CURRICULUM VITAE
University of Idaho

NAME: Shewmaker, Glenn E. **DATE:** 25 January 2013

RANK OR TITLE: Professor/Extension Forage Specialist

DEPARTMENT: Department of Plant, Soil and Entomological Sciences

OFFICE LOCATION AND CAMPUS ZIP: Kimberly R&E Center
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DATE OF FIRST EMPLOYMENT AT UI: January 4, 1999

DATE OF TENURE: July 1, 2005

DATE OF PRESENT RANK OR TITLE: July 1, 2012

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D., Utah State University, Range Science, 1998, Rangeland Resources
Major Field: Plant Ecophysiology--Mineral Cycling in Forages
M.S., University of Idaho, Animal Science, 1976, Range Animal Nutrition
B.S., University of Idaho, Animal Science, 1973, Animal Science

Certificates and Licenses:

Certified Professional in Rangeland Management, by Society for Range Management
National Institute of Health Protecting Human Research Participants training certification: 30 Dec. 2010 #587743

EXPERIENCE:

Teaching, Extension, and Research Appointments:

2012-Present Professor/Extension Forage Specialist, University of Idaho, Kimberly Research and Extension Center, Kimberly, Idaho. Duties: conducts forage management and utilization research and extension programs, including alfalfa and grass forage quality, intensive pasture grazing systems, nutrient management planning, and environmental effects of grazing.

2005-2011, Associate Professor/Extension Forage Specialist, University of Idaho, Twin Falls Research and Extension Center, Twin Falls, Idaho. Duties: conducts forage management and utilization research and extension programs, including alfalfa and grass forage quality, intensive pasture grazing systems, nutrient management planning, and environmental effects of grazing.

1999-2005 Assistant Professor/Extension Forage Specialist, University of Idaho, Twin Falls Research and Extension Center, Twin Falls, Idaho. Duties: conducts forage management and utilization research and extension programs, including alfalfa and grass forage quality, intensive pasture grazing systems, nutrient management planning, and environmental effects of grazing.

Non-academic Employment including Armed Forces:

1988-1998, Biological Technician, Northwest Irrigation and Soils Research Laboratory, USDA-ARS, Kimberly, Idaho. Duties: assisting with cooperators in a Russian wildrye breeding program to

increase forage Mg; assist in experimental design for study of diurnal variation in carbohydrates in tall fescue and alfalfa forage, and their relationship to animal preference; data summarization, graphical presentation, and statistical analyses using SAS™.

1983-1987, Research Associate, USDA-ARS funded through Univ. of Idaho Kimberly R&E Center.

1975-1982, Farmer/Rancher, Shewmaker Bros., Inc.

Consulting:

Alfalfa Intensive Training Seminars-National Alfalfa Alliance: A national cooperative effort with forage specialists selected by the National Alfalfa & Forage Alliance Board to provide an intensive 3-day workshop on alfalfa, from seed to feed. Each year the team trains about 50 forage professionals such as seed industry representatives, extension educators, and large farm managers. The seminars have an excellent reputation nationally and internationally. Students from Canada, Mexico, China, Mongolia, and Australia have attended since 2001 when I was asked to join the team as the trainer with the western perspective.

Seminars presented: 16-18 November 2010, Denver, CO; 3-5 March 2009, Sioux Falls, SD; 17-19 November 2009 Indianapolis, IN; 11-13 November 2008 Reno, NV; 13-15 November 2007, Boise, ID; 6-8 March 2007, Bloomington, MN; 24-26 October 2006, Las Vegas, NV: 8-10 March 2005, Indianapolis, IN; 15-17 November 2005, Denver, CO; 16-18 November 2004, Albuquerque, NM; 2-4 March 2004, Salt Lake City, UT; 18-20 March 2003, Kansas City, MO; 29-31 October 2002, Pasco, WA; 13-15 November 2001, Boise, ID.

Topics presented:

1) Seed and seed production
2) Soils, fertility and manure management
3) Irrigation and water use
4) How ruminant animals use alfalfa
5) Increasing alfalfa in animal diets
6) Mowing and field drying
7) Hay: Shortening field drying times
8) Economics

Rushford & Bonotto, LLP, Sacramento, CA: Served as expert witness in a hay fire law suit May – June 2012

China Agricultural University, 14-29 Aug. 2007, Invited by Dr. Fuyu Yang to consult and lecture faculty, review research programs, and consult with forage industry leaders. Heibi, Gansu, and Inner Mongolia provinces.

Ningxia Province of Peoples Republic of China: Advised extension faculty and producers about short-term management actions that can minimize pest problems in alfalfa hay production and long-term strategies to genetically select alfalfa genotypes and phenotypes which are more resistant to pests. 17-26 July 2002, in Ningxia Province.

Abitibi Consolidated: Irrigation management for alfalfa with paper plant waste water stream.

Salmon River Cattlemen's Assn., Inc., Contact, NV: Develop and train riparian monitoring team, October 10, 2005.

TEACHING ACCOMPLISHMENTS:

Areas of Specialization:

My responsibilities include providing forage management and utilization extension program leadership statewide. Although the primary responsibility is for alfalfa forage, responsibilities include support for

intensive pasture grazing systems, environmental effects of grazing, and management to improve forage quality, production, and utilization.

The allocation of my responsibilities has been weighted toward extension education or outreach. The average allocation of my responsibilities over the last six years has been 67% extension (outreach), 26% scholarship, 1% advising, and 6% university and extramural service.

Courses taught:

Number	Title	Enrollment	Credit Hours
Fall 2010			
PlSc 503	Special Topics (Grazing Academy)	1	3.0
PlSc 505	Special Topics (Grazing Academy)	3	2.0
Spring 2009			
PlSc 404	Special Topics (Introduction to SAS)	5	1.0
Spring 2007			
PLSC 499-89	DS: Forage Management & Utilization	3	1.0
Spring 2006			
PLSC 499-89	DS: Forage Management & Utilization	1	4.0
PLSC 500-10	Master's Res & Thesis	1	1.0
Summer 2006			
PLSC 500-04	Master's Res & Thesis	1	1.0
Fall 2000			
PlSc 499-02	DS:Forage Management & Utilization	1	1.0

Students Advised:

Graduate Students:
Advised to completion of degree-major professor: Laura Hooper, M.S. student, 2006-2008
Served on graduate committee: Greg Blaser and Ross Spackman, doctoral candidates, Plant Sciences; Celina Matuk Sarinana, masters student AVS

Materials Developed:

Served College of Agricultural and Life Sciences Forages Planning Team as co-chair and led development of extension program planning for Alfalfa Yield and Quality, Pasture Management, and Annual Forage Production. Drafted situation, outcomes, outputs, and inputs documentation.

Non-credit Classes, Workshops, Seminars, Invited Lectures, etc.:

Invited lecturer:
AVS 424, February 24, 2010
PLSC 404, September 11, 2001
EQUS 232 Equine Nutrition (CSI) October 16, 2001
AGRI 109 Principles of Animal Science, September 2000 and April 17, 2002 (CSI)

Workshops and Seminars:
Lost River Grazing Academy Instructor, 2000-2012, Salmon, ID.
West-End Graziers Grazing Management Workshop Instructor, August 26-27, 2002, Buhl, ID.

SCHOLARSHIP ACCOMPLISHMENTS:

Publications, Exhibitions, Performances, Recitals:

Refereed/Adjudicated:

Journals:

Brink, Geoffrey, M. Hall, G. Shewmaker, D. Undersander, N. Martin, and R. Walgenbach. 2010. Changes in alfalfa yield and nutritive value within individual harvest periods, *Agronomy Journal* 102:1274-1206.

Jensen, K.S., C. Cheyney, J. Hawkins, W. Gray, G. Shewmaker, S. Williams, T. Griggs, J. Gerrish. 2009. Lost Rivers Grazing Academy: Building Sustainability in Livestock Production. *Journal of Extension* 47(1). (Online) http://www.joe.org/joe/2009february/iw4.php

Shewmaker, G.E., D.A. Johnson, and H.F. Mayland. 2008. Mg and K Effects on Cation Uptake and Dry Matter Accumulation in Tall Fescue (*Festuca arundinacea*). *Plant Soil* 302:283–295. doi:10.1007/s11104-007-9482-3

Shewmaker, G.E., H.F. Mayland, C.A. Roberts, P.A. Harrison, N.J. Chatterton, and D.A. Sleper. 2006. Daily Carbohydrate Accumulations in Tall Fescue Accessions. *Grass and Forage Science* 61:413-421.

Entry, J.A., R.E. Sojka, and G.E. Shewmaker. 2004. Irrigation Increases Inorganic Carbon in Agricultural Soils. *Environmental Management* 33: Supplement 1, S309–S317.

