

# **WESTERN SECTION – AMERICAN SOCIETY OF ANIMAL SCIENCE**

**June 20-22, 2007**

**University of Idaho**

**Moscow, Idaho**

## **Summary of Scheduled Events**

### **Tuesday, June 19, 2007**

- |                   |   |
|-------------------|---|
| 4:00 pm - 7:00 pm | Registration<br>University of Idaho, Student Commons<br>(outside Whitewater Room) |
| 4:30 pm - 6:00 pm | WSASAS Executive Committee Meeting<br>Idaho Commons, Panorama Room                |

### **Wednesday, June 20, 2007**

- |                   |   |
|-------------------|---|
| 7:00 am - 5:00 pm | Registration<br>University of Idaho, Student Commons<br>(outside Whitewater Room)                         |
| 8:00 am - 4:30 pm | Beef Symposium<br>“The Repercussions of Lifetime Nutrition<br>Programs”<br>Idaho Commons, Whitewater Room |
| 6:30 pm - 9:00 pm | Welcome Reception<br>Idaho Commons, Green Room  |

### **Thursday, June 21, 2007**

- |                     |   |
|---------------------|---|
| 7:00 am – 12:30 pm  | Registration<br>University of Idaho, Student Commons<br>(outside Whitewater Room) |
| 8:00 am - 10:00 am  | Graduate Student Competition<br>University Administration Building,<br>Auditorium |
| 10:00 am - 10:15 am | BREAK<br>Administration Building,<br>Auditorium Foyer                             |
| 10:15 am - Noon     | Graduate Student Competition<br>(continued)                                       |
| 1:30 pm - 3:15 pm   | Breeding & Genetics<br>Idaho Commons, Crest Room                                  |

1:30 pm - 4:00 pm	Extension Symposium Idaho Commons, Aurora Room
1:30 pm - 4:15 pm	Ruminant Nutrition Idaho Commons, Panorama Room
2:00 pm - 4:00 pm	Poster Session I Idaho Commons, Whitewater Room (Behavior, Breeding & Genetics, Extension, Nonruminant Nutrition, Ruminant Nutrition)
3:00 pm -3:15 pm	BREAK University of Idaho, Student Commons
3:30 pm	ARPAS exams Idaho Commons, Crest Room (also available on an appointment basis)
6:30 pm	Awards Program/Banquet Student Union Building, Ballroom

### **Friday, June 22, 2007**

7:15 am	ARPAS exams Idaho Commons, Horizon Room (also available on an appointment basis)
8:00 am - 9:00 am	WSASAS Business Meeting University Administration Building, Auditorium
9:15 am -11:15 am	Poster Session II Idaho Commons, Whitewater Room (Environment and Livestock Management, Food Safety, Growth & Development, Pastures & Forages, Physiology)
9:15 am -10:45 am	Environment & Livestock Management, Pastures & Forages, Growth & Development Idaho Commons, Aurora Room
9:15 am -Noon	Physiology Idaho Commons, Crest Room
10:15 am - 10:30 am	BREAK University of Idaho, Student Commons
11:30 am - 12:30 pm	WSASAS Executive Committee Meeting Idaho Commons, Panorama Room

# 2007 ASAS Western Section Meeting

Wednesday, June 20 — Friday, June 22, 2007

## SYMPOSIA AND ORAL SESSIONS

### Beef Symposium

#### The Repercussions of Lifetime Nutrition Programs

Chair: Chad Mueller, Oregon State University Idaho  
Commons, Whitewater Room

- 7:00 AM                    **Registration.**
- 8:00 AM                    **Welcome & Introductions.** Dr. Tim Ross, *New Mexico State University, WSASAS President*, Dr. Carl Hunt, *University of Idaho*, Dr. Chad Mueller, *Oregon State University*.
- 8:15 AM                    **Impact of Lifetime Nutrition on Beef Female Development and Reproductive Efficiency.** Dr. Ron Lemenager, *Purdue University*.
- 9:00 AM                    **Impact of Cow Nutrition on Subsequent Calf Development.** Dr. Bret Hess, *University of Wyoming*.
- 9:45 AM                    **Break.**
- 10:15 AM                   **Impact of Pre-Weaning Nutrition Programs on Calf Growth and Development.** Dr. Glenn Duff, *University of Arizona*.
- 11:00 AM                   **How Does Genetic Selection Impact Production and Growth Efficiency?** Dr. A. Hayden Brown, Jr., *University of Arkansas*.
- 11:45 AM                   **Recognition of Symposium Sponsors.**
- 12:00 PM                   **Lunch.**
- 1:30 PM                    **Producer Perspective: How Do Nutrition Programs Influence Bull Selection Decisions?** Larry Lorenzen, *Lorenzen Ranches, Pendleton, OR*.
- 2:15 PM                    **Break.**

2:45 PM **Influence of Commodity Prices on Long-Term Nutritional Decisions.** Dr. Dillon Feuz, *Utah State University.*

3:30 PM **Panel of Speakers - Q & A.**

### **Opening Reception**

**Wednesday 6:30 - 9:00 PM**

Chair: **Richard Battaglia**

Commons Green

## **Thursday, June 21**

### **Graduate Student Paper Competition**

Chair: Dr. Charles Gaskins,  
Washington State University  
Administration Auditorium

8:00 AM **Introductions.**

8:00 AM 1 **A Meta-analysis Evaluation of Feeding MGA® to Feedlot Heifers Implanted with TBA.** J Wagner and N Davis\*, *Colorado State University, Fort Collins CO USA.*

