoBell\*<sup>1</sup>, B. L. Waldron<sup>3</sup>, A. R. Moulton<sup>1</sup>, and B. W. Davenport<sup>4</sup>, <sup>1</sup>Utah State University, Logan, <sup>2</sup>South Dakota State University, Rapid City, <sup>3</sup>USDA-ARS Range and Research Lab, Logan, UT, <sup>4</sup>USDA-NRCS, Tooele, UT.

## Physiology

- 54 **Age at puberty in beef heifers: Criollo cattle versus British crossbred cattle.** S. I. Valverde-Saenz\*<sup>1</sup>, J. D. Walsh<sup>1</sup>, C. M. Gardner<sup>1</sup>, J. T. Mulliniks<sup>1</sup>, B. S. Schilling<sup>1</sup>, D. M. Hallford<sup>1</sup>, A. L. Gonzales<sup>2</sup>, E. L. Fredrickson<sup>2</sup>, K. K. Kane<sup>1</sup>, and D. E. Hawkins<sup>1</sup>, <sup>1</sup>New Mexico State University, Las Cruces, <sup>2</sup>ARS-USDA Jornada Experimental Range, Las Cruces, NM.
- 55 **Neuroendocrine function in heifers consuming low quality dormant forage.** J. D. Walsh\*, C. M. Gardner, S. I. Valverde-Saenz, M. B. Horvath, J. T. Mulliniks, D. M. Hallford, S. L. Lodge-Ivey, K. K. Kane, and D. E. Hawkins, *New Mexico State University, Las Cruces.*
- 56 **Differential gene expression for IGF-I in endometrium of ewes fasted during the luteal phase of the estrus cycle.** A. Breton\*, K. Austin, E. Van Kirk, G. Moss, and B. Alexander, *University of Wyoming, Laramie.*
- 57 **Pregnancy rates and serum insulin-like growth factor-I, triiodothyronine, and progesterone profiles in Rambouillet ewes treated with recombinant bovine somatotropin before breeding.** L. E. Camacho\*, J. M. Benavidez, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 58 **Ovarian function in heifers consuming low quality dormant forage.** C. M. Gardner\*, J. D. Walsh, S. I. Valverde-Saenz, M. B. Horvath, J. T. Mulliniks, D. M. Hallford, S. L. Lodge-Ivey, K. K. Kane, and D. E. Hawkins, *New Mexico State University, Las Cruces.*

## WSASAS Awards Program/ Banquet

Wednesday 6:30 – 9:00 pm

Chair: Dr. Richard Battaglia, University of Idaho  
Laramie Country Club

**Thursday, June 26**

**WSASAS Business Meeting**

**Thursday 8:00 – 9:00 am**

**Chair: Dr. Kenneth Olson, WSASAS President  
Salon C**

**SYMPOSIA AND ORAL SESSIONS**

**Environment and Livestock  
Management**

**Chair: Dr. Rick Funston, University of Nebraska,  
North Platte  
Salon C**

- 9:15 AM      59    **Effects of winter grazing system and supplementation during late gestation on performance of beef cows and progeny.** R. N. Funston\*, J. L. Martin, D. C. Adams, and D. M. Larson, *University of Nebraska, North Platte.*
- 9:30 AM      60    **Effect of calving season and wintering system on cow performance.** W. A. Griffin\*<sup>1</sup>, T. J. Klopfenstein<sup>1</sup>, D. C. Adams<sup>2</sup>, G. E. Erickson<sup>1</sup>, L. A. Stalker<sup>2</sup>, and R. N. Funston<sup>2</sup>, <sup>1</sup>*Universtiy of Nebraska, Lincoln*, <sup>2</sup>*University of Nebraska, North Platte.*
- 9:45 AM      61    **Influence of grazing deferments following summer fire on ewe performance and forage quality.** R. C. Waterman\* and L. T. Vermeire, *USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT.*
- 10:00 AM      **Break.**
- 10:15 AM      62    **Beef cow performance following rumen-protected choline supplementation during the periparturient period.** J. R. Jaeger\*, S. R. Goodall, K. R. Harmoney, and K. C. Olson, *Kansas State University, Manhattan.*
- 10:30 AM      63    **Reproduction in young postpartum range cows supplemented with glucogenic precursors.** J. T. Mulliniks\*, M. E. Kemp, S. I. Valverde-Saenz, C. M. Gardner, S. H. Cox, A. Cibils, D. E. Hawkins, and M. K. Petersen, *New Mexico State University, Las Cruces.*
- 10:45 AM      64    **Evaluation of calf output and progeny carcass data of commercial beef bulls.** A. L. Van Eenennaam and D. J. Drake\*, *University of California, Davis.*

