

Western Section

American Society of Animal Science

81st Annual Meeting



Colorado State University

Fort Collins, Colorado

June 16–18, 2009

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Western Section American Society of Animal Science

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Western Section American Society of Animal Science

June 16–18, 2009

Colorado State University

Fort Collins, Colorado

Summary of Scheduled Events

Unless otherwise noted, all events will be held in the Hilton Fort Collins.

Monday, June 15, 2009

- | | |
|-------------------|--|
| 4:00 PM – 6:00 PM | Registration
CSU Ballroom Foyer |
| 4:00 PM – 6:00 PM | WSASAS Executive Committee, CSU
Vet Medicine Room |

Tuesday, June 16, 2009

- | | |
|-------------------|--|
| 7:00 AM – 6:00 PM | Registration
CSU Ballroom Foyer |
| 8:45 AM – 4:30 PM | Beef Symposium, Salon I/V |
| 6:00 PM – 9:00 PM | Welcome Reception, Pickett Arena,
CSU Equine Center |

Wednesday, June 17, 2009

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|---------------------|---|
| 7:00 AM – 6:00 PM | Registration
CSU Ballroom Foyer |
| 8:00 AM – 11:15 AM | Graduate Student Paper Competition,
Salon I/V |
| 11:15 AM – 12:00 PM | Distinguished Service Award Presentation,
Salon I/V |
| 1:00 PM – 3:00 PM | Poster Session I, Atrium |
| 1:00 PM – 4:15 PM | Extension Symposium, Salon I/V |
| 1:00 PM – 5:00 PM | Writing a Scientific Paper for Publication
Workshop (pre-registration required),
Physiology 103 |
| 1:15 PM – 4:30 PM | Environment and Livestock Management,
The Rams Room |
| 1:15 PM – 2:45 PM | Physiology I - Synchronization, Salon II |
| 1:15 PM – 2:45 PM | Ruminant Nutrition I, Green & Gold |
| 3:15 PM – 4:45 PM | Physiology II - Nutrition and Behavior,
Salon II |
| 3:15 PM – 4:45 PM | Ruminant Nutrition II, Green & Gold |
| 6:30 PM – 9:00 PM | Awards Banquet
CSU Ballroom |

Thursday, June 18, 2009

7:00 AM – 12:30 PM	Registration CSU Ballroom Foyer
8:00 AM – 9:00 AM	Annual Business Meeting, Salon I/V
9:00 AM – 1:00 PM	Writing a Scientific Paper for Publication Workshop (pre-registration required), Physiology 103
9:15 AM – 11:15 AM	Poster Session II, Atrium
9:15 AM – 11:30 AM	Breeding and Genetics, The Rams Room
9:30 AM – 9:45 AM	Meat Science & Muscle Biology, Green & Gold
10:00 AM – 10:45 AM	Pastures and Forages, Green & Gold
10:00 AM – 12:00 PM	Physiology III, Salon I/V
10:00 AM – 11:15 AM	Ruminant Nutrition III, Salon II
12:15 PM – 2:00 PM	WSASAS Executive Committee, CSU Vet Medicine Room

*ARPAS exams will be scheduled as applications are received. Contact the ARPAS headquarters to schedule an exam (arpas@assoqhq.org).

Uploading Presentation Files

Upload of PowerPoint files for oral presentations will be conducted in the CSU Aggie Room on the 2nd floor of the Hilton Fort Collins. Files must be uploaded between 4:00 PM and 5:30 PM of the day prior to the scheduled presentation time.

Oral Presentation

Tuesday, June 16
Wednesday, June 17
Thursday, June 18

Upload Deadline, 5:30 PM

Monday, June 15
Tuesday, June 16
Wednesday, June 17

Tuesday, June 16

SYMPOSIA AND ORAL SESSIONS

Beef Symposium

Chair: Dr. Steve Paisley, University of Wyoming
Salon I/V

- 8:45 AM **Welcome to Colorado.** Mr. William Wailes, *Head, Department of Animal Sciences, Colorado State University, Fort Collins, CO.*
- 9:00 AM **Introductions.** Dr. Steve Paisley, *University of Wyoming, Lingle, WY.*
- 9:15 AM **Animal welfare: finding solutions in all circumstances.** Mr. Ivan Steinke, *Colorado Livestock Association, Greeley, CO.*
- 10:00 AM **Raising beef in a first world country: science, media and politics.** Dr. Tom Field, *National Cattlemen's Beef Association, Englewood, CO.*
- 10:45 AM **Break.**
- 11:00 AM **What I see as public relations concerns about animal welfare.** Dr. Temple Grandin, *Department of Animal Sciences, Colorado State University.*
- 11:45 AM **Lunch.**
- 1:15 PM **Recent and upcoming rules related to air quality and cattle operations.** Dr. Andy Cole, *USDA-ARS Conservation and Production Research Laboratory, Bushland, TX.*
- 2:00 PM **Carbon credits and how they apply to the cattle industry.** Dr. Terry Mader, *Animal Science Department, University of Nebraska, Concord, NE.*
- 2:45 PM **Break.**
- 3:00 PM **Beef marketing and cattle management that emphasizes animal welfare.** Mr. Wade Small, *AgriBeef Co., Boise, ID.*
- 3:45 PM **Current issues concerning animal agriculture and the environment.** Mr. Dennis Avery, *Center for Global Food Issues, The Hudson Institute, Washington, DC.*