8:15 AM 2 **Reproductive performance in early postpartum Rambouillet ewes and prepubertal ewe lambs treated with intravaginal progesterone.** J. M. Benavidez\*, M. J. Hendricks, R. L. Knight, L. D. Abercrombie, and D. M. Hallford, *New Mexico State University, Las Cruces, New Mexico, USA.*

8:30 AM 3 **Heterogeneous variance of docility scores in Limousin cattle.** D. W. Beckman\* and D. J. Garrick, *Colorado State University, Fort Collins, CO, US.*

8:45 AM 4 **Effects of MGA and PG600 on Fertility in Rambouillet Ewes Outside the Normal Breeding Season.** E.J. Windorski\*<sup>1</sup>, C. Schauer<sup>2</sup>, D. Pearson<sup>2</sup>, A. Wurst<sup>3</sup>, E.K. Inskeep<sup>3</sup>, and J.S. Luther<sup>1,2</sup>, <sup>1</sup>*Department of Animal & Range Sciences, North Dakota State University, Fargo, ND, United States,* <sup>2</sup>*Hettinger Research Extension Center, North Dakota State University, Hettinger, ND, United States,* <sup>3</sup>*Davis Col-*

*lege of Agriculture, Forestry, and Consumer Sciences, Morgantown, WV, United States.*

- 9:00 AM 5 **Effects of bunk scoring on feedlot steer intake.** J Schutz\*, J Wagner, and T Engle, *Colorado State University, Fort Collins, CO. USA.*
- 9:15 AM 6 **RECEPTOR TRANSPORTING PROTEIN-4 (RTP4) EXPRESSION AND LOCALIZATION IN THE OVARY AND ENDOMETRIUM OF CYCLIC AND EARLY PREGNANT EWES.** C.A. Gifford\*<sup>1</sup>, A.A. Assiri<sup>2</sup>, M.C. Satterfield<sup>3</sup>, T.E. Spencer<sup>3</sup>, and T.L. Ott<sup>4</sup>, <sup>1</sup>*University of Idaho, Moscow, ID, USA*, <sup>2</sup>*Washington State University, Pullman, WA, USA*, <sup>3</sup>*Texas A&M University, College Station, TX, USA*, <sup>4</sup>*Pennsylvania State University, University Park, PA, USA.*
- 9:30 AM 7 **Stayability to alternate ages.** B.W. Brigham\*, S.E. Speidel, R.M. Enns, and D.J. Garrick, *Colorado State University, Fort Collins, CO, USA.*
- 9:45 AM 8 **Duodenal flow and intestinal disappearance of fatty acids in lambs fed safflower fatty acids in the form of whole seeds, cracked seeds, or oil extracted from seeds.** P.L. Price\*, V. Nayigihugu, C.M. Murrieta, D.C. Rule, and B.W. Hess, *University of Wyoming, Laramie, Wyoming, U.S.A.*
- 10:00 AM **Break.**
- 10:15 AM 9 **Significant Association of Corticotropin-releasing Hormone Gene with Marbling and Subcutaneous Fat Depth in Wagyu x Limousin Crosses.** T Wibowo\*, J. J Michal, and Z Jiang, *Washington State University, Pullman, WA, USA.*
- 10:30 AM 10 **GENETIC PARAMETER ESTIMATES FOR ULTRASOUND INDICATORS OF CARCASS PERFORMANCE IN RED ANGUS CATTLE.** S. E. Speidel\*<sup>1</sup>, R. M. Enns<sup>1</sup>, B. W. Brigham<sup>1</sup>, and L. D. Keenan<sup>2</sup>, <sup>1</sup>*Colorado State University, Fort Collins, CO, USA*, <sup>2</sup>*Red Angus Association of America, Denton, TX, USA.*

- 10:45 AM 11 **Nitric oxide and polyamine response to prostaglandin F<sub>2a</sub> in the early and mid-stage ovine corpus luteum.** B.R. Schilling\*, K.K. Kane, L.M. Dixon, R.D. Speckmann, and D.E. Hawkins, *New Mexico State University, Las Cruces, NM, USA.*
- 11:00 AM 12 **Expression and distribution of urea transporter-B in lambs fed increasing dietary protein.** R. M. Stohrer\*, K. J. Austin, R. L. Atkinson, E. L. Belden, and P. A. Ludden, *University of Wyoming, Laramie, WY.*
- 11:15 AM 13 **Effect of duration of CIDR treatment on conception and pregnancy rates in beef heifers using a timed-AI protocol.** D. Gunn\*<sup>1</sup>, J. B. Glaze, Jr.<sup>2</sup>, A. Ahmadzadeh<sup>3</sup>, D. Falk<sup>3</sup>, and R. Findlay<sup>4</sup>, <sup>1</sup>*University of Idaho Extension, Fort Hall, Idaho*, <sup>2</sup>*University of Idaho, Twin Falls, Idaho*, <sup>3</sup>*University of Idaho, Moscow, Idaho*, <sup>4</sup>*University of Idaho Extension, Pocatello, Idaho.*
- 11:30 AM 14 **SELECTION INTENSITIES, GENERATION INTERVALS AND POPULATION STRUCTURE OF RED ANGUS CATTLE.** G.C. Márquez\* and D.J. Garrick, *Colorado State University, Fort Collins, CO, USA.*
- 11:45 AM 15 **The ability of a yeast-derived cell wall preparation to minimize toxic effects of high-alkaloid tall fescue straw in beef cattle.** M. L. Merrill\*<sup>1</sup>, D. W. Bohnert<sup>1</sup>, D. L. Harmon<sup>2</sup>, A. M. Craig<sup>3</sup>, and F. N. Schrick<sup>4</sup>, <sup>1</sup>*Eastern Oregon Agricultural Research Center, Oregon State University, Burns, OR, USA*, <sup>2</sup>*Department of Animal Sciences, University of Kentucky, Lexington, KY, USA*, <sup>3</sup>*College of Veterinary Medicine, Oregon State University, Corvallis, OR, USA*, <sup>4</sup>*Animal Science Department, University of Tennessee, Knoxville, TN, USA.*