## Pastures and Forages

Chair: Dr. Rachel Endecott,  
Montana State University  
Salon D

- 9:15 AM 65 **Estimating livestock forage demand: Defining the animal unit.** T. L. Meyer<sup>\*1</sup>, D. C. Adams<sup>1</sup>, T. J. Klopfenstein<sup>2</sup>, J. D. Volesky<sup>1</sup>, L. A. Stalker<sup>1</sup>, and R. N. Funston<sup>1</sup>, <sup>1</sup>*West Central Research and Extension Center, North Platte*, <sup>2</sup>*University of Nebraska, Lincoln*.
- 9:30 AM 66 **Evaluation of annual forages as alternatives to native rangeas fall-winter forage in south-central North Dakota.** B. W. Neville<sup>\*1</sup>, D. Whitted<sup>1</sup>, P. Nyren<sup>2</sup>, G. P. Lardy<sup>1</sup>, and K. K. Sedivec<sup>1</sup>, <sup>1</sup>*North Dakota State University, Fargo*, <sup>2</sup>*Central Grasslands Research Extension Center, Streeter, ND*.
- 9:45 AM 67 **In vitro digestibility of bromegrass hay as affected by addition of crude glycerin.** V. Nayigihugu<sup>\*</sup>, P. L. Price, and B. W. Hess, *University of Wyoming, Laramie*.
- 10:00 AM **Break.**
- 10:15 AM 68 **Effect of dry distillers grains plus solubles supplementation level on forage intake and characteristics of digestion of beef heifers grazing wheat pasture.** A. Islas<sup>\*</sup>, M. Horvath, L. E. Camacho, and S. A. Soto-Navarro, *New Mexico State University, Las Cruces*.
- 10:30 AM 69 **Use of dried distillers grains to extend range capacity.** K. H. Gustad, J. A. Musgrave<sup>\*</sup>, L. A. Stalker, T. J. Klopfenstein, W. H. Schacht, D. C. Adams, and J. D. Volesky, *University of Nebraska, Lincoln*.

## Physiology

Chair: Dr. Brenda Alexander,  
University of Wyoming  
Salon B

- 9:15 AM 70 **Assessment of insulin-like growth factor-1 as an indicator of competence for rebreeding in first calf heifers.** A. J. Roberts<sup>\*</sup>, *USDA, ARS Ft. Keogh LARRL, Miles City, MT*.
- 9:30 AM 71 **Comparison of salivary and serum cortisol concentration in response to ACTH challenge in sheep.** D. T. Yates<sup>\*</sup>, T. T. Ross, D. M. Hallford, L. J. Hill, and R. L. Wesley, *New Mexico State University, Las Cruces*.
- 9:45 AM 72 **Seasonal and pregnancy-associated changes in energy-related metabolites and hormones in Elk.** J. Berardinelli<sup>\*</sup>, J. Olsen, S.