Wednesday, June 17

Graduate Student Paper Competition

Chair: Dr. Shanna Ivey, New Mexico State University
Salon I/V

- 8:00 AM **Welcome and Introductions.** Dr. Denny Crews, *Secretary-Treasurer, WSASAS, Colorado State University*; Dr. Richard Battaglia, *President, WSASAS, University of Idaho*; Dr. Lee Sommers, *Interim Dean, College of Agricultural Sciences, Colorado State University.*
- 8:15 AM 22 **Breeding performance of Suffolk ewes administered subacute levels of dietary nitrate.** R. R. Cockrum*, K. J. Austin, K. L. Kessler, S. M. Rustemeyer, W. J. Murdoch, and K. M. Cammack, *University of Wyoming, Laramie.*
- 8:30 AM 23 **Influence of thiamin supplementation on feedlot performance, carcass quality, and incidence of polioencephalomalacia in lambs fed a 60% distillers dried grains with solubles finishing rations.** B. W. Neville*¹, C. S. Schauer², K. Karges³, M. L. Gibson³, M. M. Thompson², P. T. Berg¹, and G. P. Lardy¹, ¹*North Dakota State University, Fargo*, ²*Hettinger Research and Extension Center, Hettinger, ND*, ³*Dakota Gold Research Association, Soix Falls, SD.*
- 8:45 AM 24 **Pregnancy rate, offspring performance and serum prolactin, estradiol, insulin, and glucose concentrations in ewes treated with recombinant bovine somatotropin before breeding.** L. E. Camacho*, J. M. Benavidez, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 9:00 AM 25 **The effects of starch or fiber based supplements on nutrient digestion by wethers and feeding behavior by heifers.** T. J. McDonald*, J. A. Paterson, B. M. Nichols, and M. M. Harbac, *Montana State University, Bozeman.*
- 9:15 AM 26 **Ruminal metabolism during continuous culture fermentation when replacing alfalfa (*Medicago sativa* L.) hay with birdsfoot trefoil (*Lotus corniculatus* L.) hay.** C. M. Williams*, C. M. Dschaak, J.-S. Eun, A. J. Young, and J. W. MacAdam, *Utah State University, Logan.*
- 9:30 AM 27 **Genetic parameters for intramuscular fat percentage, marbling score, scrotal circumference and heifer pregnancy in Red Angus cattle.** C. M. McAllister*, S. E. Speidel, B. W. Brigham, D. H. Crews, Jr., and R. M. Enns, *Colorado State University, Fort Collins.*
- 9:45 AM **Break.**

- 10:00 AM 28 **Microsatellite ETH10 in the promoter of signal transducer and activator of transcription-6 gene predicts 205-d weight in Red Angus cattle.** K. L. DeAtley*¹, G. Rincon², C. R. Farber², J. F. Medrano², R. M. Enns³, D. VanLeeuwen¹, G. A. Silver¹, and M. G. Thomas¹, ¹*New Mexico State University, Las Cruces*, ²*University of California, Davis*, ³*Colorado State University, Fort Collins*.
- 10:15 AM 29 **Camelina meal and crude glycerin as feed supplements for developing replacement beef heifers.** P. Moriel*, P. Price, V. Nayigihugu, and B. Hess, *University of Wyoming, Laramie*.
- 10:30 AM 30 **Influence of stocking density on grazing beef cattle performance, diet composition, foraging efficiency, and diet quality on a late-spring early-summer native bunchgrass prairie.** S. Wyffels*¹, T. DelCurto¹, A. Clark¹, P. Kennedy¹, R. Taylor², and S. Deban³, ¹*Eastern Oregon Agricultural Research Center, Oregon State University, Union*, ²*The Nature Conservancy, Enterprise, OR*, ³*Hermiston Agricultural Research and Extension Center, Oregon State University, Hermiston*.
- 10:45 AM 31 **Analysis of estrone sulphate, testosterone, and cortisol concentrations around time of ejaculation and potential correlation to sexual behavior and sperm characteristics in Stallions.** J. Seale*, G. Briers, D. Sigler, and C. Cavinder, *Texas A&M University, College Station*.
- 11:00 AM 32 **Metabolic and physical effects of psyllium supplementation on Quarter Horses.** J. L. Peterson*, S. J. Moreaux, J. G. P. Bowman, J. Olsen, and J. Berardinelli, *Montana State University, Bozeman*.

2008 Distinguished Service Award

Chair: Dr. Gary Moss, University of Wyoming
Salon I/V

- 11:15 AM **Introduction.** Dr. Gary Moss, *University of Wyoming*.
- 11:25 AM 1 **Maintaining balance when shift happens.** D. R. Ames*, *Colorado State University, Fort Collins*.

Environment and Livestock Management

Chair: Dr. Shawn Archibeque,
Colorado State University
The Rams Room

- 1:15 PM 10 **Beef calf performance and carcass characteristics following rumen-protected choline supplementation of cows during the periparturient period.** J. R. Jaeger*, K. C. Olson, S. R. Goodall, and J. W. Bolte, *Kansas State University, Manhattan.*
- 1:30 PM 11 **Post weaning management of heifer calves impacts average daily gain and feed efficiency as pregnant heifers.** D. M. Larson, T. L. Meyer*, L. A. Stalker, and R. N. Funston, *West Central Research and Extension Center, North Platte, NE.*
- 1:45 PM 12 **Extending grazing in heifer development systems decreases costs without compromising production.** D. M. Larson*¹, A. S. Cupp², and R. N. Funston¹, ¹*West Central Research and Extension Center, North Platte, NE,* ²*University of Nebraska, Lincoln.*
- 2:00 PM 13 **Estrus synchronization increases early calving frequency, which enhances steer progeny value.** D. M. Larson* and R. N. Funston, *West Central Research and Extension Center, North Platte, NE.*
- 2:15 PM 14 **Increasing glucogenic precursors in range supplements improves reproductive efficiency and profitability in young postpartum range cows in years 2000 to 2007.** J. T. Mulliniks*¹, S. H. Cox¹, M. E. Kemp¹, R. L. Endecott², R. C. Waterman³, and M. K. Petersen³, ¹*New Mexico State University, Las Cruces,* ²*Montana State University, Miles City,* ³*USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT.*
- 2:30 PM 15 **Impact of body condition score on reproductive performance in young postpartum range cows grazing native range.** J. T. Mulliniks*¹, S. H. Cox¹, M. E. Kemp¹, R. L. Endecott², R. C. Waterman³, and M. K. Petersen³, ¹*New Mexico State University, Las Cruces,* ²*Montana State University, Miles City,* ³*USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT.*
- 2:45 PM 16 **Implications of going against the dogma of feed them to breed them.** A. J. Roberts*, E. E. Grings, R. C. Waterman, T. W. Geary, L. J. Alexander, and M. D. MacNeil, *USDA-ARS, LARRL, Miles City, MT.*
- 3:00 PM **Break.**