Entry, J.A., J.J. Fuhrmann, R.E. Sojka, and G.E. Shewmaker. 2004. Influence of Irrigated Agriculture on Soil Carbon and Microbial Community Structure. *Environmental Management* 33: Supplement 1, S363–S373.

Hall, M.H., J.A. Jennings, and G.E. Shewmaker. 2004. Alfalfa establishment guide. *Forage and Grazinglands* (Online) doi:10.1094/FG-2004-0723-01-MG

Shewmaker, G.E., D.A. Johnson, H.F. Mayland, S.A. Martin, and S.B. Hansen. 2004. Elemental uptake in relation to root characteristics of tall fescue. *Communications in Soil Science and Plant Analysis*. 35:1339-1355.

Entry, J.A., R.E. Sojka, and G.E. Shewmaker. 2002. Management of irrigated agriculture to increase organic carbon storage in soils. *Soil Science Society of America Journal*. 66:1957-1964.

Sleper, D.A., H.F. Mayland, R.J. Crawford, G.E. Shewmaker, and M.D. Massie. 2002. Registration of 'HiMag' Tall Fescue Germplasm. *Crop Science* 42:318-319.

Panter, K.E., H.F. Mayland, D.R. Gardner, and G.E. Shewmaker. 2001. Death loss in beef cattle after grazing *Lupinus argenteus* (silvery lupine). *Veterinary & Human Toxicology* 43(5):279-282.

Mayland, H.F., and G.E. Shewmaker. 2001. Animal health problems caused by silicon and other mineral imbalances. *Journal of Range Management* 54:441-446.

Mayland, H.F., G.E. Shewmaker, P.A. Harrison, and N.J. Chatterton. 2000. Nonstructural carbohydrates in tall fescue cultivars: Relationship to animal preference. *Agronomy Journal* 92-1203-1206.

Mayland, H.F., S.A. Martin, J. Lee, and G.E. Shewmaker. 2000. Malate, citrate, and amino acids in tall fescue cultivars: Relationship to animal preference. *Agronomy Journal* 92:206-210.

Books:

Shewmaker, G.E. and M.G. Bohle (eds.). 2010. Pasture and Grazing Management in the Northwest, PNW Bulletin 614, University of Idaho Extension, Moscow, ID. (208 pages)

Shewmaker, G.E. (ed.). 2004. Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID. (99 pages)

Book Chapters:

Cheyney, C., and G.E. Shewmaker. 2010. Chapter 1: Introduction. p. 1-2. In Shewmaker, G.E. and M.G. Bohle (eds.) Pasture and Grazing Management in the Northwest, PNW Bulletin 614, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E., R. Koenig, D. Horneck, M. Bohle, G. Cardon, and S. Jensen. 2010. Chapter 3: Soils, Fertility, and Nutrient Management for Pastures. p. 21-30. In Shewmaker, G.E. and M.G. Bohle (eds.) Pasture and Grazing Management in the Northwest, PNW Bulletin 614, University of Idaho Extension, Moscow, ID.

Crane, K., J.B. Glaze, and G.E. Shewmaker. 2010. Chapter 13: Forging Behavior and Grazing Management. p. 133-138. In Shewmaker, G.E. and M.G. Bohle (eds.) Pasture and Grazing Management in the Northwest, PNW Bulletin 614, University of Idaho Extension, Moscow, ID.

Griggs, T.C., G.E. Shewmaker, and J. Church. 2010. Chapter 14: Grazing Systems and Methods. p. 139-148. In Shewmaker, G.E. and M.G. Bohle (eds.) Pasture and Grazing Management in the Northwest, PNW Bulletin 614, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E., B. Gallaspy, S. Fransen, T. Griggs, and L. Hooper. 2010. Chapter 16: Estimating Forage Production, Monitoring and Evaluating the Grazing System. p. 161-176. In Shewmaker, G.E. and M.G Bohle (eds.) Pasture and Grazing Management in the Northwest, PNW Bulletin 614, University of Idaho Extension, Moscow, ID.

Entry, James A., R. E. Sojka, and Glenn E. Shewmaker. 2007. Chapter 4: Management of Irrigated Agriculture to Increase Organic Carbon Storage in Soils. p. 121-139. In Plattenberg, R.H. (ed.) Environmental Pollution: New Research, Nova Science Publishers, Inc., Hauppauge, NY.

Shewmaker, G.E. 2004. Chapter 1: Forage production in Idaho. p. 1-2. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Ogle, D.G., G.E. Shewmaker, and B. Hazen. 2004. Chapter 2: Selecting forage species. p. 3-6. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Ogle, D.G., G.E. Shewmaker, and K.D. Sanders. 2004. Chapter 3: Improved grasses and legumes for Idaho. p. 7-12. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E. and C.C. Cheyney. 2004. Chapter 4: Seeding. p. 13-16. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Mahler, R.L., C.C. Cheyney, J.C. Stark, B.D. Brown, and G.E. Shewmaker. 2004. Chapter 5: Fertilization. p. 17-20. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Neibling, H., and G.E. Shewmaker. 2004. Chapter 6: Irrigation. p. 21-23. In G.E. Shewmaker (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E., and K.D. Sanders. 2004. Chapter 7: Pasture harvest management. p. 24-25. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E., and R. Thaemert. 2004. Chapter 8: Forage sampling, quality, and testing. p. 26-36. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E., R. Thaemert, and M-M. Seyedbagheri. 2004. Chapter 9: Hay harvest management. p. 37-42. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E., and R. Thaemert. 2004. Chapter 10: Hay storage. p. 43-46. In Shewmaker G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Hristov, A., and G.E. Shewmaker. 2004. Chapter 11: Silage. p. 47-52. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E., and M-M. Seyedbagheri. 2004. Chapter 15: Alfalfa management. p. 63-70. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Hunt, C.W., D.E. Falk, G.E. Shewmaker, R.A. Frost, and J. B. Glaze. 2004. Chapter 17: Forage utilization. p. 75-84. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Rimbey, N.R., C.W. Gray, R.L. Smathers, and G.E. Shewmaker. 2004. Chapter 18: Leasing arrangements and other considerations. p. 85-86. In Shewmaker, G.E. (ed.) Idaho Forage Handbook, Bulletin 547, University of Idaho Extension, Moscow, ID.

Shewmaker, G.E. 1999. Wetlands. p. 408-410. In Weil, J. et al. (ed.) Encyclopedia of Science and Technology 1999 Yearbook. McGraw-Hill, New York.

Extension Publications (peer reviewed and adjudicated):

Undersander, D.H, R. Becker, D. Cosgrove, E. Cullen, J. Doll, C. Grau, K. Kelling, M.E. Rice. M. Schmitt, C. Sheaffer, G. Shewmaker, and M. Sulc. 2011. Alfalfa Management Guide. 63 pg Bulletin, American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison, WI. (Online) https://portal.sciencesocieties.org/Purchase/

Kinder, C.A. and G.E. Shewmaker. 2011. CIS 1178 Proper Sampling (Coring) of Hay Bales, University of Idaho Extension, Moscow, ID.

Hall, M., J. Jennings, and G. Shewmaker. 2011. A Guide to Successful Forage Establishment. *The Forage Leader* p 1,5, American Forage and Grassland Council, Berea, KY. (Online) http://www.afgc.org/industryresources.html

Miller, Ron, J. Kaiser, D.G. Ogle, G.E. Shewmaker, and D. Johnson. 2010. Legume Inoculation. Technical Note: Plant Materials No. 26, USDA-Natural Resources Conservation Service.

Shewmaker, G.E., J.W. Ellsworth, and S. Jensen. 2009. CIS 392 Southern Idaho Fertilizer Guide—Irrigated Pastures, University of Idaho Extension, Moscow, ID.

Brink, G., N. Martin, R. Walgenbach, D. Undersander, M. Hall, and G. Shewmaker. 2008. Measuring the trade-off between: Alfalfa yield and quality across four harvest periods. USDA-Agricultural Research Service. (Online)

http://ars.usda.gov/Services/docs.htm?docid=15827#production_cropping-systems

Ogle, D., Engle, S., Shewmaker, G. E. 2008. Plant Materials Tech. Note No. 30: Perennial ryegrass for irrigated pasture in the intermountain west. Boise, ID and Salt Lake City, UT: USDA-Natural Resources Conservation Service.

Shewmaker, G.E., D.H. Undersander, L.M. Lawrence, and G.D. Lacefield. 2005. Alfalfa: The high quality hay for horses. 12 pg Bulletin, National Alfalfa Alliance, Kennewick, WA. http://www.alfalfa.org/publications.html

Undersander, D.H, R. Becker, D. Cosgrove, E. Cullen, J. Doll, C. Grau, K. Kelling, M.E. Rice. M. Schmitt, C. Sheaffer, G. Shewmaker, and M. Sulc. 2004. Alfalfa Management Guide. 58 pg Bulletin, American Society of Agronomy, Crop Science Society of America, Soil Science Society of America, Madison, WI.