Tauck, and R. Garrott, *Montana State University, Bozeman.*

10:00 AM

**Break.**

10:15 AM

73 **Histological examination of major organs from rats fed in vitro digested or undigested snakeweed.** L. J. Hill\*<sup>1</sup>, T. T. Ross<sup>1</sup>, R. F. Taylor<sup>2</sup>, D. T. Yates<sup>1</sup>, and R. Halalsheh<sup>1</sup>, <sup>1</sup>*New Mexico State University, Las Cruces*, <sup>2</sup>*New Mexico Department of Agriculture Veterinarian Diagnostic Services, Albuquerque, NM.*

10:30 AM

74 **Effect of wintering system, nutrition around breeding and prostaglandin on, reproduction and calf production of beef heifers.** D. M. Larson\*<sup>1</sup>, R. D. Richardson<sup>2</sup>, and R. N. Funston<sup>3</sup>, <sup>1</sup>*University of Nebraska, Lincoln*, <sup>2</sup>*Rex Ranch, Ashby, NE*, <sup>3</sup>*West Central Research and Extension Center, North Platte, NE.*

10:45 AM

75 **Effect of 5 or 7 d interval between GnRH and PGF2 $\alpha$  and length of CIDR exposure on AI pregnancy rates in suckled beef cows.** A. Hyland, J. C. Whittier\*, G. E. Seidel Jr., R. M. Enns, and R. K. Peel, *Colorado State University, Ft Collins.*

11:00 AM

76 **Efficacy of the PortaSCC<sup>®</sup> milk test to estimate somatic cell count (SCC) and the effect of sampling day on constituents in sheep milk.** E. R. Kretschmer, D. W. Holcombe\*, G. C. J. Fernandez, and D. Redelman, *University of Nevada, Reno.*

## **Behavior**

**Chair: Dr. Brenda Alexander,  
University of Wyoming  
Salon B**

11:15 AM

77 **Feeding grain decreases training efficiency in 2-year-old Quarter horses.** W. R. Black\*, M. C. Greenwood, J. L. Weeding, L. C. Gagnon, and J. G. P. Bowman, *Montana State University, Bozeman.*

# POSTER PRESENTATIONS

Poster sessions will be located in Salon E of the Grand Ballroom. Presenters are to mount their poster for viewing on the appropriate board (see below) prior to the reception on Tuesday evening (June 24). Posters will be removed after the last session on Thursday (June 26). Specific times for manning posters are indicated below.

**Chair: Bret Hess, University of Wyoming  
Salon E**

(Authors Present 9:15 am–11:15 am)

## Breeding and Genetics

- 78 **Estimates of genetic and phenotypic parameters of performance traits in postweaning in Limousin cattle.** A. P. Marquez<sup>\*1</sup>, J. S. Saucedo<sup>1</sup>, and J. N. Guerrero<sup>2</sup>, <sup>1</sup>*Universidad Autónoma de Baja California, Mexicali, Baja California, México*, <sup>2</sup>*Natural and Agricultural Resources, Holtville, CA.*

## Extension

- 79 **NAIS field trials: Strengthening identification of high-risk animals using a novel identification approach.** S. P. Porter<sup>\*1</sup>, C. Smith<sup>2</sup>, A. Clark<sup>2</sup>, and J. C. Whittier<sup>1</sup>, <sup>1</sup>*Colorado State University, Fort Collins*, <sup>2</sup>*Optibrand Ltd., LLC, Fort Collins, CO.*
- 80 **Extension programming in manure management.** J. G. Davis<sup>\*</sup>, A. L. Elliott, and K. C. Doesken, *Colorado State University, Fort Collins.*
- 81 **A survey evaluation of California beef producers' best management practices and perceptions of a National Animal Identification System (NAIS).** S. P. Doyle<sup>\*1</sup>, K. L. Coopridge<sup>1</sup>, J. L. Evans<sup>2</sup>, and V. J. Velez<sup>2</sup>, <sup>1</sup>*California State University, Chico*, <sup>2</sup>*California Department of Food and Agriculture – Animal Health Branch, Sacramento, CA.*

## Nonruminant Nutrition

- 82 **Effect of the chromium addition at the diet on reproductive performance of sows served during the summer season.** J. A. Romo<sup>\*1</sup>, R. Barajas<sup>1</sup>, H. R. Guemez<sup>1,2</sup>, J. M. Romo<sup>2,1</sup>, and F. Juarez<sup>1</sup>, <sup>1</sup>*FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Sinaloa, Mexico*, <sup>2</sup>*Granja Porcina La Huerta, Culiacan, Sinaloa, Mexico.*