- 3:15 PM 17 **Ram management practices: Results of a 2008 Wyoming sheep producer survey.** V. A. Uthlaut*, J. P. Hewlett, P. Jain, B. S. Rashford, and B. M. Alexander, *University of Wyoming, Laramie.*
- 3:30 PM 18 **Factors influencing the adoption of best management practices for feedlot ammonia emissions.** C. H. Davidson*, J. G. Pritchett, N. M. Embertson, and J. G. Davis, *Colorado State University, Fort Collins.*
- 3:45 PM 19 **Efficacy of best management practices for ammonia reduction on feedlots and dairies.** N. M. Embertson and J. G. Davis, *Colorado State University, Fort Collins.*
- 4:00 PM 20 **The influence of lactation on botanical composition and diet quality of cattle grazing at different stocking densities in a mixed grass prairie.** A. Clark*, T. DelCurto, S. Wyffels, C. Mueller, and G. Tschida, *Eastern Oregon Agricultural Research Center, Oregon State University, Union.*
- 4:15 PM 21 **Comparison of feeding wet distillers grains in a bunk or on the ground to cattle grazing native Sandhills winter range.** J. A. Musgrave*, L. A. Stalker, and T. J. Klopfenstein, *University of Nebraska, Lincoln.*

Extension Symposium

Chair: Dr. Jim Sprinkle, University of Arizona
Salon I/V

- 1:15 PM **Welcome and Introductions.** Dr. Jim Sprinkle, Chair, *WSASAS Extension Committee.*
- 1:20 PM **How Can Cooperative Extension Continue Our Mission in the Midst of the Current Funding Climate?** Dr. Deborah Young, Director of Extension, *Colorado State University.*
- 1:40 PM **Funding Opportunities for Multi-State Extension Programming.** Dr. Pete Burfening, National Program Leader, *Competitive Programs, CSREES.*
- 2:10 PM **Partnering with Extension to Deliver Producer Education.** Dr. Tom Field, Director of Producer Education, *National Cattlemen's Beef Association.*
- 2:40 PM **Oregon State University Annual Beef Cattlemen's Workshop.** Dr. Tim DelCurto and Mr. Cory Parsons, *Oregon State University.*
- 2:55 PM **Break.**
- 3:15 PM **Targeted Grazing.** Dr. Rodney Kott and Dr. Lisa Surber, *Montana State University.*
- 3:30 PM **Reading the Range.** Dr. Jim Sprinkle, *University of Arizona.*

- 3:45 PM **Wyoming Master Cattleman Program.** Mr. Bridger Feuz, *University of Wyoming.*
- 4:00 PM **Questions from the Audience.** Dr. Benton Glaze, Moderator, *University of Idaho.*

Physiology I - Synchronization

Chair: Dr. Kraig Peel, Colorado State University
Salon II

- 1:15 PM 37 **Effect of calf separation during the 12-h interval between two prostaglandin injections in beef cows synchronized for ovulation using the 5-d CO-Synch + CIDR Protocol.** M. K. Priest*¹, R. K. Peel¹, W. D. Whittier², and J. C. Whittier¹, ¹*Colorado State University, Fort Collins*, ²*Virginia Tech University, Blacksburg.*
- 1:30 PM 38 **Reproductive performance of beef heifers exposed to bulls during an estrus synchronization protocol that included a 14-d CIDR, PGF₂, and, timed AI and GnRH.** J. Berardinelli*, S. Tauck, J. Wilkinson, J. Olsen, T. Gibbs, and L. Runnion, *Montana State University, Bozeman.*
- 1:45 PM 39 **Effect of 6-h vs. 12-h interval between two prostaglandin injections in beef cows synchronized for ovulation using the 5-d CO-Synch + CIDR protocol.** M. P. Priest*, R. K. Peel, J. C. Whittier, R. M. Enns, and G. E. Seidel, Jr., *Colorado State University, Fort Collins.*
- 2:00 PM 40 **Use of either a 7 or 14 d CIDR treatments in an estrus synchronization protocol that included PGF₂, and timed AI and GnRH in postpartum, suckled beef cows.** S. A. Tauck*, J. R. C. Wilkinson, J. R. Olsen, P. Olind, K. C. Davis, and J. G. Berardinelli, *Montana State University, Bozeman.*
- 2:15 PM 41 **Comparison of a modified 5-day CO-Synch plus CIDR protocol with CO-Synch plus CIDR protocol in mature beef cows.** S. K. Johnson*¹, J. R. Jaeger², K. Harmony², and J. W. Bolte², ¹*KSU Northwest Research-Extension Center, Colby, KS*, ²*KSU Agriculture Research Center, Hays, KS.*
- 2:30 PM 42 **Effect of targeted use of a controlled internal drug releasing device (CIDR) in an estrous synchronization system for postpartum beef cows.** J. B. Hall*, A. Ahmadzadeh, R. H. Stokes, J. K. Ahola, C. Stephenson, J. J. England, and J. B. Glaze, Jr., *University of Idaho, Moscow.*