Thaemert, R. and G.E. Shewmaker. 2003. Sampling the moisture content of alfalfa in the windrow: A new tool helps. CIS 1107, University of Idaho College of Agric. and Life Sci.—Idaho Agric. Expt. Station.

Stark, J., B. Brown, and G. Shewmaker. 2002. Southern Idaho Fertilizer Guide: Irrigated Alfalfa CIS 1102. University of Idaho College of Agriculture and Life Sciences, Moscow, ID. http://www.cals.uidaho.edu/edComm/detail.asp?IDnum=256

Mayland, H.F. and G.E. Shewmaker. 1999. Plant attributes that affect livestock selection. p. 70-74. In K.L. Launchbaugh, K.D. Sanders, and J.C. Mosely (ed.). Grazing Behavior of Livestock and Wildlife, Moscow, ID, 23-24 March Idaho Forest, Wildlife and Range Exp. Sta. Bull. #70, University of Idaho, Moscow, ID.

Mayland, H.F., and G.E. Shewmaker. 1999. Optimize forage quality by afternoon harvesting. Sta. Note #99-01: 2 p., Northwest Irrigation and Soils Research Lab, USDA-ARS, Kimberly, ID.

Peer Reviewed/Evaluated:

Newsletter, Fact Sheets, Popular Press Articles:

Falen, C., and G. Shewmaker. 2012. Yield of winter cereal forages for extended grazing potential. *Progressive Cattleman* September 2012:30.

Shewmaker, G.E. 2012. Interpreting forage quality tests. *Progressive Cattleman* September 2012:16-17.

Gunn, D., R. Hirnyck, G. Shewmaker, S. Takatori, and L. Ellis. 2011. Vole Management. *Progressive Forage Grower* 12(4):8.

Falen, C., and G. Shewmaker. 2011. Extend the Grazing Season with Unconventional Forages. *Progressive Cattleman* April 2011:27-28.

Shewmaker, G.E., O. Neher, and M. Chahine. 2009. What to do with moldy hay. Fact sheet distributed by Idaho Hay and Forage Association and Idaho Dairymen Association in response to the above normal precipitation in May-June 2009.

Undersander, D.J., M. Hall, R. Leep, G.E. Shewmaker, D. Westerhaus, and L. Whitlow. 2009. Moldy hay for horses. Fact sheet distributed nationally and by Idaho Hay and Forage Association in response to the above normal precipitation in May-June 2009.

Shewmaker, G.E. 2009. Nitrogen fertility of alfalfa. P.3 In Moore, A. (ed) *Nutrient Digest* vol 1:3,

University of Idaho Extension.

Shewmaker, G.E. 2001. Alfalfa Irrigation Facts. p. 7 In Cheyney, C. (ed.) *Extension Focus*, June/July 2001, Twin Falls, ID.

Shewmaker, G.E. 2001. Alfalfa Fertility. p. 7 In Cheyney, C. (ed.) *Extension Focus*, April/May 2001, Twin Falls, ID.

Mayland, H.F., and G.E. Shewmaker. 2000. Late-afternoon-cut hay makes more milk. *Hoard's Dairyman*, May 10, 2000, p. 342.

Kinder, C., and G.E. Shewmaker. 2000. Producing high quality hay at high elevations. p. 7 In Cheyney, C. (Ed.) *Extension Focus* April/May 2000.

Shewmaker, G.E. 2000. Forage Storage. p. 7 In Jo Ann Robbins (ed.) *Extension Focus*, December 2000/January 2001, Twin Falls, ID.

Shewmaker, G.E. 1999. Late season alfalfa management. p. 7 In Cheyney, C. (ed.) *Extension Focus*, August/September 1999, Twin Falls, ID.

Shewmaker, G.E. 1998. Afternoon cut hay is best. p. 7 In Cheyney, C. (ed.) *Extension Focus* 12(5), October/November 1998, Twin Falls, ID.

Proceedings:

Falen, C.L., G.E. Shewmaker, L.A. Hunter, and S. Hines. 2012. Unconventional annual forage yield and quality: extended grazing potential. p. 21-27 In Proceedings 2012 Idaho Hay and Forage Conference, 1-2 March 2012, Burley, Idaho, University of Idaho Extension.

Shewmaker, G.E. Greg Blaser, and R. Roemer. 2012. Alfalfa variety trials 2011. p. 52-59 In Proceedings 2012 Idaho Hay and Forage Conference, 1-2 March 2012, Burley, Idaho, University of Idaho Extension.

Shewmaker, G.E. 2012. Consider the value of plant nutrients in your hay and corn silage. p. 28-35 In Proceedings 2012 Idaho Hay and Forage Conference, 1-2 March 2012, Burley, Idaho, University of Idaho Extension.

Shewmaker, G.E., J.A. Entry, and R.E. Sojka. 2012. How much carbon can be sequestered in pasture. In Proceedings CDROM American Forage and Grassland Council Annual Meeting, 9-10 January 2012, Louisville, KY.

Brummer, J., G.E. Shewmaker, and C. Engel. 2011. Challenges and benefits of interseeding legumes into grass dominated stands. P. 72-79 In Proceedings 2011 Western Alfalfa and Forage Conference, 11-13 December 2011, Las Vegas, NV, University of California, Davis.

Shewmaker, G.E., and L.K. Hooper. 2011. Predicting Herbage Mass in Irrigated Smooth Bromegrass (*Bromus inermis* Leyss.) Pastures. In organizing committee (eds.) CDROM Proceedings IX International Rangeland Congress, 2-8 April 2011, Rosario, Argentina.

Shewmaker, G.E., and L.K. Hooper. 2011. Light Interception by Rotationally-Grazed Orchardgrass (*Dactylis Glomerata* L.) Canopies. Proceedings of American Forage and Grasslands Council Annual Meeting, 12-15 June 2011, French Lick, IN.

Shewmaker, G.E. Greg Blaser, and R. Roemer. 2011. Alfalfa variety trials 2010. p. 33-40 In Proceedings 2011 Idaho Hay and Forage Conference, 22-23 February 2011, Burley, Idaho, University of Idaho Extension.

Shewmaker, G.E. and G. Blaser. 2010. Rate of Yield Increase and Quality Decline of Alfalfa in Eastern Idaho. Proceedings North American Alfalfa Improvement Conf., 27-30 July 2010 Boise, ID.

Falen, C.L., L. Sluder, C.W. Gray, G. Shewmaker. 2010. Extending the grazing season with unconventional forages to reduce farm risks. Proceedings National Women in Agriculture Conference, Baltimore, MD, March 24-26, 2010.

Shewmaker, G.E., L.K. Hooper, and T.C. Griggs. 2010. Predicting Herbage Mass in Irrigated Orchardgrass (*Dactylis Glomerata* L.) Pastures. p. 225-230 In CDROM Proceedings, Fourth National Conference on Grazing Lands; 13-16 December 2009, Sparks, NV, Grazing Lands Conservation Initiative, Omnipress.

Shewmaker, G.E. 2010. Pasture and grazing management in the northwest: a new guidebook. In CDROM Proceedings American Forage and Grasslands Council, Springfield, MO, 21-23 June 2010.

Shewmaker, G.E. and K.S. Jensen. 2010. Soil testing on irrigated pastures. Vol. 5 p. 54-60 In Moore, A. (ed.) Proceedings 2010 Idaho Nutrient Management Conference, 9 March 2010, Shoshone, ID, University of Idaho Extension.

Shewmaker, G.E., O. Neher, M. Chahine, and B. Glaze. 2010. What to do with moldy hay. p. 21-22 In Proceedings, 2010 Idaho Alfalfa and Forage Conference, 16-17 February 2010, Burley, ID, University of Idaho Extension.

Chahine, M., G.E. Shewmaker, R.J. Norell, and C.W. Gray. 2010. How dairies are surviving: Impact on forages. p. 15-17 In Proceedings 2010 Idaho Alfalfa and Forage Conference, 16-17 February 2010, Burley, ID, University of Idaho Extension.

Shewmaker, G.E. Greg Blaser, and R. Roemer. 2010. Alfalfa variety trials 2009. p. 1-8 In Proceedings, 2010 Idaho Alfalfa and Forage Conference, 16-17 February 2010, Burley, ID, University of Idaho Extension.

Shewmaker, G.E. and C.W. Gray. 2010. Optimizing profits by adjusting cutting schedules. p. 1-8 In Proceedings, 2010 Idaho Alfalfa and Forage Conference, 16-17 February 2010, Burley, ID, University of Idaho Extension.