## Breeding and Genetics

Chair: Dr. Janet Rumph,  
Montana State University  
Idaho Commons, Crest Room

- 1:30 PM      16      **Estimation of heterotic effects on heifer pregnancy in crossbred beef cattle.** C. M. McAllister\*<sup>1</sup>, D. D. Kress<sup>1</sup>, K. C. Davis<sup>1</sup>, D. C. Anderson<sup>1,2</sup>, R. M. Enns<sup>3</sup>, D. L. Boss<sup>2</sup>, and J. M. Rumph<sup>1</sup>, <sup>1</sup>Montana State University, Bozeman, <sup>2</sup>Montana State University, Havre, <sup>3</sup>Colorado State University, Fort Collins.
- 1:45 PM      17      **Genetic analysis of rebreeding to produce a calf at three years of age in the Montana Line 4 Hereford herd.** J. M. Rumph\*<sup>1</sup>, D. D. Kress<sup>1</sup>, K. C. Davis<sup>1</sup>, D. C. Anderson<sup>1,2</sup>, and D. L. Boss<sup>2</sup>, <sup>1</sup>Montana State University, Bozeman, <sup>2</sup>Montana State University, Havre.
- 2:00 PM      18      **Retrospective analysis of selection applied to a ratio.** M. D. MacNeil\*, USDA Agricultural Research Service, Miles City, MT.
- 2:15 PM      19      **Iterative solution of linear equations from national beef cattle evaluation.** D. J. Garrick\*, B. W. Brigham, and S. E. Speidel, Colorado State University, Fort Collins.
- 2:30 PM      20      **Urotensin 2 and its receptor as potential candidate genes for beef marbling score and subcutaneous fat depth.** D.J. Tobey, T.F. Daniels, J.J. Michal, and Z. Jiang\*, Washington State University, Pullman.
- 2:45 PM      21      **Ultrasound estimates of loin muscle measures and backfat thickness augment live animal prediction of weights of subprimal cuts in sheep.** T. D. Leeds\*<sup>1</sup>, M. R. Mousel<sup>1</sup>, D. R. Notter<sup>2</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,.

- 3:00 PM 22 **Identification of factors affecting Angus bull sale prices.** K. L. Shirley\* and D.J. Garrick, *Colorado State University, Fort Collins.*

### **Extension Symposium**

Chair: Dr. Manny Encinias,  
New Mexico State University  
Idaho Commons, Aurora Room

- 1:30 PM 23 **The extension service and the beef industry: Yesterday vs. today.** J. A. Paterson\*, *Montana State University, Bozeman.*
- 2:15 PM 24 **Assessing the industry's needs: a production practices survey of cow-calf producers in northeastern Oregon.** C. Parsons\*, *Oregon State University, Baker County Cooperative Extension Service, Baker City.*
- 3:00 PM **Break.**
- 3:15 PM 25 **The future of information dissemination to the beef cattle industry.** T. Field\*, R. Lemenager, B. Long, H. Gardiner, and H. Suttee, *Colorado State University, Fort Collins.*

### **Ruminant Nutrition**

Chair: Dr. Alex Hristov & Dr. Jason Ahola,  
University of Idaho  
Idaho Commons, Panorama Room

- 1:30 PM 26 **Effect of peas on ruminal fermentation, digestibility, and nitrogen losses in dairy cows.** M. Vander Pol\*, A. N. Hristov, S. Zaman, C. Schneider, and N. Delano, *University of Idaho, Moscow.*
- 1:45 PM 27 **Influence of slice baling alfalfa hay on digestive function of steers consuming a feedlot finishing diet.** F. Loya-Olguin<sup>1</sup>, A. M. Encinias<sup>1</sup>, D. A. Walker<sup>1</sup>, N. A. Elam<sup>1</sup>, L. Avendaño-Reyes<sup>2</sup>, and S. A. Soto-Navarro\*<sup>3</sup>, <sup>1</sup>*New Mexico State University, Clayton*, <sup>2</sup>*Instituto de Ciencia Agrícolas, Universidad Autónoma de Baja California, Mexicali*,