Ruminant Nutrition I

Chair: Dr. John Wagner, Colorado State University
Green & Gold

- 1:15 PM 57 **Effects of corn condensed distillers solubles supplementation on intake, rate and site of digestion, and ruminal fermentation in steers fed moderate-quality forages.** L. R. Coupe*, G. P. Lardy, T. C. Gilbery, A. M. Meyer, J. L. Leupp, M. L. Bauer, and J. S. Caton, *North Dakota State University, Fargo.*
- 1:30 PM 58 **In situ disappearance of high and low amylose pea varieties and their effects on forage digestibility in vitro.** A. V. Grove, A. L. Heryford, M. E. Dawe, and J. G. P. Bowman*, *Montana State University, Bozeman.*
- 1:45 PM 59 **Digestibility of dormant warm season vegetation with addition of supplemental protein.** P. H. Sanchez*¹, S. L. Ivey¹, S. H. Cox¹, R. L. Dunlap II¹, C. A. Löest¹, and M. K. Petersen², ¹*New Mexico State University, Las Cruces,* ²*USDA-ARS, Ft. Keogh Livestock and Range Research Laboratory, Miles City, MT.*
- 2:00 PM 60 **Feeding chile pepper byproduct with alfalfa hay decreases total tract diet digestibility in beef steers.** C. Graham*, D. Cazac, C. P. Mathis, and C. A. Löest, *New Mexico State University, Las Cruces.*
- 2:15 PM 61 **Effects of early lactation on DMI, DM digestion, and ruminal dynamics by primiparous beef heifers fed low-quality, warm-season grass hay.** D. R. Linden*, K. C. Olson, J. R. Jaeger, L. W. Murray, D. E. Anderson, L. A. Pacheco, K. E. Holcomb, J. W. Bolte, N. A. Sproul, and M. D. Thomas, *Kansas State University, Manhattan.*
- 2:30 PM 62 **Effects of advancing gestation on DMI, DM digestion, and ruminal dynamics of primiparous beef heifers fed low-quality, warm-season grass hay.** D. R. Linden*, K. C. Olson, J. R. Jaeger, L. W. Murray, D. E. Anderson, L. A. Pacheco, K. E. Holcomb, J. W. Bolte, N. A. Sproul, and M. D. Thomas, *Kansas State University, Manhattan.*

Physiology II - Nutrition and Behavior

Chair: Dr. Hyungchul Han, Colorado State University
Salon II

- 3:15 PM 43 **Duration of daily bull exposure on resumption of ovulatory activity in primiparous, postpartum, anovular, suckled, beef cows.** S. A. Tauck*, J. R. Olsen, J. R. C. Wilkinson, and J. G. Berardinelli, *Montana State University, Bozeman.*
- 3:30 PM 44 **Growth and attainment of puberty in calves from beef cows supplemented with linseed meal during late gestation.** B. R. Ilse*¹, V. L. Anderson¹, J. D. Kirsch², D. S. Buchanan², and K. A. Vonnahme², ¹*North Dakota State University, Carrington,* ²*North Dakota State University, Fargo.*
- 3:45 PM 45 **Effects of isolation on serum and salivary cortisol and complete blood counts in ewes.** D. T. Yates*, T. T. Ross, L. J. Yates, C. A. Warner, A. R. Otis, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 4:00 PM 46 **Late gestational nutrition of the mare and subsequent effects on adrenal function of the offspring as a yearling.** S. Burns*¹, C. Hammer², J. Coverdale¹, and C. Cavinder¹, ¹*Texas A&M University, College Station,* ²*North Dakota State University, Fargo.*
- 4:15 PM 47 **Fasting lowers gastrin-releasing peptide and FSH mRNA in the ovine anterior pituitary gland.** A. M. Fuller*¹, K. J. Austin¹, A. J. Roberts², G. E. Moss¹, and B. M. Alexander¹, ¹*University of Wyoming, Laramie,* ²*USDA-ARS, Miles City, MT.*
- 4:30 PM 48 **Beef cow performance following rumen-protected choline supplementation during the prepartum period.** J. R. Jaeger*, K. C. Olson, S. R. Goodall, and J. W. Bolte, *Kansas State University, Manhattan.*

Ruminant Nutrition II

Chair: Dr. Terry Engle, Colorado State University
Green & Gold

- 3:15 PM 63 **Effect of winter supplementation on glucose metabolism pre- and postpartum.** F. W. Harrelson*¹, S. L. Lodge-Ivey¹, S. H. Cox¹, R. L. Dunlap II¹, J. T. Mulliniks¹, B. H. Carter¹, C. A. Loest¹, and M. K. Petersen², ¹*New Mexico State University, Las Cruces*, ²*USDA-ARS Ft. Keogh Livestock and Range Research Laboratory, Miles City, MT.*
- 3:30 PM 64 **Supplementing wet distillers grains mixed with low quality forage to grazing cow calf pairs.** B. L. Nuttelman*, W. A. Griffin, T. J. Klopfenstein, L. A. Stalker, J. A. Musgrave, W. H. Schacht, and J. D. Volesky, *University of Nebraska-Lincoln, Lincoln.*
- 3:45 PM 65 **A self-fed, small-package protein supplement for post-weaning beef cows.** R. L. Endecott*¹ and R. C. Waterman², ¹*Montana State University, Miles City*, ²*USDA-ARS, Fort Keogh Livestock and Range Research Laboratory, Miles City, MT.*
- 4:00 PM 66 **The effects of reducing dietary phosphorus by the addition of bluegrass straw to the rations of early to mid-lactation Holstein dairy cows.** A. C. Huisman*, S. Cobb, R. L. Kincaid, J. J. Michal, and K. A. Johnson, *Washington State University, Pullman.*
- 4:15 PM 67 **Effects of nutritional plane and selenium supply on cellularity estimates of neonatal lamb jejunal mucosa, heart, and skeletal muscle.** T. L. Neville*¹, A. M. Meyer¹, J. J. Reed¹, J. B. Taylor², L. P. Reynolds¹, D. A. Redmer¹, K. R. Maddock Carlin¹, K. A. Vonnahme¹, and J. S. Caton¹, ¹*North Dakota State University, Fargo*, ²*USDA-ARS, U. S. Sheep Experiment Station, Dubois, ID.*
- 4:30 PM 68 **Impact of gastrointestinal parasites on antibody titer responses to vaccination and IBR challenge in Holstein calves.** J. S. Schutz*¹, E. D. Sharman¹, N. E. Davis¹, J. Carroll², K. L. Neuhold¹, T. E. Engle¹, T. Shelton³, S. Nordstrom³, and J. Hutcheson¹, ¹*Colorado State University, Fort Collins*, ²*USDA-ARS-Livestock Issues Research Unit, Lubbock, TX*, ³*Intervet Schering-Plough Animal Health, Desoto, KS.*

POSTER PRESENTATIONS

Poster sessions will be held in the Atrium at the Hilton Fort Collins. Presenters are to mount their poster to the appropriate board (see below) prior to the reception on the evening of Tuesday, June 16. Posters will then be removed after the last session on Thursday, June 18. Specific times when presenters should be present with their posters is indicated below.