Shewmaker, G.E. 2009. Adapting cutting management to market conditions. P. 33-38 In Proceedings, 2009 Western Alfalfa and Forage Conference, 2-4 December 2009, Reno, NV, University of California, Davis.

Neibling, H., G.E. Shewmaker, and C. Falen. 2009. Center Pivot Management for Forage Production. P. 87-101 In Proceedings, 2009 Western Alfalfa and Forage Conference, 2-4 December 2009, Reno, NV, University of California, Davis.

Chahine, M., G.E. Shewmaker, R.J. Norell, and C. W. Gray. 2009. How dairies are dealing with the current economic situation: impact on forages. P. 11-14 In Proceedings, 2009 Western Alfalfa and Forage Conference, 2-4 December 2009, Reno, NV, University of California, Davis.

Jensen, K.S., C. Cheyney, J. Hawkins, C.W. Gray, G.E. Shewmaker, S. Williams, T. Griggs, J.R. Gerrish. 2009. Lost Rivers grazing academy: management education for sustainable livestock production. p123-129 In CDROM Proceedings 17th International Farm Management Congress: Agriculture: Food, Fiber and Energy for the Future, Volume 2, Case Studies and Poster Abstracts, Guither, H.H., J.L. Merry, C.E. Merry (eds.), 19 – 24 July 2009, Bloomington, IL. In CDROM Proceedings \Farm Management\Case Study directory; On the IMFA17 website http://www.ifma17.org/papers-posters.html in Case Studies and Poster Abstracts.pdf (7.08 MB)

Shewmaker, G.E. G. Blaser, and R. Roemer. 2009. Alfalfa variety trials 2008. p. 35-42 In Proceedings, 2009 Idaho Alfalfa and Forage Conference, 3-4 February 2009, Burley, ID, University of Idaho Extension.

Shewmaker, G.E., M. Chahine, and R. Wilson. 2009. Parameters for good quality alfalfa hay. p. 6-10 In Proceedings, 2009 Idaho Alfalfa and Forage Conference, 3-4 February 2009, Burley, ID, University of Idaho Extension.

Shewmaker, G.E., H.F. Mayland, C.A. Roberts. 2008. Varietal differences in rate of carbohydrate accumulation for tall fescue. Vol. II p. 681 In Organizing committee (eds.) Proceedings XXI Int. Grassland Congress and VIII International Rangeland Congress, Hohhot, Inner Mongolia, Peoples Republic of China, 29 June to 5 July 2008, Guangdong People's Publishing House, Guangzhou, PRC.

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Tarkalson, D. B. King, and G.E. Shewmaker. (submitted 2012) Between row spacing and population effects on grain and silage corn production in the irrigated pacific northwest. *Crop Management*.

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Peer Reviewed/Evaluated (currently scheduled or submitted):

Shewmaker, Glenn E., Mireille Chahine, and Rikki Wilson. (Peer reviewed, in revision 2011) Parameters for Good Quality Alfalfa Hay, University of Idaho Extension CIS ###.

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Scholarly Presentations and Other Creative Activities:

International:

Moderator for Grazing Ecology & Mgt. Technical Session, SRM International Annual Meeting, 31 January 2012, Spokeane, WA

Light Interception by Rotationally Grazed Orchardgrass Canopies, SRM International Annual Meeting, 31 January 2012, Spokane, WA

Predicting Herbage Mass in Irrigated Smooth Bromegrass (*Bromus inermis* Leyss.) Pastures. IX International Rangeland Congress, 2-8 April 2011, Rosario, Argentina

Monitoring Irrigated Pasture Condition and Trend; Society for Range Management/Weed Science Society of America; 9 February 2010, Denver, CO

Carbon Sequestration in Irrigated Pasture Soils. Greenhouse Gases and Animal Agriculture Conference, 3-8 October 2010, Banff, Alberta, Canada

Predicting Herbage Mass in Irrigated Orchardgrass Pastures; Society for Range Management; 8-13 February 2009, Albuquerque, NM

Varietal differences in rate of carbohydrate accumulation for tall fescue, XXI International Grassland Congress/VIII International Rangeland Congress, 2 July 2008, Hohhot, Inner Mongolia, Peoples Republic of China

Nonstructural carbohydrate cycles and accumulation rates in perennial forages; 2008 American Forage and Grassland Council & Society for Range Management International Annual Meeting, 26-31 Jan. 2008, Louisville, KY

Role of alfalfa and grass in animal diets; China Agricultural University seminar, Guyuan Research Center, Heibi Province, PRC., 25 August 2007, Asia: Mainland China

Hay preservation; China Agricultural University seminar, Beijing, PRC., 22 August 2007, Asia: Mainland China

Alfalfa Pest and Harvest Management; China Agricultural University field tour with Jiuquan Daye Forage Hay Processing Co. Ltd. and Yumen Daye Forage Processing Co. Ltd., Gansu Province, PRC., 16 August 2007, Asia: Mainland China

Seasonal Carbohydrate Accumulation in Irrigated Tall Fescue; Society for Range Management, 10-16 February 2006, Reno, NV

National:

How Much Carbon Can Be Sequestered in Pastures, American Forage and Grassland Council Annual Conference, 31 January 2012, Louisville, KY

Light Interception by Rotationally-Grazed Orchardgrass (*Dactylis Glomerata* L.) Canopies; American Forage and Grasslands Council Annual Meeting, 12-15 June 2011, French Lick, IN

Pasture and Grazing Management in the Northwest: a New Guidebook; Crop Science Society Annual Meeting (ASA-CSSA-SSSA), 2 November 2010, Long Beach, CA

Recommended Terminology for Lab Reports; NIRSC Conference; 18-19 February 2010, Madison, WI

Predicting Herbage Mass in Irrigated Orchardgrass Pastures; presentation at 4th National Conference on Grazing Lands; 14 December 2009, Sparks, NV

Sugar Content in Grasses Part I: Applications and Animal Nutrition; invited by NIRS Forage and Feed Testing Consortium Annual Conference; 18-19 February 2009, San Antonio, TX

Herbicide effects on yield and quality of Roundup-ready alfalfa in Idaho, Crop Science Society Annual Meeting (ASA-CSSA-SSSA), 5 November 2007, New Orleans, LA

Extending research of PM-cut hay and producer acceptance; Invited symposium presenter at ASA-CSSA-SSSA Annual Meeting, 10-14 October 2002, Indianapolis, IN

Diurnal variation in alfalfa quality and implications for testing; Western Society of Crop Science and Western Alfalfa Improvement Conference, 28-29 June 1999, Powell, WY

Extension Presentations and Other Creative Activities:

National:

Defoliation Responses of Grasses, Cool Season Grass Initiative Training Workshop, 16 May 2012, Rogers, AR

Grass Fertility and Nutrient Management, Cool Season Grass Initiative Training Workshop, 16 May 2012, Rogers, AR

Defoliation Responses of Grasses; invited by Cool Season Grass Initiative Training; 1) 16 June 2011, French Lick, IN, 2) 11 November 2011, Columbus, OH, 3) 20 June 2010, Springfield, MO, 4) 24 June 2009, Grand Rapids, MI

Grass Fertility and Nutrient Management; invited by Cool Season Grass Initiative Training; 1) 16 June 2011, French Lick, IN, 2) 11 November 2011, Columbus, OH, 3) 20 June 2010, Springfield, MO, 4) 24 June 2009, Grand Rapids, MI

Nonstructural Carbohydrates in Forages Affect Animal Preference and Production; invited by Ohio Forage and Grasslands Council, 11 Feb. 2011, Reynoldsburg, OH

Optimizing Forage Yield and Energy with Management; invited by Ohio Forage and Grasslands Council, 11 Feb. 2011, Reynoldsburg, OH

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 16-18 November 2010, Denver, CO. Topics presented: 1) Seed and Seed Production, 2) Soils, fertility, and manure management, 3) Irrigation and Water Use, 4) Mowing and field drying, 5) Economics

Pasture and Grazing Management Spreadsheet Tools; American Forage and Grassland Council; 22 June 2010, Springfield, MO

Pasture and Grazing Management in the Northwest: a New Guidebook; American Forage and Grassland Council; 22 June 2010, Springfield, MO

Western Forages; invited by US Dairy Forage Research Center Stakeholder Conference; 6-7 January 2010, Madison, WI

Adapting Cutting Management to Market Conditions presentation; invited by Western Alfalfa and Forage Conference; 3 December 2009, Reno, NV

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 17-19 November 2009, Indianapolis, IN. Topics presented: 1) Mowing and field drying, 2) Soils, fertility, and manure management, 3) Irrigation and Water Use, 4) Seed and Seed Production, 5) Economics