# Ruminant Nutrition

- 83 **Effect of level of dry distillers grains plus solubles on serum hormone concentrations in of feedlot lambs.** Y. Diaz\*, A. Islas, D. M. Hallford, L. E. Camacho, J. M. Benavidez, and S. A. Soto-Navarro, *New Mexico State University, Las Cruces.*
- 84 **Effects of corn condensed distillers solubles supplementation on performance and dry matter intake of beef cows consuming forage-based diets.** L. R. Coupe\*, G. P. Lardy, A. M. Meyer, B. W. Neville, J. L. Leupp, and J. S. Caton, *North Dakota State University, Fargo.*
- 85 **The effects of co-ensiling wet distiller's grains plus solubles with corn silage on growth performance of bred beef heifers during late pregnancy.** R. P. Arias\*, R. P. Lemenager, L. J. Snyder, and S. L. Lake, *Purdue University, West Lafayette, IN.*
- 86 **Effects of crude glycerin on feedlot performance and carcass characteristics of market lambs.** A. F. Musselman\*, M. L. Van Emon, P. J. Gunn, C. P. Rusk, M. K. Neary, R. P. Lemenager, and S. L. Lake, *Purdue University, West Lafayette, IN.*
- 87 **Effect of maternal dietary Se and nutrient restriction on fetal jejunal proliferation and vascularity.** J. J. Reed\*<sup>1</sup>, M. A. Ward<sup>1</sup>, K. A. Vonnahme<sup>1</sup>, T. L. Neville<sup>1</sup>, P. P. Borowicz<sup>1</sup>, J. B. Taylor<sup>2</sup>, D. A. Redmer<sup>1</sup>, A. T. Grazul-Bilska<sup>1</sup>, L. P. Reynolds<sup>1</sup>, and J. S. Caton<sup>1</sup>, <sup>1</sup>*North Dakota State University, Fargo*, <sup>2</sup>*USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID.*
- 88 **Impact of nutrient imbalance on rumen and blood metabolites.** M. B. Horvath\*, S. L. Lodge-Ivey, J. Browne-Silva, C. M. Gardner, J. D. Walsh, and D. E. Hawkins, *New Mexico State University, Las Cruces.*
- 89 **Sulfur-induced polioencephalomalacia in roughage-fed feedlot steers administered high-sulfur water.** C. W. Knight\*<sup>1</sup>, K. C. Olson<sup>2</sup>, C. L. Wright<sup>2</sup>, K. J. Austin<sup>1</sup>, and K. M. Cammack<sup>1</sup>, <sup>1</sup>*University of Wyoming, Laramie*, <sup>2</sup>*South Dakota State University, Brookings.*
- 90 **Extract from *Larrea* influences rumen fermentation.** J. Petersen\*, S. L. Lodge-Ivey, J. Browne-Silva, and M. B. Horvath, *New Mexico State University, Las Cruces.*
- 91 **Ruminal degradation kinetics of diets of manzanarina and cornsilage for sheep with the in vitro technique of gas production.** C. Arzola\*<sup>1</sup>, A. Muro<sup>2</sup>, M. R. Murphy<sup>3</sup>, O. Ruiz<sup>1</sup>, C. Rodriguez-Muela<sup>1</sup>, J. Salinas<sup>4</sup>, and F. Salvador<sup>1</sup>, <sup>1</sup>*Universidad Autonoma de Chihuahua, Chihuahua, Chihuahua, Mexico*, <sup>2</sup>*Universidad Autonoma de Zacatecas, Zacatecas, Zacatecas, Mexico*, <sup>3</sup>*University of Illinois, Urbana*, <sup>4</sup>*Universidad Autonoma de Tamaulipas, Cd. Victoria, Tamaulipas, Mexico.*
- 92 **Chromium methionine supplementation on feedlot performance and carcass characteristics of bulls: II. Results including through hot and humidity season in the northwest of Mexico.** R. Barajas\*<sup>1</sup>, B. J. Cervantes<sup>2,1</sup>, E. A. Velazquez<sup>1</sup>, J. A. Romo<sup>1</sup>, F. Juarez<sup>1</sup>, P. J.