Posters I

Chair: Dr. Mark Enns, Colorado State University
Atrium

(Authors Present 1:00 pm–3:00 pm,
Wednesday, June 17)

Behavior

- 77 **Effect of RU486 on development of sexual behavior, testosterone secretion, and expression of estrogen receptor- β in twin-born male lambs.** P. S. Singh*, K. J. Austin, V. A. Uthlaut, G. E. Moss, and B. M. M. Alexander, *University of Wyoming, Laramie.*

Breeding and Genetics

- 74 **Population status of major U.S. swine breeds.** C. S. Welsh*¹, H. D. Blackburn¹, and C. Schwab², ¹*USDA-ARS-National Animal Germplasm Program, Fort Collins, CO*, ²*National Swine Registry (NSR), West Lafayette, IN.*
- 75 **Estimates of genetic parameters for growth traits of Brahman, Brangus, Charolais, Gelbveih, and Simmental.** A. Pérez*¹, M. Montañó¹, J. S. Saucedo¹, J. A. Terriquez¹, and J. N. Guerrero², ¹*Instituto de Ciencias Agrícolas, Mexicali, Baja California, México*, ²*Natural and Research Institute, Holtville, CA.*
- 76 **Associations of prolactin receptor (PRLR) genotypes and reproductive traits in pigs.** A. Barreras-Serrano*¹, J. G. Herrera-Haro², S. Hori-Oshima¹, C. Lemus-Flores³, A. L. Kinejara-Espinosa¹, A. González-Aranguré¹, and J. G. Soto-Avila¹, ¹*Universidad Autónoma de Baja California, Mexicali, Baja California, México*, ²*Programa Recursos Genéticos y Productividad-Ganadería, Colegio de Postgraduados, Montecillo, Edo. de México, México*, ³*Universidad Autónoma de Nayarit, Tepic, Nayarit, México.*

Extension

- 78 **Determining the viability of composting on-farm feedstuffs and animal waste in northern Montana.** J. M. Dafoe* and D. L. Boss, *Montana State University, Havre, MT.*

Growth & Development

- 79 **The effects of maternal obesity and high nutrient intake on ovine colostrum nutrient composition.** N. M. Long^{*1,2}, A. B. Uthlaut^{1,2}, D. C. Rule¹, P. W. Nathanielsz^{2,3}, and S. P. Ford^{1,2}, ¹*Center for the study of fetal programming, Laramie, WY*, ²*University of Wyoming, Laramie*, ³*University of Texas Health Sciences Center, San Antonio.*

Meat Science & Muscle Biology

- 80 **Effects of implanting and castration on carcass characteristics of hair lambs fed a high-concentrate diet.** G. Villalobos^{*1}, F. Nuñez¹, H. Gonzalez-Rios², D. Dominguez¹, H. Castillo¹, and J. Ortega¹, ¹*Universidad Autonoma de Chihuahua, Chihuahua, Chihuahua, Mexico*, ²*CIAD, Hermosillo, Sonora, Mexico.*

Pastures and Forages

- 81 **Adaptation of warm-season annual legumes for forage in southeastern New Mexico.** D. Calderon-Mendoza^{*1}, A. Islas², M. F. Martinez-Perez², J. Armentariz², F. E. Contreras-Govea³, S. Angadi⁴, M. Marsalis², L. Lauriault⁵, and S. A. Soto-Navarro², ¹*Universidad Autonoma de Baja California, Mexicali, BC, Mexico*, ²*New Mexico State University, Las Cruces*, ³*New Mexico State University, Artesia*, ⁴*New Mexico State University, Clovis*, ⁵*New Mexico State University, Tatum*.
- 82 **Effect of winter supplementation strategy on body weight and condition changes.** F. W. Harrelson^{*1}, S. L. Lodge-Ivey¹, S. H. Cox¹, R. L. Dunlap II¹, C. A. Loest¹, and M. K. Petersen², ¹*New Mexico State University, Las Cruces*, ²*USDA-ARS Ft. Keogh Livestock and Range Research Laboratory, Miles City, MT.*
- 83 **Adaptation of fall sown medic, pea, vetch, and lentil to the 2007-2009 climate of the High Plains of Wyoming.** C. L. Loehr*, J. J. Nachtman, J. T. Cecil, S. I. Paisley, and J. M. Krall, *University of Wyoming, Laramie.*

Physiology

- 84 **Microarray analysis of bovine granulosa cells from normal and cystic follicles.** J. A. Grado-Ahuir^{*2}, P. Y. Aad¹, and L. J. Spicer¹, ¹*Oklahoma State University, Stillwater*, ²*Universidad Autonoma de Chihuahua, Chihuahua, Chihuahua, Mexico.*

- 85 **Serum hormone profiles and cyclic activity in prepubertal Rambouillet ewes treated with progesterone and pregnant mare's serum gonadotropin.** K. A. Jurado*, A. D. Stapp, L. E. Camacho, A. N. Iroz, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 86 **Effect of post weaning GnRH-A injection on reproductive performance of sows.** J. A. Romo*¹, J. M. Romo^{1,2}, O. S. Acuña¹, H. R. Guemez^{1,2}, R. Barajas¹, F. Juarez¹, and S. A. Felix¹, ¹*FMVZ-Universidad Autónoma de Sinaloa, Culiacan, Sinaloa, Mexico,* ²*Granja Porcina La Huerta, Culiacan, Sinaloa, Mexico.*
- 87 **Ovarian activity postpartum in Holstein cows in the northwest of Mexico.** M. P. Gallegos¹, H. L. Castro¹, J. R. Cervantes², J. F. Villarreal², J. S. Saucedo*³, A. Pérez³, and M. Montañó³, ¹*Universidad Juárez del Estado de Durango, Durango, Durango, México,* ²*Universidad Autónoma de Nuevo León, Monterrey, Nuevo León, México,* ³*Universidad Autónoma de Baja California, Mexicali, Baja California, México.*