*Baja California, México, <sup>3</sup>New Mexico State University, Las Cruces.*

- 2:00 PM 28 **Long-chain fatty acid flow to the duodenum of cattle fed limited amounts of forage plus supplementary ruminally undegradable protein containing fishmeal.** B. W. Hess<sup>\*1</sup>, E. J. Scholljegerdes<sup>2</sup>, C. M. Murrieta<sup>1</sup>, and D. C. Rule<sup>1</sup>, <sup>1</sup>*University of Wyoming, Laramie*, <sup>2</sup>*USDA-ARS, Mandan, ND.*
- 2:15 PM 29 ***In vitro* ruminal protein degradability of barley varieties.** A. N. Hristov<sup>\*1</sup>, G. A. Broderick<sup>2</sup>, C. W. Hunt<sup>1</sup>, T. Fife<sup>1</sup>, and W. J. Price<sup>1</sup>, <sup>1</sup>*University of Idaho, Moscow*, <sup>2</sup>*U.S. Dairy Forage Research Center, Madison, WI.*
- 2:30 PM 30 **Identification of quality characteristics of feed barley and relating those characteristics to digestibility in feedlot steers.** T. E. Fife, J. I. Szasz, A. N. Hristov, and C. W. Hunt<sup>\*</sup>, *University of Idaho, Moscow.*
- 2:45 PM 31 **Characterization of forage trace mineral concentration by season in diets of beef cows grazing native range in eastern Colorado.** J. K. Ahola<sup>\*1</sup>, J. C. Whittier<sup>2</sup>, W. S. Mackay<sup>2</sup>, P. A. G. A. Sampaio<sup>2</sup>, and T. E. Engle<sup>2</sup>, <sup>1</sup>*University of Idaho, Caldwell*, <sup>2</sup>*Colorado State University, Fort Collins.*
- 3:00 PM **Break.**
- 3:15 PM 32 **Influence of supplemental whole flaxseed level on forage intake and site and extent of digestion in beef heifers consuming native grass hay.** E. Scholljegerdes<sup>\*</sup> and S. Kronberg, *Northern Great Plains Research Laboratory, USDA-ARS, Mandan, ND.*
- 3:30 PM 33 **Backgrounding calves with annual forage crops.** A. L. Todd<sup>\*1</sup>, L. M. M Surber<sup>1</sup>, S. D. Cash<sup>1</sup>, M. M. Stamm<sup>2</sup>, C. S. Schauer<sup>2</sup>, M. M. Thompson<sup>1</sup>, and A. Hafla<sup>1</sup>, <sup>1</sup>*Montana State University, Bozeman*, <sup>2</sup>*North Dakota State University, Hettinger.*
- 3:45 PM 34 **Effects of bacterial endotoxin and dietary protein on serum hormones**

**and plasma amino acids in growing steers.** J. W. Waggoner\*, C. A. Loest, J. L. Turner, C. P. Mathis, K. K. Kane, L. Chen, D. M. Hallford, and M. K. Petersen, *New Mexico State University, Las Cruces.*

- 4:00 PM      35      **Impacts of supplemental glucogenic precursors and cow age on postpartum range cow performance.** R. L. Endecott\*<sup>1</sup>, S. H. Cox<sup>2</sup>, and M. K. Petersen<sup>2</sup>, <sup>1</sup>*Montana State University, Bozeman*, <sup>2</sup>*New Mexico State University, Las Cruces.*

### **ARPAS Exams**

**Thursday 3:30 - 5:30 PM**

Chair: Richard Frahm

Idaho Commons, Crest Room

## **POSTER PRESENTATIONS**

### **Behavior**

Idaho Commons, Whitewater Room

- 36      **Effects of mild stress on ewe maternal behavior.** G. Leedy and B. Alexander\*, *University of Wyoming, Laramie.*
- 37      **Effects of progesterone on ram reproductive behavior.** K. J. Austin, J. T. Raines, and B. M. Alexander\*, *University of Wyoming, Laramie.*

### **Breeding and Genetics**

Idaho Commons, Whitewater Room

- 38      **Characterization of Brahman, Brangus, Charolais, Gelbvieh and Simmental for growth traits in Baja California, Mexico.** A. P. Marquez\*<sup>1</sup>, J. S. Saucedo<sup>1</sup>, M. Montañó<sup>1</sup>, V. Armendariz<sup>1</sup>, and J. N. Guerrero<sup>2</sup>, <sup>1</sup>*Universidad Autonoma de Baja California, Mexicali, Baja California, Mexico*, <sup>2</sup>*University of California, Agricultural and Natural Resources, Holtville, CA.*
- 39      **Effect of ram breed on pre-weaning growth performance of crossbred lambs.** S. P. Doyle\*, C. R. Johnson, G. A. Darling, and W. R. Patton, *California State University, Chico.*

- 40 **Effect of ram breed and finishing diet on carcass traits of crossbred wether lambs.** S. P. Doyle\*, C. R. Johnson, J. W. Holt, and W. R. Patton, *California State University, Chico.*
- 41 **Estimates of genetic parameters for weight in the progeny of Nubian, French Alpine, Saanen, Toggenburgh, and Spanish goats mated to Boer sires.** A. P. Marquez\*<sup>1</sup>, J. S. Saucedo<sup>1</sup>, M. Montaña<sup>1</sup>, and J. N. Guerrero<sup>2</sup>, <sup>1</sup>*Universidad Autonoma de Baja California, Mexicali, Baja California, Mexico,* <sup>2</sup>*University of California, Agricultural and Research Center, Holtville, CA.*

### **Extension**

Idaho Commons, Whitewater Room

- 42 **Teaching cattle producers to manage risk – The Beehive Master Beef Manager Program.** C. K. Chapman\*, D. R. ZoBell, E. B. Godfrey, D. Feuz, C. V. Bagley, R. E. Banner, T. D. Cooper, D. Rothlisberger, R. M. Nelson, and L. K. Greenhalgh, *Utah State University.*