Rojas<sup>3,1</sup>, and F. R. Peña<sup>1</sup>, <sup>1</sup>FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico, <sup>2</sup>Ganadera Los Migueles SA de CV, Culiacan, Sinaloa, Mexico, <sup>3</sup>Técnoología de Máxima Producción, S.A. de C.V., Culiacan, Sinaloa, Mexico.

- 93 **Effect of nutrient restriction in early gestation beef cows on maternal and fetal intestinal mass and jejunal proliferation, vascularity, and morphology.** A. M. Meyer<sup>\*1</sup>, J. J. Reed<sup>1</sup>, K. A. Vonnahme<sup>1</sup>, L. P. Reynolds<sup>1</sup>, S. A. Soto-Navarro<sup>3</sup>, B. W. Hess<sup>2</sup>, S. P. Ford<sup>2</sup>, and J. S. Caton<sup>1</sup>, <sup>1</sup>North Dakota State University, Fargo, <sup>2</sup>University of Wyoming, Laramie, <sup>3</sup>New Mexico State University, Las Cruces.
- 94 **Chromium methionine supplementation on feedlot performance and carcass characteristics of bulls: I. Results during cool season in the northwest of Mexico.** R. Barajas<sup>\*1</sup>, B. J. Cervantes<sup>2,1</sup>, E. A. Velazquez<sup>1</sup>, J. A. Romo<sup>1</sup>, F. Juarez<sup>1</sup>, and P. J. Rojas<sup>3,1</sup>, <sup>1</sup>FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico, <sup>2</sup>Ganadera Los Migueles SA de CV, Culiacan, Sinaloa, Mexico, <sup>3</sup>Técnoología de Máxima Producción, S.A. de C.V., Culiacan, Sinaloa, Mexico.
- 95 **Feeding barley beta-glucans to stimulate the immune system of calves.** A. V. Grove<sup>\*</sup>, C. R. Kaiser, J. A. Wiley, A. G. Harmsen, and J. G. P. Bowman, *Montana State University, Bozeman.*
- 96 **Impact of supplemented glucogenic precursors on nutrient partitioning in young postpartum range cows.** J. T. Mulliniks, M. E. Kemp, S. I. Valverde-Saenz, M. B. Horvath, S. H. Cox, A. Cibils, C. A. Loest, and M. K. Petersen<sup>\*</sup>, *New Mexico State University, Las Cruces.*
- 97 **60% dried distillers drains in lamb rations results in acceptable performance and carcass quality.** C. S. Schauer<sup>1</sup>, M. M. Stamm<sup>\*1</sup>, T. Maddock<sup>2</sup>, and P. B. Berg<sup>2</sup>, <sup>1</sup>North Dakota State University, Hettinger, <sup>2</sup>North Dakota State University, Fargo.
- 98 **Effect of flax grain inclusion on rumen fermentation, digestion, and microbial protein synthesis in growing and finishing diets for beef cattle.** T. C. Gilbery<sup>\*</sup>, G. P. Lardy, D. S. Hagberg, and M. L. Bauer, *North Dakota State University, Fargo.*
- 99 **Supplementation practices in beef heifers in the central plains of Venezuela.** L. A. Depablos<sup>1</sup>, J. Ordoñez<sup>2</sup>, S. Godoy<sup>\*3</sup>, and C. F. Chicco<sup>1</sup>, <sup>1</sup>Universidad Central de Venezuela, Maracay, Aragua, Venezuela, <sup>2</sup>Universidad Nacional Ezequiel Zamora, Barinas, Barinas, Venezuela, <sup>3</sup>Instituto Nacional de Investigaciones Agrícolas, Maracay, Aragua, Venezuela.
- 100 **Effect of feeding level on body weight changes and milk production of cows under tropical conditions.** C. F. Chicco<sup>\*1</sup> and S. Godoy<sup>2</sup>, <sup>1</sup>Universidad Central de Venezuela. Facultad de Ciencias Veterinarias., Maracay, Aragua, Venezuela, <sup>2</sup>Instituto Nacional de Investigaciones Agrícolas, Maracay, Aragua, Venezuela.