AM-PM cutting: Science vs. application; invited by National Hay Association, 18 September 2009, Deadwood, SD

Soil fertility and manure management on alfalfa; invited by Cropland Genetics, Alfalfa Seminar, 3 March 2009, Sioux Falls, SD

Principles of making quality hay; invited by Cropland Genetics, Alfalfa Seminar, 3 March 2009, Sioux Falls, SD

Farming with Grass, 20-23 October 2008, Soil & Water Conservation Society, Oklahoma City, OK

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 11-13 March 2008, Reno, NV. Topics presented: 1) Shortening hay field drying time, 2) Mowing and field drying, 3) Soils, fertility, and manure management, 4) Economics

Idaho Switch grass Variety Trial Summary; 2007 Ceres Switch grass Variety Evaluation Review, invited by Ceres, Inc., 21 February 2008, Thousand Oaks, CA

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 13-15 November 2007, Boise, ID. Topics presented: 1) Seed and seed production, 2) Soils, fertility, and manure management, 3) Irrigation and water use, 4) Mowing and field drying, 5) Economics

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 6-8 March 2007, Bloomington, MN. Topics presented: 1) Shortening hay field drying time, 2) Alfalfa for the horse, 3) Heat damage to hay and haylage, 4) Alfalfa irrigation, 5) Mowing and field drying, 6) High potassium and other mineral issues in dairy rations, 7) Soils, fertility, and manure management, 8) Economics

Emerging Issues with Forages in the Northwest; invited by Western Alfalfa and Forage Conference, 11-13 December 2006, Reno, NV

Forage Quality in Alfalfa; invited by Wilbur-Ellis Crop Meeting, 28-29 November 2006, San Diego, CA

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 24-26 October 2006, Las Vegas, NV. Topics presented: 1) Soils, fertility, and manure management, 2) Mowing and field drying, 3) Economics

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 15-17 November 2005, Denver, CO. Topics presented: 1) Seed and seed production, 2) Irrigation, 3) Soils, fertility, and manure management, 4) Mowing and field drying, 5) Economics

Alfalfa Intensive Training Seminar, invited by National Alfalfa and Forage Alliance, 8-10 March 2005, Indianapolis, IN. Topics presented: 1) Seed and seed production, 2) Irrigation, 3) Mowing and field drying, 4) Alfalfa Custom harvesting, 5) How the Ruminant uses alfalfa, 6) Increasing alfalfa in animal diets, 7) Hay: shortening field drying times, 8) Improving alfalfa water use efficiency.

Measuring Moisture in Hay; National Alfalfa Symposium, 13-5 December, 2004, San Diego, CA, UC Cooperative Extension, University of California, Davis

Matching ET using center pivots; National Alfalfa Symposium, 13-5 December, 2004, San Diego, CA, UC Cooperative Extension, University of California, Davis.

Alfalfa seed and seed production; invited by Monsanto, Roundup Ready Alfalfa Technical Pre-Launch Training Seminar, 25 August 2004, St Louis, MO

Fertility and establishment; invited by Monsanto, Roundup Ready Alfalfa Technical Pre-Launch Training Seminar, 25 August 2004, St Louis, MO

Livestock/Dairy Systems and Manure Management; invited by Monsanto, Roundup Ready Alfalfa Technical Pre-Launch Training Seminar, 26 August 2004, St Louis, MO

Western dairy forage research needs. USDA Dairy Forage Research Center Stakeholder Meeting, 18 September 2000, Madison, WI.

Regional:

Idaho Report, PNW Forage Workers & WERA 1014 Conference, Kimberly, ID

PNW Forage Workers and WERA 1014 Tour, 2 October 2012, Kimberly, ID

Introduction to Pacific Northwest Forage Workers & WERA 1014, 1 October 2012, Kimberly, ID

The Kimberly R&E Center, PNW Forage Workers & WERA 1014 Conference, 1 October 2012, Kimberly

Workshop Evaluation, Pasture Management Prof. Development Workshop, 23 August 2012, Carmen, ID

Allocating Forages and Observations of Grazing, Pasture Management Prof. Development Workshop,

23 August 2012, Carmen, ID

Monitoring Pastures, Pasture Management Prof. Development Workshop, 23 August 2012, Cummings Center, Carmen, ID

Soils, Fertility, and Nutrient Cycling, Pasture Management Professional Development Workshop, 22 August 2012, Cummings Center, Carmen, ID

Integrating Fence and Livestock Water Developments, Pasture Management Professional Development Workshop, 22 August 2012, Carmen, ID

Optimizing Net Carbohydrate Assimilation, Pasture Management Prof. Development Workshop, 22 August 2012, Carmen, ID

Introduction to Pasture Management Professional Development Workshop, 21 August 2012, Cummings Center, Carmen, ID

Forage Seed and Seedling ID, Pasture Management Professional Development Workshop, 21 August 2012, Cummings Center, Carmen, ID

Measuring Sward Characteristics, Pasture Management Professional Development Workshop, 21 August 2012, Cummings Center, Carmen, ID

Cellulosic Biofuel Crops Progress in Idaho, WERA 1016 meeting, 6 August 2012, Fargo, ND

Forage Market Outlook, 2011 Eureka Forage Forum, 28 November 2012, Eureka, NV

Research and Extension Idaho Forage Report; Pacific North West Forage Workers Conference, 10-11 October 2011, Pasco, WA

Eureka County Hay Contest Results; 12 August 2011, invited by University of Nevada Extension, Eureka, NV

Normal Values of Forage Quality Parameters for High Quality Hay; invited by 2011 Utah Hay and Forage Symposium, 27-28 Jan. 2011, St. George, UT

Gopher and Vole Control in Forages; invited by 2011 Utah Hay and Forage Symposium, 27-28 Jan. 2011, St. George, UT

Range and Pasture Renovation Strategies; invited by 2011 Intermountain Range Livestock Symposium; 13-14 Jan. 2011, Twin Falls, ID

Rodent Control; invited by Far West Agribusiness Assoc. Winter Conference; 11 Jan. 2011, Twin Falls, ID

Alfalfa Fertility and Management; invited by Far West Agribusiness Assoc. Winter Conference; 11 Jan. 2011, Twin Falls, ID

Harvesting High Quality Hay; 16 December 2010, invited by RoBumCo Hay Company grower appreciation dinner, Weiser, ID

Forage Sampling and Testing; Pacific Northwest Forage Workers Conference; 29 September 2010, Helena, MT

Regional Variety Trials; Pacific Northwest Forage Workers Conference; 29 September 2010, Helena, MT

Forage Plant Physiology and Morphology; 15 June 2010, Lost Rivers Grazing Academy; Salmon, ID

Species Selection & Pasture Renovation; invited by Far West Agribusiness Assoc. Winter Conference; 12 January 2010, Jackpot, NV

Dealing with Moldy Hay and Hay Fires; invited by Far West Agribusiness Assoc. Winter Conference; 12 January 2010, Jackpot, NV

Research and Extension Idaho Forage Report; Pacific North West Forage Workers Conference, 30 September 2009, Corvallis, OR

Seeding Rates for Alfalfa and Alfalfa Mixtures; invited by the Hay Committee of Utah Farm Bureau,

Utah Hay and Forage Symposium, 30 January 2009, St George, UT

Utilization of Alternative Forages in Beef Production Systems; invited by Intermountain Cow Symposium, 14 January 2009, Twin Falls, ID

Diagnosing Stand Loss in Alfalfa; invited by Far West Agribusiness Assoc. Winter School, 7 January 2009, Jackpot, NV

Judged Oregon Hay King Contest; invited by Oregon Hay Growers Assn., 22 November 2008, Dairy, OR

Alfalfa Yield versus Quality; invited by OSU, Klamath Co. Hay and Forage Seminar, 21 November 2008, Klamath, OR

AM versus PM Harvest: A Look at Livestock Preference; invited by OSU, Klamath County Hay and Forage Seminar, 21 November 2008, Klamath, OR

Alfalfa Variety Trials; OSU Malheur County Forage School; invited by OSU, 20 November 2008, Ontario, OR

Herbicide Effects on Alfalfa Yield; invited by OSU, Malheur Co. Forage School, 20 November 2008, Ontario, OR

Idaho Forage Research Report; Pacific Northwest Forage Workers Conference, University of Idaho Extension, 30 September 2008, Kimberly Research & Extension Center

Alfalfa Yield versus Quality; 2008 Fertilizer and Chemical Conference, invited by Far West Agribusiness Association, 8 January 2008, Jackpot, NV

Non-conventional Forages; 2008 Fertilizer and Chemical Conference, invited by Far West Agribusiness Association, 7 January 2008, Jackpot, NV