### **Nonruminant Nutrition**

Idaho Commons, Whitewater Room

- 43 **Feeding barley beta-glucan enhances immune response in mice.** A. V. Grove\*, C. R. Kaiser, J. A. Wiley, A. G. Harmsen, and J. G. P. Bowman, *Montana State University, Bozeman.*
- 44 **Commercial phytases of *Aspergillus niger* in broilers' diets.** S. Godoy\*<sup>1</sup>, C. F. Chicco<sup>1</sup>, G. Hernández<sup>1</sup>, and P. Pizzani<sup>2</sup>, <sup>1</sup>*Instituto Nacional de Investigaciones Agrícolas (INIA), Maracay, Aragua, Venezuela,* <sup>2</sup>*Universidad Rómulo Gallegos, San Juan de los Morros, Guárico, Venezuela.*

### **Ruminant Nutrition**

Idaho Commons, Whitewater Room

- 45 **Investigation of the bioavailability of manganese from organic vs. inorganic supplements.** J. Hall<sup>1</sup>, H. Winger<sup>1</sup>, P. Hole\*<sup>1</sup>, and R. Samford<sup>2</sup>, <sup>1</sup>*Utah State University, Logan,* <sup>2</sup>*Albion Advanced Nutrition, Hico, TX.*

- 46 **Intake and digestibility of beta-glucan from 'Valier' barley in young calves.** A. V. Grove\*, C. R. Kaiser, N. Iversen, and J. G. P. Bowman, *Montana State University, Bozeman.*
- 47 **Effects of ruminal protein degradability and supplementation frequency on expression and distribution of urea transporter-B in lambs fed low-quality forage.** R. M. Stohrer\*, K. J. Austin, R. L. Atkinson, E. L. Belden, and P. A. Ludden, *University of Wyoming, Laramie.*
- 48 **Feeding value of corn and <sup>2</sup>Valier<sup>2</sup> barley for finishing steers.** N. L. Iversen\*, A. V. Grove, J. G. P. Bowman, D. Boss, and T. K. Blake, *Montana State University, Bozeman.*
- 49 **WITHDRAWN.**
- 50 **Use of methylglyoxal as a tool in predicting ruminal nitrogen status.** M. B. Horvath\*, S. H. Cox, M. K. Petersen, and S. L. Lodge-Ivey, *New Mexico State University, Las Cruces.*
- 51 **In situ rates of insoluble macromineral release from alfalfa and tropical grasses and relationships with dry matter disappearance.** K. Buck\*<sup>1</sup>, J. R. Carpenter<sup>1</sup>, M. S. Thorne<sup>1</sup>, and B. W. Mathews<sup>2</sup>, <sup>1</sup>CTAHR, *University of Hawaii at Manoa, Honolulu*, <sup>2</sup>CAFNR, *University of Hawaii, Hilo.*
- 52 **Effects of safflower oil and vitamin E on feedlot performance of sheep divergently selected for lambing rate.** A. L. Kelley\*, K. C. Davis, P. G. Hatfield, R. W. Kott, and J. M. Rumph, *Montana State University, Bozeman.*
- 53 **Effect of feeding frequency on feedlot steer performance.** J. Schutz, J. Wagner, T. Engle, and E. Sharman\*, *Colorado State University, Fort Collins.*
- 54 **Effect of water quality on Holstein calf performance.** D. Domínguez\*<sup>1</sup>, J. Ventura<sup>1</sup>, G. Villalobos<sup>1</sup>, J. Jaimes<sup>2</sup>, J. A. Ortega<sup>1</sup>, and L. Carlos<sup>1</sup>, <sup>1</sup>Universidad Autónoma de Chihuahua, *Chihuahua, Chihuahua, México*, <sup>2</sup>Universidad Autónoma de Chapingo, *Bermejillo, Durango, México.*
- 55 **Effects of conjugated tannins on forage ensiling and in vitro ruminal fermentation.** R. A. Halalsheh\*, H. M. Sullivan, T. T. Ross, and M. K. Petersen, *New Mexico State University, Las Cruces.*

## **WSASAS Awards Banquet**

**Thursday 6:30 - 9:00 PM**

Chair: Ken Olson, South Dakota State University  
Student Union Ballroom

**Friday, June 22**

## **SYMPOSIA AND ORAL SESSIONS**

### **ARPAS Exams**

**Friday 7:15 - 9:15 AM**

Chair: Richard Frahm  
Idaho Commons, Horizon Room

### **WSASAS Business Meeting**

**Friday 8:00 – 9:00 am**

Chair: Dr. Tim Ross, WSASAS President  
University Administration Building, Auditorium

### **Environment & Livestock Management**

Chair: Dr. Benton Glaze, University of Idaho  
Idaho Commons, Aurora Room

- 9:15 AM      56      **Prevalence of *Salmonella* and *E. coli* 0157:H7 large herd dairies in southwestern United States and northern Mexico.** C. H. Martinez<sup>1</sup>, T. S. Edrington<sup>2</sup>, J. D. Thomas<sup>1</sup>, T. T. Ross<sup>\*1</sup>, S. Soto-Navarro<sup>1</sup>, R. R. Redden<sup>3</sup>, B. J. Herron<sup>1</sup>, and D. T. Yates<sup>1</sup>, <sup>1</sup>*New Mexico State University, Las Cruces*, <sup>2</sup>*USDA-ARS, College Station, TX*, <sup>3</sup>*Montana State University, Bozeman*.
- 9:30 AM      57      **Low-input pasture backgrounding system is more profitable through harvest than high-input drylot system.** C. P. Mathis<sup>\*1</sup>, S. H. Cox<sup>1</sup>, M. K. Petersen<sup>1</sup>, C. L. Löest<sup>1</sup>, R. L. Endecott<sup>2</sup>, and M. Encinias<sup>1</sup>, <sup>1</sup>*New Mexico State University, Las Cruces*, <sup>2</sup>*Montana State University, Bozeman*.