Thursday, June 18

Annual Business Meeting

Chair: Dr. Richard Battaglia, University of Idaho
Salon I/V

8:00 AM **Business Meeting.**

SYMPOSIA AND ORAL SESSIONS

Breeding and Genetics

Chair: Dr. Harvey Blackburn, USDA-ARS-NCGRP
The Rams Room

- 9:15 AM 2 **The selection value of paternity information on calves derived from multisire breeding pastures on commercial cow-calf ranches.** A. L. Van Eenennaam*, K. L. Weber, K. L. Coopridge, L. J. Butler, and D. J. Drake, *University of California, Davis.*
- 9:30 AM 3 **Growth endocrine axis and bovine chromosome 5: Association of SNP genotypes and reproductive phenotypes in an Angus, Brahman, and Romosinuano diallele.** P. Luna-Nevarez*¹, G. Rincon², D. G. Riley³, C. C. Chase³, J. F. Medrano², D. VanLeeuwen¹, G. A. Silver¹, and M. G. Thomas¹, ¹*New Mexico State University, Las Cruces*, ²*University of California, Davis*, ³*USDA-ARS, STARS, Brooksville, FL.*
- 9:45 AM **Break.**
- 10:00 AM 4 **Aggregate stayability - using information from younger ages.** B. W. Brigham*¹, S. E. Speidel¹, D. J. Garrick², L. D. Keenan³, and R. M. Enns¹, ¹*Colorado State University, Fort Collins*, ²*Iowa State University, Ames*, ³*Red Angus Association of America, Denton, TX.*
- 10:15 AM 5 **Phenotypic relationships of residual feed intake with growth and carcass performance traits of spring-born Angus bulls.** G. E. Berryhill*¹, S. P. Doyle¹, and L. Rechel², ¹*California State University, Chico*, ²*Snyder Livestock Company, Inc., Yerington, NV.*
- 10:30 AM 6 **Relationships between calving ease EPD and carcass performance.** C. T. Pendley*, C. M. McAllister, S. E. Speidel, D. H. Crews, Jr., J. D. Tatum, and R. M. Enns, *Colorado State University, Fort Collins.*
- 10:45 AM 7 **Correlations of exit velocity and average chute score with carcass traits in feedlot steers.** A. R. Pepper*¹, R. M. Enns¹, R. L. Weaber², H. Van Campen¹, G. H. Loneragan³, J. L. Salak-Johnson⁴, C. C. L. Chase⁵, R. K. Peel¹, J. J. Wagner¹, D. H. Crews, Jr.¹, and E. J.

Pollak⁶, ¹Colorado State University, Fort Collins, ²University of Missouri, Columbia, ³West Texas A&M University, Canyon, ⁴University of Illinois, Urbana, ⁵South Dakota State University, Brookings, ⁶Cornell University, Ithaca, NY.

- 11:00 AM 8 **Relationship between ultrasonically-measured beef cow carcass traits and lifetime productivity.** L. A. Pacheco*, J. R. Jaeger, J. M. Bormann, and K. C. Olson, *Kansas State University, Manhattan.*
- 11:15 AM 9 **Genetic parameters for cow weight and height using a repeatability model in American Angus cattle.** M. G. Dib*¹, M. L. Spangler¹, and L. D. Van Vleck^{1,2}, ¹University of Nebraska, Lincoln, ²ARS-USDA, Lincoln, NE.

Meat Science & Muscle Biology

Chair: Dr. J. Daryl Tatum, Colorado State University
Green & Gold

- 9:30 AM 33 **Feedlot performance, carcass characteristics, and fatty acid composition of tissues from ewe lambs fed whole camelina seeds.** P. L. Price, V. Nayigihugu, W. J. Means, D. C. Rule, and B. W. Hess*, *University of Wyoming, Laramie.*

Pastures and Forages

Chair: Dr. Shawn Archibeque,
Colorado State University
Green & Gold

- 10:00 AM 34 **Effects of level of supplemental flax oil on ruminal disappearance of soybean meal.** E. J. Scholljegerdes*, *USDA-ARS, Northern Great Plains Research Laboratory, Mandan, ND.*
- 10:15 AM 35 **Winter cereals as a pasture-hay system in Montana.** A. N. Hafla*¹, S. D. Cash¹, L. M. M. Surber¹, J. A. Paterson¹, A. W. Lenssen², A. L. Todd¹, and M. S. Huffman¹, ¹Montana State University, Bozeman, ²Northern Plains Agricultural Research Unit, USDA-ARS, Sidney, MT.
- 10:30 AM 36 **Supplemental corn dry distiller grains plus solubles on performance of steers grazing native range.** M. F. Martinez-Perez*¹, D. Calderon-Mendoza^{2,3}, F. Loya-Holguin^{2,3}, C. Murdock³, A. M. Encinias³, and S. A. Soto-Navarro¹, ¹New Mexico State University, Las Cruces, ²Instituto de Ciencias Agricolas, Mexicali, BC, Mexico, ³New Mexico State University, Clayton.