Drying Hay Quicker; Malheur County Alfalfa Hay Meeting, invited by Oregon State University, 27 November 2007, TVCC, Ontario, OR

Making Dairy Quality Hay; Malheur County Alfalfa Hay Meeting, invited by Oregon State University, 27 November 2007, TVCC, Ontario, OR

Irrigation and water requirements; Pasture Management Professional Development Workshop, 1) 18-20 September 2007, Salmon, ID, 2) 15-17 May 2007, Prineville, OR

Measuring sward characteristics; Pasture Management Professional Development Workshop, 1) 18-20 September 2007, Salmon, ID, 2) 15-17 May 2007, Prineville, OR

Integrating fence and livestock water developments, irrigation, and livestock management; Pasture Management Professional Development Workshop, 1) 18-20 September 2007, Salmon, ID, 2) 15-17 May 2007, Prineville, OR

Establishment; Pasture Management Professional Development Workshop, 1) 18-20 September 2007, Salmon, ID, 2) 15-17 May 2007, Prineville, OR

Monitoring pastures; Pasture Management Professional Development Workshop, 1) 18-20 September 2007, Salmon, ID, 2) 15-17 May 2007, Prineville, OR

Soils and nutrient management; Pasture Management Professional Development Workshop, 15-17 May 2007, Prineville, OR

Elements of management intensive grazing; Pasture Management Professional Development Workshop, 15-17 May 2007, Prineville, OR

Alfalfa harvest scheduling for profitability by predicting yield and quality changes; invited by Utah Farm Bureau Federation, 2007 Utah Hay & Forage Symposium, 7-8 February 2007, St. George, UT

Emerging Forage Issues, Forage Mgt. and Alfalfa Session; invited by Far West Agribusiness Assoc. 2007 Fertilizer & Chemical Conference, 8-10 January 2007, Jackpot, NV

Nutrient Removal by Crops; Behind the Dairy Session; invited by Far West Agribusiness Assoc. 2007

Fertilizer & Chemical Conference, 8-10 January 2007, Jackpot, NV

Panel Discussion; Corn Workshop; invited by Far West Agribusiness Assoc. 2007 Fertilizer & Chemical Conference, 8-10 January 2007, Jackpot, NV

Oregon Hay King Contest Judge; invited by Oregon Hay Growers Association, 15-16 December 2006, Ft. Rock, OR

Roundup-Ready Alfalfa and Rate of Quality Decline; invited by RoBumCo Hay, Grower Meeting, 4 December 2006, Vale, OR

Alfalfa seeding rates: how much is enough? Invited by Colorado Farm Show, 25-26 January 2006, Greeley, CO

Weed control in alfalfa; invited by Far West Agribusiness Association 33rd annual fertilizer & chemical conference, 9-11 January 2006, Jackpot, NV

Roundup-ready alfalfa; invited by Far West Agribusiness Association 33rd annual fertilizer & chemical conference, 9-11 January 2006, Jackpot, NV

RFV versus RFQ and why the variable results between labs; invited by Western Hay Business Conference and Expo, 29-30 November 2005, Loveland, CO

Grazing plant physiology; Prescription Grazing Management, invited by 34th PNW Range Management Short Course, 23-25 February 2005, Boise, ID

Dry-land & drought-tolerant grass for hay production; Blaine/Camas Counties Forage Workshop 16 February 2005, Picabo, ID

Weed control in alfalfa: what is available and what works; invited by Gooding Seed/L.M. Davenport Private Applicator and Chemigation Certification Training, 15 Feb 2005, Gooding, ID

Alfalfa fertility and compost management; 2005 Idaho Alfalfa and Forage Conference, 7-8 February 2005, Twin Falls, ID

Corn, sorghum, Sudangrass, and BMR hybrid forages; 2005 Idaho Alfalfa and Forage Conference, 7-8 February 2005, Twin Falls, ID

Hay Quality; invited by Far West Agribusiness Association 32nd annual fertilizer & chemical conference, 10-12 January 2005, Jackpot, NV

Alternative Forages; invited by Far West Agribusiness Association 32nd annual fertilizer & chemical conference, 10-12 January 2005, Jackpot, NV

Horse hay requirements, markets, demands, and grower opportunities; invited by Utah Hay & Forage Symposium 2005, 31 January 2005, St. George, UT

Alfalfa stand establishment; invited by Far West Agric. Assoc., 30th Annual Fertilizer and Chemical Conf., January 13-15, 2003, Jackpot, NV

Implications of seeding rates and coatings with improved varieties; invited by Western Alfalfa and Forage Conference, December 11, 2002, Reno, NV

Emerging issues with alfalfa in the Pacific NW; invited by Western Alfalfa and Forage Conference, December 11, 2002, Reno, NV

Detecting and managing moisture in windrows and large bales; Cache County Crops School, March 7, 2002, Logan, UT

Nutritional considerations in annual grasses; In Challenges in Grazing Management: Annual Rangelands and Drought. 31st Annual Pacific Northwest Range Management Short Course, 12-13 March 2002, Boise, ID

Comparison of conventional and Crusher swather conditioners; invited by Oregon State University Extension, Malheur County Alfalfa Hay Workshop, May 11, 2000, Ontario, OR

Daily changes in alfalfa forage quality; invited by WSHGA Annual Hay Conference and Trade Show, 25-26 January 2000, Pasco, WA

Preserving high moisture hay; invited by International Stock Foods, Inc., Hubbard & Heartland Dealer School and Trade Show, 21-23 June 2000, Sheridan, WY

Daily changes in alfalfa forage quality; invited by 29th California Alfalfa Symposium, 8-9 December 1999, Fresno, CA

State and Local:

Forage Plant Physiology, Lost Rivers Grazing Academy, 12 September 2012, Salmon, ID

Cover Crops and Forage Trials, Organic Tour, 24 July 2012, Kimberly R&E Center

Forage Crop Establishment, North Idaho Hay Growers Workshop, 20 March 2012, Worley, ID

Idaho Hay & Forage Update, North Idaho Hay Growers Workshop, 20 March 2012, Worley, ID

Comparison of Alfalfa Herbicides, 2012 Southeastern Idaho Forage Seminar, 14 March 2012, Rexburg, ID

Custom Farming--What Works & What Doesn't, 2012 Southeast Idaho Forage School, 7 March 2012, Preston, ID

Roundup Ready Alfalfa, Southeast Idaho Forage School, 7 March 2012, Preston, ID

Consider the Value of Plant Nutrients in Your Hay and Corn Silage, Idaho Hay & Forage Conference, 2 March 2012, Burley, ID

Forage Seed and Planting Workshop, Idaho Hay & Forage Conference, 1 March 2012, Burley, ID

Hay & Forage Quality and Nutrition, Farm Bureau Commodity Conference, 6 February 2012, Boise, ID

Planting and Growing Pasture Grass, Small Acreage Symposium, 17 November 2011, St. Anthony, ID

Planting and Managing for Dry-land and Irrigated Grazing; Beef Quality Assurance and Grazing School, 18 March 2011, Shoshone, ID

Preservatives and Inoculants—Update on Roundup-Ready Alfalfa; 2011 Southeastern Idaho Forage School 16 March 2011, Preston, ID

Vole and Gopher Control Options in Forages; 2011 Southeastern Idaho Forage School 16 March 2011, Preston, ID

Improving Soil Water Quality through Effective Pasture Management; 2011 Southeastern Idaho Forage Seminar, 15 March 2011, Rexburg, ID

Harvest Management for Quality; Standlee Hay Company Grower Appreciation Conference, 11 March 2011, Twin Falls, ID

Pasture Soils Fertility, Nutrient Management, and Renovation; Nutrient Management Seminar; 8 February 2011, Boise, ID; and 9 March 2011, Twin Falls, ID

Forage Quality Workshop; 23 February 2011, Idaho Hay and Forage Conference, Burley, ID

Glyphosate versus Other Herbicides on Roundup-Ready Alfalfa; 22 February 2011, Idaho Hay and Forage Conference, Burley, ID

Alfalfa Variety Trials; 22 February 2011, Idaho Hay and Forage Conference, Burley, ID

Rodent Control in Alfalfa; U of I Recertification Seminar, 1) 10 December 2010, Twin Falls, ID; 2) 9 December 2010, Burley, ID

Alfalfa Research; Magic Valley Forage Harvest Management Field Day, 12 August 2010, Kimberly R&E Center

Forage Research; Twilight Tour, 21 July 2010, Kimberly R&E Center

Wet, Moldy Hay; Southeastern Idaho Forage Seminar, 10 March 2010, Rexburg, ID

Soil Testing on Irrigated Pastures; Nutrient Management Conference, 9 March 2010, Shoshone, ID