- 101 **Effects of feeding dried distillers grains and solubles to growing and finishing beef steers on production, digestibility, ruminal fermentation and carcass characteristics.** D. R. ZoBell\*, C. K. Chapman, R. D. Wiedmeier, and M Stuart, *Utah State University, Logan.*
- 102 **Effect of a fibrolytic enzyme supplementation on growing beef steers.** J.-S. Eun\*, D. R. ZoBell, C. M. Dschaak, and D. E. Diaz, *Utah State University, Logan.*

## **PAST PRESIDENTS**

### **Western Section**

#### **American Society of Animal Science**

2006-07	T. T. Ross, New Mexico State University
2005-06	J. M. Thompson, Oregon State University
2004-05	E. E. Grings, USDA ARS, Miles City, MT
2003-04	J. C. Whittier, Colorado State University
2002-03	P.G. Hatfield, Montana State University
2001-02	J.W. Oltjen, University of California, Davis
2000-01	N.E. Cockett, Utah State University
1999-00	J.A. Paterson, Montana State University
1998-99	M.S. Daugherty, California Polytechnic State University
1997-98	R.E. Short, USDA, Montana
1996-97	G.H. Coulter, Agriculture Canada, Lethbridge
1995-96	M.L. Galyean, New Mexico State University
1994-95	R.A. Roeder, University of Idaho
1993-94	K.G. Odde, Colorado State University
1992-93	R.A. Field, University of Wyoming
1992-92	D.L. Garner, University of Reno-Nevada
1990-91	R.A. Bellows, USDA, Miles City
1989-90	M. Vavra, Oregon State University
1988-89	A.C. Linton, Montana State University
1987-88	D.M. Hallford, New Mexico State University
1986-87	R.C. Bull, University of Idaho
1985-86	D.E. Ray, University of Arizona
1984-85	R.W. Wright, Jr., Washington State University
1983-84	J.D. Wallace, New Mexico State University
1982-83	R.M. Tait, University of British Columbia
1981-82	R.W. Stanley, University of Hawaii
1980-81	C.B. Tueurer, University of Arizona
1979-80	M.H. Kennington, California State Poly Univ.
1978-79	R.W. Gardner, Brigham Young University
1977-78	R.L. Preston, Washington State University
1976-77	T.R. Greathouse, Colorado State University
1975-76	D.C. England, Oregon State University
1974-75	R.L. Blackwell, Montana State University
1973-74	D.M. Bowden, Agriculture Canada Research
1972-73	W.N. Garrett, University of California
1971-72	J.E. Butcher, Utah State University
1970-71	C.J. Kercher, University of Wyoming
1969-70	L.E. Orme, Brigham Young University
1968-69	V.R. Bohman, University of Nevada-Reno
1967-68	A.L. Newmann, New Mexico State University
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
1942	R.T. Clark, Montana State University
1941	H.R. Guilbert, University of California
1940	J. Sotola, Washington State University
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**

2007	N. E. Cockett, Utah State University
2006	Not Given
2005	M. K. Petersen, New Mexico State University
2004	M. Vavra, Oregon State University
2003	T. Grandin, Colorado State University
2002	D.M. Hallford, New Mexico State University
2001	P.R. Cheeke, Oregon State University
2000	G.E. Bradford, University of California
1999	R.E. Short, USDA, Montana
1998	D.E. Johnson, Colorado State University
1997	M.W. McCollough, Moorman's High Plains SMA.
1996	R.A. Field, University of Wyoming
1995	C.F. Nockles, Colorado State University
1994	K. Koong, Oregon State University
1993	J.S. Brinks, 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, USDA, 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