Physiology III - Reproduction

Chair: Dr. Kraig Peel, Colorado State University
Salon I/V

- 10:00 AM 49 **Reproductive performance of Bison (*bison bison*) at the National Bison Range.** M. J. Borgreen^{*1,2}, T. Roffe², K. Phillips¹, and J. G. Berardinelli¹, ¹*Montana State University, Bozeman*, ²*U. S. Fish and Wildlife Service, Bozeman, MT.*
- 10:15 AM 50 **Duration of daily bull exposure on leptin concentrations during resumption of ovulatory activity in primiparous, postpartum, anestrous, beef cows.** J. R. Olsen^{*1}, S. A. Tauck¹, J. R. C. Wilkinson¹, D. H. Keisler², and J. G. Berardinelli¹, ¹*Montana State University, Bozeman*, ²*University of Missouri, Columbia.*
- 10:30 AM 51 **Investigation of a novel non-surgical method of artificial insemination for sheep.** P. H. Purdy^{*1}, H. D. Blackburn¹, B. Larson², and R. Stobart², ¹*National Animal Germplasm Program, Fort Collins, CO*, ²*University of Wyoming, Laramie.*
- 10:45 AM 52 **Effect of sex of co-twin and breed on ewe flock productivity.** V. A. Uthlaut^{*}, B. M. Alexander, and G. E. Moss, *University of Wyoming, Laramie.*
- 11:00 AM 53 **Effects of 8-epi-prostaglandin F2 and prostaglandin F2 on serum progesterone and corpus luteum size in ewes.** D. T. Yates^{*}, T. T. Ross, L. J. Yates, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 11:15 AM 54 **Effects of human chorionic gonadotropin on serum progesterone and complete blood counts during early gestation in ewes.** D. T. Yates^{*}, T. T. Ross, L. J. Yates, A. R. Otis, C. A. Warner, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 11:30 AM 55 **Serum progesterone profiles and conception rates in Rambouillet ewes treated with intravaginal progesterone at two stages of the estrous cycle.** A. N. Iroz^{*}, L. E. Camacho, A. D. Stapp, K. A. Jurado, M. B. Horvath, and D. M. Hallford, *New Mexico State University, Las Cruces.*
- 11:45 AM 56 **Serum progesterone, prolactin, and thyroid hormone profiles in nulliparous Rambouillet ewes after removal of an intravaginal progesterone insert.** A. D. Stapp^{*}, K. A. Jurado, L. E. Camacho, A. N. Iroz, and D. M. Hallford, *New Mexico State University, Las Cruces.*

Ruminant Nutrition III

Chair: Dr. John Wagner, Colorado State University
Salon II

- 10:00 AM 69 **Evaluation of *Saccharomyces cerevisiae* fermentation product as a natural alternative to an ionophore on growth performance, cost of gain, and carcass characteristics of heavy-weight yearling beef steers.** K. L. Swyers*¹, J. J. Wagner¹, K. L. Dorton², and S. L. Archibeque¹, ¹*Colorado State University, Fort Collins*, ²*Diamond V Mills, Cedar Rapids, IA*.
- 10:15 AM 70 **The effects of co-ensiling wet distiller's grains plus solubles with haylage on feedlot performance and carcass characteristics of finishing steers.** R. P. Arias*¹, R. P. Lemenager¹, L. J. Snyder¹, and S. L. Lake², ¹*Purdue University, West Lafayette, IN*, ²*University of Wyoming, Laramie*.
- 10:30 AM 71 **Pasture preconditioning calves at a higher rate of gain improves feedlot health but not post-weaning profit.** C. P. Mathis*, S. H. Cox, C. A. Löest, M. K. Petersen, and J. T. Mulliniks, *New Mexico State University, Las Cruces*.
- 10:45 AM 72 **Market cow feeding using different management strategies.** M. M. Thompson*¹, C. S. Schauer¹, R. J. Maddock², and C. L. Wright³, ¹*North Dakota State University, Hettinger*, ²*North Dakota State University, Fargo*, ³*South Dakota State University, Brookings*.
- 11:00 AM 73 **The effects of re-ensiling wet distiller's grains plus solubles with corn silage on growth performance of yearling beef heifers.** R. P. Arias*¹, R. P. Lemenager¹, L. J. Snyder¹, and S. L. Lake², ¹*Purdue University, West Lafayette, IN*, ²*University of Wyoming, Laramie, WY*.

POSTER PRESENTATIONS

Poster sessions will be held in the Atrium at the Hilton Fort Collins. Presenters are to mount their poster to the appropriate board (see below) prior to the reception on the evening of Tuesday, June 16. Posters will then be removed after the last session on Thursday, June 18. Specific times when presenters should be present with their posters is indicated below.

Posters II

Chair: Dr. Mark Enns, Colorado State University
Atrium

(Authors Present 9:15 am–11:15 am,
Thursday, June 18)

Environment & Livestock Management

- 88 **Development and implementation of a vertically-integrated beef cattle data collection system.** D. J. Drake^{*1}, A. L. Van Eenennaam¹, and J. D. Lowe², ¹*University of California, Davis,*, ²*Midwest MicroSystems, Lincoln, NE.*
- 89 **Influence of pen-shade on feedlot performance and carcass characteristics of bulls naturally exposed long time to high temperature.** R. Barajas^{*1}, B. J. Cervantes^{1,2}, M. A. Espino^{1,3}, F. Juarez¹, J. A. Romo¹, and E. A. Velazquez¹, ¹*FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico,* ²*Ganadera Los Migueles SA de CV, Culiacan, Sinaloa, Mexico,* ³*Técnoología de Máxima Producción, S.A. de C.V., Culiacan, Sinaloa, Mexico.*
- 90 **Evaluation of prepartum alternative oilseed meal supplementation on beef cow and calf performance.** F. D. Loehr^{*}, C. L. Loehr, S. I. Paisley, T. L. Smith, and B. W. Hess, *University of Wyoming, Laramie.*
- 91 **Beef system methods impact backgrounding and finishing net returns.** D. G. Landblom^{*1}, K. C. Olson², P. Johnson², R. Gates², M. K. Beutler², M. Hubert², G. A. Perry³, S. W. Fausti³, R. R. Salverson⁴, S. Furman⁵, and J. Vasconcelos⁵, ¹*NDSU - Dickinson RE Center, Dickinson, ND,* ²*SDSU - West River Ag Center, Rapid City, SD,* ³*South Dakota State University, Brookings,* ⁴*SDSU Extension Service, Buffalo, SD,* ⁵*UNL - Panhandle RE Center, Scottsbluff, NE.*

Nonruminant Nutrition

- 92 **Validation of acid insoluble ash (AIA) as an internal biomarker for digestibility studies in harbor seals (*Phoca vitulina*).** K. S. Yamamoto¹, J. R. Carpenter¹, S. Atkinson², L. Polasek², and H. Zaleski¹, ¹*University of HI at Manoa, Honolulu*, ²*Alaska SeaLife Center, Seward, AK*.
- 93 **Influence of descending dietary-protein levels on performance of fattening Japanese quail: I. Response during the hot season.** J. J. Lomeli*, L. R. Flores, and R. Barajas, *FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico*.
- 94 **Influence of descending dietary protein levels on performance of fattening Japanese quail: II. Response during the cool season.** J. J. Lomeli*, L. R. Flores, and R. Barajas, *FMVZ-Universidad Autonoma de Sinaloa, Culiacan, Sinaloa, Mexico*.