## Physiology

Chair: Dr. Joe Dalton & Dr. Amin Ahmadzadeh, University of Idaho  
Idaho Commons, Crest Room

- 9:15 AM      61      **Reproductive performance of heifers offered ad libitum or restricted access to feed for a 140-d period after weaning.** A. J. Roberts\*, E. E. Grings, M.D. MacNeil, R. C. Waterman, L. J. Alexander, and T. W. Geary, *USDA-ARS, Fort Keogh LARRL, Miles City, MT.*
- 9:30 AM      62      **Growth and attainment of puberty in heifers from cows supplemented with linseed meal during early lactation.** B. R. Isle\*<sup>1</sup>, J. D. Kirsch<sup>1</sup>, S. Paasch<sup>1</sup>, K. G. Odde<sup>1</sup>, R. N. Funston<sup>2</sup>, G. P. Lardy<sup>1</sup>, and K. A. Vonnahme<sup>1</sup>, <sup>1</sup>*North Dakota State University, Fargo*, <sup>2</sup>*University of Nebraska West Central Research & Extension Center, North Platte.*
- 9:45 AM      63      **Concentrations of glucose, NEFA, thyroxine, and triiodothyronine in primiparous, anestrous, suckled beef cows exposed to bulls.** J. R. C. Wilkinson\*, S. A. Tauck, J. R. Olsen, and J. G. Berardinelli, *Montana State University, Bozeman.*
- 10:00 AM      64      **Cortisol concentration patterns during acclimatization to facilities and protocols necessary for intensive blood sampling in primiparous, postpartum, suckled beef cows.** J. R. Olsen\*, S. A. Tauck, J. R. C. Wilkinson, and J. G. Berardinelli, *Montana State University, Bozeman.*
- 10:15 AM      **Break.**
- 10:30 AM      65      **Comparison of using 7- or 14-d CIDR treatments in an estrous synchronization protocol that included PGF<sub>2α</sub> timed AI and GnRH in primiparous, suckled beef cows.** S. A. Tauck\*, J. R. C. Wilkinson, J. R. Olsen, and J. G. Berardinelli, *Montana State University, Bozeman.*

- 10:45 AM 66 **Effects of fetal and uterine genotype on placentome morphology in sheep.** W. J. Arndt\*, P. P. Borowicz, A. T. Grazul-Bilska, D. A. Redmer, J. S. Caton, L. P. Reynolds, and K. A. Vonnahme, *Center for Nutrition and Pregnancy, Dept of Animal and Range Sciences North Dakota State University, Fargo, ND.*
- 11:00 AM 67 **Effects of maternal dietary restriction and selenium (Se) intake on placentome development and cell proliferation in the ewe.** L. A. Lekatz\*, J. S. Caton, P. P. Borowicz, D. A. Redmer, L. P. Reynolds, and K. A. Vonnahme, *Center for Nutrition and Pregnancy, Dept of Animal and Range Sciences North Dakota State University, Fargo, ND.*
- 11:15 AM 68 **Study of the PortaSCC® milk test to estimate somatic cell count (SCC) and detect subclinical mastitis in sheep.** E. Kretschmer\*<sup>1</sup>, D. Holcombe<sup>1</sup>, E. Huether<sup>1</sup>, D. Redelman<sup>2</sup>, and G. Fernandez<sup>1</sup>, <sup>1</sup>*University of Nevada, Reno*, <sup>2</sup>*Sierra Cytometry/ UNR Cytometry Center, Reno, NV.*
- 11:30 AM 69 **Effects of supplementation of tasco-ex on infertility in young male goats experiencing heat stress.** D. T. Yates\*<sup>1</sup>, M. W. Salisbury<sup>2</sup>, and H. Anderson<sup>3</sup>, <sup>1</sup>*New Mexico State University, Las Cruces*, <sup>2</sup>*Angelo State University, San Angelo, TX.*, <sup>3</sup>*Anderson Consulting, Garden City, KS.*
- 11:45 AM 70 **Lifespan of sprague dawley rats immunized with an LHRH fusion protein.** A.D. Mitzel\*, J.A. Hernandez, N.S. Cummings, V.A. Conforti, D.M. de Avila, M.A. Evans, and J.J. Reeves, *Washington State University, Pullman, Washington, USA.*

## Pastures and Forages

Chair: Dr. Benton Glaze, University of Idaho  
Idaho Commons, Aurora Room

- 9:45 AM      59      **Protein supplementation of ruminants consuming low-quality cool- or warm-season forage: Differences in intake and digestibility.** D. W. Bohnert\*<sup>1</sup>, T. DelCurto<sup>2</sup>, A. A. Clark<sup>2</sup>, M. L. Merrill<sup>1</sup>, S. J. Falck<sup>3</sup>, and D. L. Harmon<sup>4</sup>, <sup>1</sup>*Eastern Oregon Agricultural Research Center, Oregon State University, Burns*, <sup>2</sup>*Eastern Oregon Agricultural Research Center, Oregon State University, Union*, <sup>3</sup>*Eastern Oregon Agricultural Research Center, ARS-USDA, Burns, OR*, <sup>4</sup>*University of Kentucky, Lexington.*
- 10:00 AM      60      **Sheep grazing wheat summer fallow and the impact on soil nitrogen, moisture, and crop yield.** E. E. Snyder\*<sup>1</sup>, H. B. Goosey<sup>1</sup>, P. G. Hatfield<sup>1</sup>, and A. W. Lenssen<sup>2</sup>, <sup>1</sup>*Montana State University, Bozeman*, <sup>2</sup>*USDA, ARS, Sidney, MT.*
- 10:15 AM      **BREAK**