Value of Compost Applied to Forages; Southeast Idaho Forage School, 2 March 2010, Preston, ID

Soil Compaction Issues in Alfalfa; Southeast Idaho Forage School, 2 March 2010, Preston, ID

Alfalfa Variety Update; Southeast Idaho Forage School, 2 March 2010, Preston, ID

Management of Irrigated Pastures for Optimum Production; Lost Rivers Forage Workshop; 22 February 2010, Arco, ID

Forage Sampling, Testing, and Evaluation; Lost Rivers Forage Workshop, 22 February 2010, Arco, ID

Optimizing Profits by Adjusting Cutting Schedules; Idaho Alfalfa and Forage Conference, 16 February 2010, Burley, ID

Rodent Control in Alfalfa; Idaho Alfalfa and Forage Conference, 16 February 2010, Burley, ID

Demonstration and discussion Alfalfa variety trials; BYU-I Small grains & Forage Field Day, 9 July 2009, Rexburg, ID

Comparison of hay planting methods; SE Idaho Forage School, 17 March 2009, Preston, ID

Diagnosing alfalfa stand loss; Idaho Hay & Forage Conference, 3 February 2009, Burley, ID

Weed management in alfalfa; 1) Idaho Hay & Forage Conference, 3 February 2009, Burley, ID; 2) Camas & Blaine Co. Hay & Cereal School, 21 January 2010, Fairfield, ID

No-till Seeding Alfalfa; Salmon Cattlemen's School, 27 January 2009, Salmon, ID

Fertility in Alfalfa; Blaine/Camas Co. Hay & Cereal School, 22 January 2009, Fairfield, ID

Options for Pasture Renovation; Idaho Section Society for Range Management Annual Meeting, 16 January 2009, Boise, ID

Weed Control Options in Alfalfa; Pesticide Applicator Recertification School; 1) 18 December 2008, Twin Falls, ID; 2) 12 December 2008, Burley, ID

Idaho Switch grass Trials for Biofuel; Twilight Tour, University of Idaho, 24 July 2008, Kimberly Research & Extension Center

Harvesting decisions; Southeast Idaho Forage School, University of Idaho Extension/BYU-Idaho, 12 March 2008, Rexburg, ID

Alternative hay and forage crops: timothy and switch grass; Lost Rivers Alfalfa Production and Economics Workshop, University of Idaho, 11 March 2008, Arco, ID

Planting New Hay; 2008 Southeast Idaho Forage School, University of Idaho Extension, 6 March 2008, Preston, ID

Dairy Compost Effects on Soil Nutrient Content; Nutrient Management Conference, University of Idaho, 4 March 2008, Jerome, ID

Irrigation and Nutrient Management for Pastures; 2008 Irrigation Workshop, University of Idaho Extension, 5 February 2008, Mountain Home, ID

Yield Increase versus Quality Decline; Camas/Blaine County Forage Workshop, University of Idaho Extension, 24 January 2008, Fairfield, ID

Hay and forage panel discussion; invited by Idaho Farm Bureau Federation, 68th Annual Meeting, 4 December 2007, Pocatello, ID

Trends in forage production in Idaho; Southeast Idaho Forage School, 14 March 2007, Rexburg, ID

Certified organic forage production in Idaho; 2007 Southeast Idaho Forage School, 13 March 2007, Preston, ID

Hay/forage sampling & storage: what do buyer's want; 2007 Southeast Idaho Forage School, 13 March

2007, Preston, ID

Alfalfa variety update; 2007 Southeast Idaho Forage School, 13 March 2007, Preston, ID

Emerging Forage Issues in the Northwest; Idaho Alfalfa and Forage Conference, Idaho Hay and Forage Association/University of Idaho Extension, 26-27 February 2007, Twin Falls, ID

Alfalfa Variety Trial Update; Idaho Alfalfa and Forage Conference, Idaho Hay and Forage Association/University of Idaho Extension, 26-27 February 2007, Twin Falls, ID

Producing Hay for the Horse Market; Idaho Alfalfa and Forage Conference, Idaho Hay and Forage Association/University of Idaho Extension, 26-27 February 2007, Twin Falls, ID

Forage Crop Establishment; Improved Forage Lands of Idaho—Environmental, Ecological, and Economic Importance, Idaho Chapter of Soil and Water Conservation Society, 22-23 February 2007, Twin Falls, ID

When to Harvest Hay and Pasture; Improved Forage Lands of Idaho—Environmental, Ecological, and Economic Importance, Idaho Chapter of Soil and Water Conservation Society, 22-23 February 2007, Twin Falls, ID

Nutritive Value of Forage Plants; Improved Forage Lands of Idaho—Environmental, Ecological, and Economic Importance, Idaho Chapter of Soil and Water Conservation Society, 22-23 February 2007, Twin Falls, ID

Managing alfalfa pests; University of Idaho Crop Protection Seminar, 7-8 February 2006, Idaho Falls and Pocatello, ID

Roundup-ready alfalfa; Blaine/Camas Counties Forage Workshop 16 February 2006, Fairfield, ID

Yield and Quality of Roundup Ready® Alfalfa; Idaho Alfalfa and Forage Conference, University of Idaho Extension, 27-28 February 2006, Twin Falls, ID

Making hay in China; Idaho Alfalfa and Forage Conference, Idaho Hay and Forage Association and University of Idaho Extension, 27-28 February 2006, Burley, ID

Monitoring Rangelands; Idaho Cattle Association mid-year meeting, 21 June 2006, Jackpot, NV

Alternative Forages; Southeastern Idaho Forage Symposium, 16 March 2005, Rexburg, ID

Alfalfa stand establishment; ABI Alfalfa Growers Meeting, 3 March 2005, Twin Falls, ID

Alfalfa Variety and Research Update; Southeast Idaho Forage School, 4 March 2005, Preston, ID

Horse hay requirements, market demands and grower opportunities; Southeast Idaho Forage School, 4 March 2005, Preston, ID

Growing Dairy Quality Hay; invited by RoBumCo Hay Company, grower meeting, 22 December 2004, Cambridge, ID

Physiological principles of grazing; Lost River Grazing Academy, 15 June 2004, Salmon, ID

Alfalfa agronomy, fertility, and harvest management; Primeland Cooperative Alfalfa Seminar, 11 March 2004, Ferdinand, ID

Hay moisture in the windrow and bale; Primeland Cooperative Alfalfa Seminar, 11 March 2004, Ferdinand, ID

Seeding management and micro-rizo coating; Primeland Cooperative Alfalfa Seminar, 11 March 2004, Ferdinand, ID

Roundup ready alfalfa; Eastern Idaho Alfalfa Seminar, 10 March 2004, Rexburg, ID

Hay quality measurements; Southeast Idaho Forage School, 9 March 2004, Preston, ID

Alfalfa variety update; Southeast Idaho Forage School, 9 March 2004, Preston, ID

Annual forage performance trials; 2004 Idaho Alfalfa and Forage Conference, 24-25 February 2004, Twin Falls, ID

Alfalfa seeding rates and seed coating; 2004 Idaho Alfalfa and Forage Conference, 24-25 February 2004, Twin Falls, ID

Emerging issues with alfalfa and forages in Idaho; 2004 Idaho Alfalfa and Forage Conference, 24-25 February 2004, Twin Falls, ID

Dairy compost effects on alfalfa hay yield and quality; University of Idaho Blaine/Camas County Hay Workshop, February 11, 2004, Picabo, ID

Alfalfa variety trials, seeding rates, and seed coating; 2003 Forage Field Day, 20 August 2003, Kimberly R&E Center, ID

Traffic effects on alfalfa yield; 2003 Forage Field Day, 20 August 2003, Kimberly R&E Center, ID

Annual forage crops for fall-winter use; 2003 Forage Field Day, 20 August 2003, Kimberly R&E Center, ID

Minimizing soil-applied herbicide damage in alfalfa; Poster Presentation at 2003 Forage Field Day, 20 August 2003, Kimberly R&E Center, ID

Alfalfa seeding rate effects on forage quality; Poster Presentation at 2003 Forage Field Day, 20 August 2003, Kimberly R&E Center, ID

Dairy compost effects on alfalfa hay yield and quality; Poster Presentation at 2003 Forage Field Day, 20 August 2003, Kimberly R&E Center, ID

Interseeding ryegrass for forage grazing alternatives; Poster Presentation at 2003 Forage Field Day, 20 August 2003, Kimberly R&E Center, ID

Forage Research and Extension in Idaho; CSREES Review, June 2, 2003, Twin Falls, ID

Alfalfa variety update; 2003 Southeast Idaho Forage School, February 21, 2003, Preston, ID