Ruminant Nutrition

- 95 **Microhistological characterization of the botanical composition of diets grazed by beef cows in the Kansas Flint Hills during winter.** G. J. Eckerle*, K. C. Olson¹, W. H. Fick¹, L. A. Pacheco¹, and K. Walburger², ¹*Kansas State University, Manhattan*, ²*University of Saskatchewan, Saskatoon, Saskatchewan, CN*.
- 96 **Effects of supplemental energy on post-ruminal utilization of tryptophan by growing lambs.** S. A. Kuykendall*, L. E. Camacho, L. Chen, and C. A. Löest, *New Mexico State University, Las Cruces*.
- 97 **Conception rate of first calf heifers supplemented with different protein concentrates in the tropics.** R. Mora*, C. F. Chicco, S. Godoy, and A. Herrera, *Postgrado de Producción Animal. Universidad Central de Venezuela, Maracay, Aragua, Venezuela*.
- 98 **The feed value of dry distillers grains plus soluble in 90% concentrate diets for feedlot lambs.** G. Orosco, M. F. Martinez-Perez, Y. Diaz, J. M. Garcia-Madrid, A. Islas, J. D. Thomas, and S. A. Soto-Navarro*, *New Mexico State University, Las Cruces*.
- 99 **Effects of time of transporting prior to sale date on selling weight of weaned steer calves.** L. M. Kovarik*, M. K. Luebbe, J. R. Benton, G. E. Erickson, and R. J. Rasby, *University of Nebraska-Lincoln, Lincoln*.
- 100 **Performance of ewe lambs fed oat hay.** D. Dominguez*, S. Ramirez¹, J. Salmeron², R. Ochoa², G. Villalobos¹, H. Castillo¹, and J. Ortega¹, ¹*Universidad Autonoma de Chihuahua, Chihuahua, Mexico*, ²*INIFAP, Cuauhtemoc, Mexico*.
- 101 **The effect of feeding an exogenous fibrolytic enzyme on performance of fattening lambs.** D. Dominguez*, J. Cruz, G. Villalobos, H. Castillo, L. Duran, and E. Santellano, *Universidad Autonoma de Chihuahua, Chihuahua, Mexico*.

- 102 **Effect of zeranol and sex condition on finishing hair lamb performance.**G. Villalobos*¹, F. Nuñez¹, H. Gonzalez-Rios², D. Dominguez¹, H. Castillo¹, J. Valles¹, and M. Lujan¹, ¹*Universidad Autonoma de Chihuahua, Chihuahua, Mexico*, ²*CIAD, Hermosillo, Sonora, Mexico*.
- 103 **Use of brown midrib sorghum silage in conditioning weaned beef calves.**D. Dominguez*, D. Gonzalez, G. Villalobos, A. Anchondo, and J. Ortega, *Universidad Autonoma de Chihuahua, Chihuahua, Mexico*.
- 104 **Influence of rations with monensin and tallow on ruminal pH and oxidation-reduction potential in dry dairy cows.**H. Castillo*, M. Rivas, D. Dominguez, G. Villalobos, and J. Ortega, *Universidad Autonoma de Chihuahua, Chihuahua, Mexico*.
- 105 **Rumen fermentation and passage rate of growing steers exposed to an endotoxin.**G. G. Gilliam*, B. C. Graham, J. W. Waggoner, K. A. DeAtley, L. Chen, S. L. Lodge-Ivey, and C. A. Löest, *New Mexico State University, Las Cruces*.
- 106 **Effect of sunflower oil supplementation on nutrients digestibility and milk fat content of conjugated linoleic acid in dairy camels.**S. N. Al-Dobaib*, *Qassim University, Buriedah-51452, Saudi Arabia*.

PAST PRESIDENTS

Western Section

American Society of Animal Science

2007-08	K. C. Olson, South Dakota State University
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. Halford, 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

2008	D. R. Ames, Colorado State University
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

2008	M. Du, University of Wyoming
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

2008	J. B. Glaze, Jr., University of Idaho
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

2008	P. A. Ludden, University of Wyoming
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

2008	S. A. Kuykendall, New Mexico State University
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

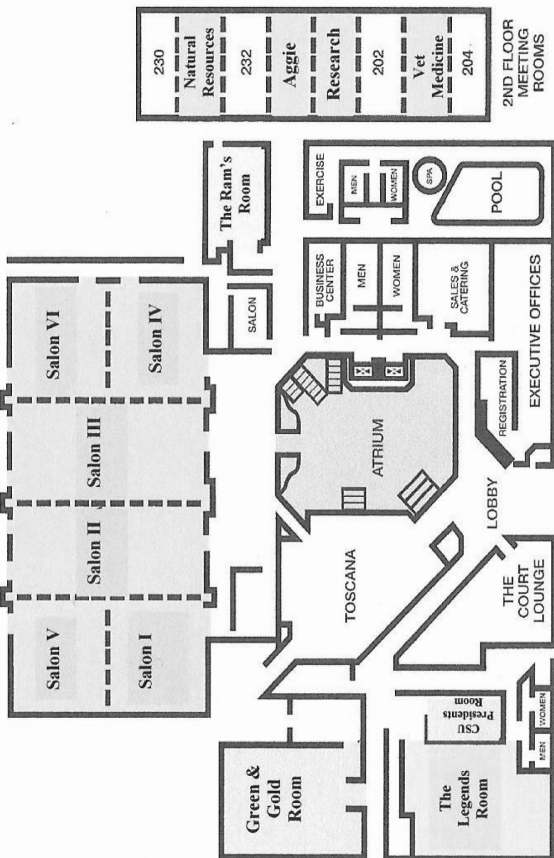
2008	A. J. Roberts, USDA-ARS, Fort Keogh Livestock and Range Research Laboratory
2007	C. P. Mathis, New Mexico State University
2006	J. J. Martin, University of Nebraska
2005	R. R. Salverson, South Dakota State University
2004	E. H. Ward, South Dakota State University
2003	H. H. Patterson, South Dakota 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

2008	New Mexico State University
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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