## Growth & Development

Chair: Dr. Rod Hill, University of Idaho  
Idaho Commons, Aurora Room

- 10:30 AM      58      **Relationship between residual feed intake and meat quality in steer progeny of divergent intramuscular fat EPD angus bulls.** J. K. Ahola\*<sup>3</sup>, L. T. Campbell<sup>1</sup>, J. I. Szasz<sup>1</sup>, T. A. Skow<sup>1</sup>, C. W. Hunt<sup>1</sup>, J. B. Glaze, Jr.<sup>2</sup>, and R. A. Hill<sup>1</sup>, <sup>1</sup>*University of Idaho, Moscow*, <sup>2</sup>*University of Idaho, Twin Falls*, <sup>3</sup>*University of Idaho, Caldwell.*



# POSTER PRESENTATIONS

## Environment & Livestock Management

Idaho Commons, Whitewater Room

- 71 **Relationship of dam's body weight, milk components, and milk energy density to reindeer calf growth rate.** M. P. Shipka<sup>\*1,3</sup>, J. E. Rowell<sup>1</sup>, and A. J. Young<sup>2</sup>, <sup>1</sup>*University of Alaska, Fairbanks*, <sup>2</sup>*Utah State University, Logan*, <sup>3</sup>*Washington State University, Pullman*.
- 72 **Impact of equine anthelmintics on dung beetle reproduction.** T. Black<sup>1</sup>, E. Lewis<sup>\*1</sup>, B. Clymer<sup>2</sup>, and J. L. Beckett<sup>1</sup>, <sup>1</sup>*California Polytechnic State University, San Luis Obispo*, <sup>2</sup>*Fort Dodge Animal Health, Amarillo, TX*.
- 73 **Beef cow performance in response to early through mid-gestational nutrient restriction and provision of supplementary ruminally undegradable protein.** P. L. Price<sup>\*</sup>, M. Du, S. I. Paisley, V. Nayigihugu, J. D. Hess, and B. W. Hess, *University of Wyoming, Laramie*.
- 74 **Effect of copper supplementation on artificial insemination conception rate of Angus cows and feedlot performance of Angus bulls.** N. A. Dunbar, B. J. May, M. W. Salisbury<sup>\*</sup>, C. B. Scott, and M. T. Schafer, *Angelo State University, San Angelo, TX*.
- 75 **The effect of protein level on feedlot performance and carcass characteristics of Texas Rambouillet ewes.** N. Mendoza<sup>1</sup>, B. J. May<sup>\*1</sup>, M. W. Salisbury<sup>1</sup>, G. R. Engdahl<sup>1</sup>, and G. G. Hilton<sup>2</sup>, <sup>1</sup>*Angelo State University, San Angelo, TX*, <sup>2</sup>*Oklahoma State University, Stillwater*.
- 76 **Use of N-alkanes to estimate seasonal intake, digestibility, and diet composition of small ruminants grazing in California chaparral.** N. Narvaez<sup>\*</sup> and W. Pittroff, *University of California, Davis*.
- 77 **Effect of cobalt supplementation and estrous synchronization on body weight gain and conception rates in yearling ewes and peri-pubertal ewe lambs.** G. E. Moss<sup>\*1</sup>, K. M. Cammack<sup>1</sup>, B. A. Larson<sup>1</sup>, B. M. Alexander<sup>1</sup>, R. H. Stobart<sup>1</sup>, W. J. Hill<sup>2</sup>, and B. W. Hess<sup>1</sup>, <sup>1</sup>*Department of Animal Science, Laramie, WY*, <sup>2</sup>*Ralco Nutrition, Marshall, MN*.

78 **Effect of field pea and flaxseed inclusion in receiving calf diets and carryover effect on finishing performance, immune response, carcass quality, and economics.** D. G. Landblom\*<sup>1</sup> and C. J. Wachenheim<sup>2</sup>, <sup>1</sup>*North Dakota State University, Dickinson*, <sup>2</sup>*North Dakota State University, Fargo*.

79 **Readability of thirteen different RFID ear tags by three different multi-panel reader systems for use in beef cattle.** L. Wallace\*, J. Paterson, A. Ankney, R. Clark, A. Kellom, M. Harbac, and M. Miller, *Montana State University, Bozeman*.

### **Food Safety**

Idaho Commons, Whitewater Room

80 **Effects of season, management, and diet on prevalence of Shiga toxin-producing *Escherichia coli* in dairy cattle.** L. M. Bollinger\*<sup>1</sup>, H. S. Hussein<sup>1</sup>, and E. R. Atwill<sup>2</sup>, <sup>1</sup>*University of Nevada, Reno*, <sup>2</sup>*University of California, Davis*.