### **Young Scientists**

2007	L. H. Baumgard, University of Arizona
2006	T. E. Engle, Colorado State University
2005	D. W. Bohnert, Oregon State University
2004	D. H. Crews, Jr., Agriculture Canada
2003	B.W. Hess, University of Wyoming
2002	T.W. Geary, USDA-ARS, Miles City, MT
2001	D.E. Hawkins, New Mexico State University
2000	T.J. DelCurto, Oregon State University
1999	K.E. Belk, Colorado State University
1998	N.E. Cockett, Utah State University
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
1984	E.L. Squires, Colorado State University
1983	G.E. Seidel, Colorado State University
1982	P.J. Burfening, Montana State University
1981	R.W. Wright, Jr., Washington State University
1980	T.M. Nett, Colorado State University
1979	P.R. Cheeke, Oregon State University
1978	S.L. Davis, University of Idaho
1977	J.J. Reeves, Washington State University
1976	C.C. Kaltenbach, University of Wyoming
1975	G.D. Niswender, Colorado State University

### **Extension Award**

2007	D. J. Drake, University of California, Davis
2006	J. E. Sprinkle, University of Arizona
2005	C. Mathis, New Mexico State University
2004	W. F. Gipp, Montana State University
2003	J. A. Paterson, Montana State University
2002	S. B. LeValley, Colorado State University
2001	D.R. Zobell, Utah State University
2000	R.L. Hathaway, Oregon State University
1999	A.M. Swinker, Colorado State University
1998	J.C. Whittier, Colorado State University
1997	J.W. Oltjen, University of California-Davis
1996	R.W. Kott, Montana State University
1995	N.J. Stenquist, University of Utah
1994	R.C. Torrell, University of Nevada-Reno
1993	J.E. Nel, University of Wyoming
1992	D.L. Hixon, University of Wyoming
1991	L.J. Krysl, University of Nevada-Reno



1990	T.L. Stanton, Colorado State University
1989	C.G. Gibson, University of Idaho
1988	R.M. Brownson, Montana State University
1987	J.M. Sachse, New Mexico State University

### **Teaching Award**

2007	J. R. Carpenter, University of Hawaii
2006	A. M. Oberbauer, University of California, Davis
2005	C. C. Calvert, University of California, Davis
2004	J. Bowman, Montana State University
2003	T. T. Ross, New Mexico State University
2002	R. P. Ansotegui, Montana State University
2001	B.F. Sowell, Montana State University
2000	T.R. Famula, University of California
1999	D.W. Holcombe, University of Nevada, Reno
1998	J.D. Tatum, Colorado State University
1997	J.J. Reeves, Washington State University
1996	R.D. Green, Colorado State University
1995	T.G. Field, Colorado State University
1994	D.W. Weber, Oregon State University
1993	W.A. Schurg, University of Arizona
1992	M.L. Riley, University of Wyoming
1991	D.M. Hallford, New Mexico State University
1990	L.E. Orme, Brigham Young University
1989	E.L. Martin, Washington State University
1988	J.A. Froseth, Washington State University
1987	R.E. Taylor, Colorado State University

### **First Place Recipients of the Competition Paper Award**

2007	P. L. Price, University of Wyoming
2006	J. W. Waggoner, New Mexico State University
2005	T. M. Thelen, New Mexico State University
2004	S. L. Lake, University of Wyoming
2003	E. J. Scholljegerdes, University of Wyoming
2002	J. A. Morrison, Oregon State University
2001	O.J. Dennison, New Mexico State University
2000	M. Bertolini, University of California
1999	L. Brokaw, University of Wyoming
1998	L.R. McMahon, University of Saskatchewan
1997	T.E. Ludwig, Washington State University
1996	T.M.M. Bernardini, Montana State University
1995	L.M.M. Surber, Montana State University
1994	S.I. Paisley, University of Wyoming
1993	K.A. Naivar, University of Wyoming
1992	M.J. Guthrie, New Mexico State University
1991	T.W. Geary, Washington State University
1990	M.A. Lane, Montana State University
1989	D.L. Rankins, New Mexico State University
1988	D.M. Grieger, Washington State University
1987	M. Flood, Washington State University
1986	J.M. Miner, Montana State University
1985	J.S. Caton, New Mexico State University
1984	M.J. Garber, Washington State University
1983	J. Brown, Washington State University
1982	D. Honeyfield, Washington State University
1981	M.U. Marcano, Washington State University
1980	J.C. Throckmorton, Oregon State University
1979	C.L. Griggin, New Mexico State University

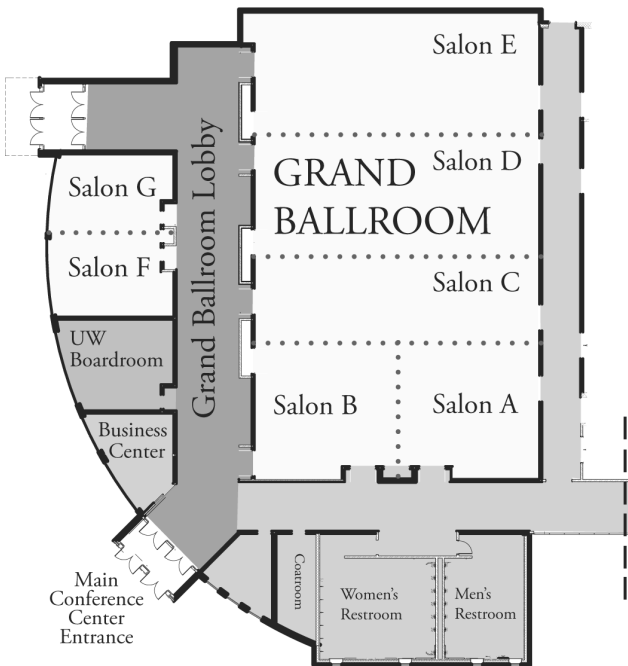
1978	M.K. Petersen, University of Idaho
1977	C.A. Hildebrand, University of Idaho
1976	S.R. Becker, Washington State University
1975	C.C. Calvert, Montana State University
1974	T.M. Bray, Washington State University
1973	C. Shreffler, Oregon State University
1972	P.V. Rattray, University of California
1971	A. Booren, University of Wyoming
1970	R.L. Quaas, Colorado State University
1969	D. Wideman, Colorado State University
1968	A.A. Howells, Washington State University

### **First Place Recipients of the Applied Animal Science Awards**

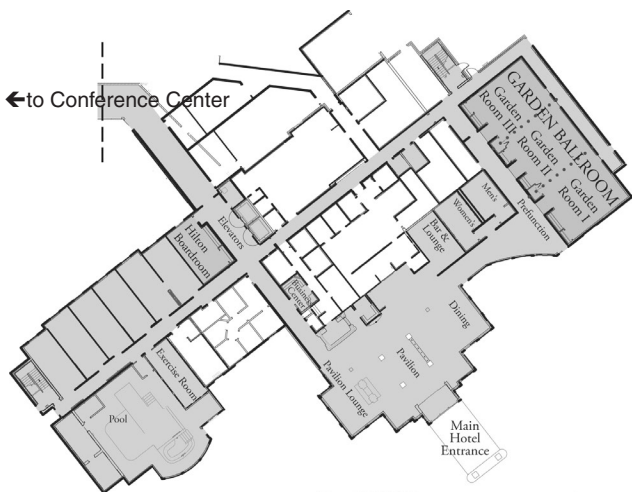
2007	C. P. Mathis, New Mexico State University
2006	J. J. Martin, University of Nebraska
2005	R. R. Salverson, South Dakota State University
2004	E. H. Ward, South Dakota State University
2003	H. H. Patterson, South Dakota State University
2002	H. H. Patterson, South Dakota State University
2001	D. D. Kress, Montana State University R. L. Hathaway, Oregon State University

### **Institutional Graduate Student Paper Competition**

2007	University of Wyoming
2006	University of Wyoming
2005	University of Wyoming
2004	New Mexico State University
2003	University of Wyoming



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