### **Growth & Development**

Idaho Commons, Whitewater Room

81 **Serum thyroxine, triiodothyronine and IGF-1 correlate with posweaning growth and carcass traits in lambs.** C. A. Ayala<sup>1</sup>, J. C. Estrada<sup>1</sup>, G. A. Lara<sup>1</sup>, F. A. Rodríguez-Almeida<sup>1</sup>, J. A. Ramírez-Godínez\*<sup>1</sup>, D. M. Hallford<sup>2</sup>, and G. N. Aguilar<sup>1</sup>, <sup>1</sup>*Universidad Autónoma de Chihuahua, Mexico*, <sup>2</sup>*New Mexico State University, Las Cruces*.

### **Pastures and Forages**

Idaho Commons, Whitewater Room

82 **Visual obstruction: Weight technique for estimating production on northwestern bunchgrass prairie rangelands.** D. Damiran\*<sup>1</sup>, T. DelCurto<sup>1</sup>, E. Darambazar<sup>1</sup>, A. A. Clark<sup>1</sup>, P. L. Kennedy<sup>1</sup>, and R. V. Taylor<sup>2</sup>, <sup>1</sup>*Oregon State University, Union*, <sup>2</sup>*The Nature Conservancy, Enterprise, OR*.

- 83 **Respiratory elimination of selenium in sheep given the accumulator plant *Symphotrichum spathulatum* (western mountain aster).** A. Wilhelm\*<sup>1</sup>, B. L. Stegelmeier<sup>2</sup>, K. E. Panter<sup>2</sup>, and J. O. Hall<sup>1</sup>, <sup>1</sup>*Utah State University, Logan*, <sup>2</sup>*USDA/ARS Poisonous Plant Research Laboratory, Logan, UT.*
- 84 **Species composition and diversity on northwestern bunchgrass prairie rangelands.** E. Darambazar\*<sup>1</sup>, T. DelCurto<sup>1</sup>, D. Damiran<sup>1</sup>, A. A. Clark<sup>1</sup>, and R. V. Taylor<sup>2</sup>, <sup>1</sup>*Oregon State University, Union*, <sup>2</sup>*The Nature Conservancy, Enterprise, OR.*
- 85 **Utilization of corn gluten meal by heifers as a self-fed supplement.** J. T. Mulliniks\*<sup>1</sup>, S. H. Cox<sup>1</sup>, J. E. Sawyer<sup>2</sup>, R. Worley<sup>3</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*, <sup>3</sup>*Alderman-Cave Feeds, Roswell, NM.*
- 86 **Effects of tallow supplementation to steers grazing wheat pastures on grazing and feedlot finishing performance.** A. Islas\*, T. Edwards, and S. A. Soto-Navarro, *New Mexico State University, Las Cruces.*
- 87 **Interaction of forage type and level on conditioning of heifer calves for exportation.** G. Villalobos\*, F. Castillo, D. Domínguez, J. A. Ortega, and L. Carlos, *Universidad Autonoma de Chihuahua, Chihuahua, Chihuahua, Mexico.*
- 88 **Effects of supplemental ground flaxseed on the growth performance of steers grazing summer native pasture in the northern Great Plains.** E. Scholljegerdes\* and S. Kronberg, *Northern Great Plains Research Laboratory, USDA-ARS, Mandan, ND.*

## **Physiology**

Idaho Commons, Whitewater Room

- 89 **BioPRYN, A blood-based pregnancy test for managing breeding and pregnancy in cattle.** J. Howard\*<sup>1</sup>, C. Passavant<sup>1</sup>, D. Pals<sup>1,3</sup>, T. Gray<sup>2</sup>, N. Sasser<sup>1</sup>, G. Gabor<sup>4</sup>, A. Ahmadzadeh<sup>3</sup>, and G. Sasser<sup>1,3</sup>, <sup>1</sup>*BioTracking LLC, Moscow, Idaho*, <sup>2</sup>*Holgate Land and Cattle, Plaines, TX*, <sup>3</sup>*University of Idaho, Moscow*, <sup>4</sup>*Research Institute for Animal Breeding, Herceghalom, Hungary.*

- 90      **Metabolic and steroid hormone concentrations in peripheral blood of overfed and underfed FSH-treated ewes.** A. T. Grazul-Bilska, J. S. Caton, E. Borowczyk, J. J. Bilski, J. D. Kirsch, D. A. Redmer, L. P. Reynolds, and K. A. Vonnahme\*, *North Dakota State University, Fargo.*
- 91      **Superovulation in sheep: Number and weight of the corpora lutea (CL) and serum progesterone.** A. T. Grazul-Bilska, E. J. Windorski\*, J. S. Luther, J. J. Bilski, J. D. Kirsch, E. Borowczyk, K. A. Vonnahme, L. P. Reynolds, and D. A. Redmer, *North Dakota State University, Fargo.*

# Officers

## American Society of Animal Science

Maynard G. Hogberg, President  
Michael L. Galyean, President Elect  
David S. Buchanan, Past President  
Lawrence P. Reynolds, Editor-in-Chief  
Steven M. Lonergan, Program Chair  
Ronnie D. Green, Recording Secretary  
Jerry C. Weigel, Foundation Trustee Chair  
Meghan C. Wulster-Radcliffe, Executive Director  
Paula J. Schultz, Associate Executive Director

## Western Section American Society of Animal Science

Timothy T. Ross, President  
Kenneth C. Olson, President-Elect  
Richard A. Battaglia, Secretary-Treasurer  
James M. Thompson, Past President  
Dennis M. Hallford, ASAS National Director  
Gary K. Tibbetts, Industry Director  
Steven I. Paisley, Advisory and Coordinating Chair

## PAST PRESIDENTS

### Western Section American Society of Animal Science

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**

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**

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**

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**

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**

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**

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**

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