Varieties of alfalfa; Eastern Idaho Alfalfa School, March 12, 2003, Rexburg, ID

Stand establishment of alfalfa and grass; Growers meeting, February 28, 2003, Driggs, ID

Alternative forages and management strategies; 2003 Southeast Idaho Forage School, February 21, 2003, Preston, ID

Yield and quality of alternative forages; University of Idaho Forage Team Workshop, February 19, 2003, Glenn's Ferry, ID

Review of alfalfa seeding rates; University of Idaho Blaine/Camas County Hay Workshop, February 11, 2003, Fairfield, ID

Dairy compost effects on alfalfa hay yield and quality; Poster at Idaho Nutrient Management Conference, 28 March 2002, Nampa, ID

Panel: Hay Consumption and Production Costs; Latah Extension and Idaho Hay Assoc. North Idaho Hay Growers Forage School, March 20, 2002, Moscow, ID

Alfalfa variety update & am versus pm cutting of alfalfa; 2002 Southeast Idaho Forage School, February 26, 2002, Preston, ID

Planting concerns with alfalfa fertility/weed control/seedbed preparation; 2002 Southeast Idaho Forage School, February 26, 2002, Preston, ID

Camas County alfalfa variety trial update; University of Idaho Blaine/Camas County Hay Workshop, February 5, 2002, Hailey, ID

Alfalfa physiology in the Rocky Mountain West; Rocky Mountain Simplot Soil Builder Region 2002 CCA In-service Training, February 6, 2002, Caldwell, ID

Harvest management and hay quality; University of Idaho Blaine/Camas County Hay Workshop, February 5, 2002, Hailey, ID

Alfalfa variety trials; University of Idaho and Idaho Hay Assoc., 1) Idaho Hay Assoc. Annual Meeting, January 7, 2002, Idaho Falls, ID; 2) Southwest Idaho Forage School, January 24,

2002, Middleton, ID; 3) Alfalfa Management Workshop, January 23, 2002, Twin Falls, ID; 4) Eastern Idaho Alfalfa School, March 14, 2002, Rexburg, ID

Alfalfa fertility guide revisions; University of Idaho and Idaho Hay Assoc. Alfalfa Management Workshop, January 23, 2002, Twin Falls, ID

Producing high quality alfalfa; Idaho Crop Production Association's 29th Annual Fertilizer and Chemical Conference, January 15, 2002, Jackpot, NV

Alfalfa physiology in the Rocky Mountain West; Rocky Mountain Simplot Soil Builder Region 2001 CCA In-service Training, December 17, 2001, Pocatello, ID

Physiological principles of grazing; Lost River Grazing Academy, September 19, 2001, Salmon, ID

Alfalfa establishment; Crop Production Luncheons, August 22, 2001, Twin Falls, ID

Alfalfa variety trials; Forage Field Day, July 23, 2001, Kimberly, ID

Seed-coating study results; Forage Field Day, July 23, 2001, Kimberly, ID

Alfalfa establishment and management; Bear Lake Co. Weed and Forage Tour, 31 May 2001, Montpelier, ID

Growing alfalfa hay; invited by RoBumCo Hay Company seminar, 26 April 2001, Weiser, ID

Alfalfa variety trials and seed coating; Eastern Idaho Alfalfa School, March 14, 2001, Rexburg, ID

Hay moisture--friend or foe; Idaho Hay Assoc. Annual Meeting; 3 March 2001, Boise, ID

Late season alfalfa management; Southeast Idaho Forage School, February 27, 2001, Preston, ID

Interpreting your feed test analysis; Southeast Idaho Forage School, February 27, 2001, Preston, ID

Potassium content in hay; Camas Co. Forage Workshop, February 13, 2001, Fairfield, ID

Extended grazing; Beef schools: January 30, 2001, Blackfoot, Idaho; January 31, 2001 Lava Hot Springs, ID; February 1, 2001, Idaho Falls, ID

Storage loss; 2001 Southern Idaho Silage and Forage Seminar, January 24, 2001, Twin Falls, ID; January 25, 2001, Caldwell, ID

Irrigated pasture grasses, what's new; Winter Beef School, 17 January 2001, Emmett, ID

Alternative crops to feed beef cattle; Winter Beef School, 17 January 2001, Emmett, ID

Evaluate the quality of your hay and forage; Intermountain Beef Cow Symposium, 11 January 2001, Twin Falls, ID

Alfalfa management panel; invited by Idaho Crop Production Association, 3 January 2001, Jackpot, NV

Managing forage supply and demand; Accredited Workshop for Vocational Ag. Instructors, Idaho's Rangelands: Grazing Ecology and Multiple Use Issues, sponsored by Idaho Rangeland Resource Commission, University of Idaho Dept. of Range Ecology and Management and College of Agriculture, 26-30 June 2000, Twin Falls, ID

Hay production: Swathing, drying and using preservative; N. Idaho Grower's Workshop, 23 March 2000, Moscow, ID

Faster dry-down time: Crusher conditioner and windrow width; Eastern Idaho Alfalfa School, 15 March 2000, Rexburg, ID

Comparison of silage making methods; Southeast Idaho Forage School, 14 March 2000, Preston, ID

Optimizing forage quality; Interagency Plant Materials Forum, 9 March 2000, Boise, ID

Irrigation and pasture management; Small Acreage Management Seminar, Snake River, Twin Falls and Balanced Rock Conservation Dist., 4 March 2000, Twin Falls, ID

Drying hay faster with wide windrows and super conditioner; Idaho Hay Assn. Annual Meeting 1-3

March 2000, Twin Falls, ID

What is quality hay? Idaho Hay Assn. Annual Meeting 1-3 March 2000, Twin Falls, ID

Irrigation and pasture management; Small Pasture Management Seminar, Agri-Action Seminars. 19 February 2000, Twin Falls, ID

Conditioner versus Crusher; Alfalfa Management and Cereal Grains as Forages Workshop, 11 February 2000, Gooding, ID

Nutrient management in pastures; Management Intensive Grazing Workshop, 3-4 June 1999, Boise, ID

Nutrients in Forage and Timing of Cutting; Forage Marketing Seminars, 6 May 1999, Caldwell, ID

Alfalfa harvest management; Southeast Idaho Forage School, 18 March 1999, Preston, ID

Silage inoculants: how important are they? Southeast Idaho Forage School, 18 March 1999, Preston, ID

Cutting for quality; Eastern Idaho Alfalfa School, 17 March 1999, Rexburg, ID

AM/PM harvesting of alfalfa, update on research and new techniques in forages; Alfalfa Management: Strategies in Meeting Production Challenges, 10 March 1999, Shoshone, ID

Alfalfa variety selection; Idaho Hay Assn. Annual Meeting, 3-5 March 1999, Twin Falls, ID

Grazing effects on coliform in water and how to minimize the problem; A Conference on: Coliform in Rock Creek, How Do We Clean it Up? 2 March 1999, Twin Falls, ID

Professional meeting papers, workshops, showings, recitals:

Abstracts and Short Papers or Posters:

Hunter, L.A., C.L. Falen, and Shewmaker, G.E 2012. Use of dual purpose cover crops to extend the grazing season in southern Idaho. Abstract for Western Region Agricultural Agents/Pacific Northwest Forage Workers Conference, 1-4 October 2012, Twin Falls, ID.

Shewmaker, G.E. 2012. Light interception by rotationally-grazed orchardgrass (*Dactylis glomerata* l.) canopies. Abstract #76 for Society for Range Management International Annual Meetings 29 Jan. to 2 Feb. 2012, Spokane, WA.

Shewmaker, G.E. 2012. How much carbon can be sequestered in pasture. Abstract for American Forage and Grassland Council Annual Meeting 9-10 Jan. 2012, Louisville, KY.

Casler, M., Y. Papadopolous, D. Undersander, S. Bittman, R. Mathison, D. Min, J. Robins, J. Cherney, S. Acharya, D. Belesky, S. Bowley, B. Coulman, R. Drapeau, N. Ehlke, M. Hall, R. Leep, R. Michaud, J. Rowsell, G. Shewmaker, C. Teutsch, and W. Coblentz. 2011. Sparse-Flowering Orchardgrass Is Stable Across Temperate North America. Abstract for ASA-CSSA-SSSA International Annual Meetings 16-19 October 2011, San Antonio, TX.

Falen, C.L. and G. Shewmaker. 2011. Unconventional forages for livestock. Abstract for ASA-CSSA-SSSA International Annual Meetings 16-19 October 2011, San Antonio, TX.

Winger, M., A. Moore, C. Falen, G. Shewmaker, K. Beckmann, S. Hanks, L. St.John, D. Ogle, and R. Johnson. 2011. Idaho Natural Resources Conservation Service and Partners Expand Cover Crop Technology in Idaho. Abstract for ASA-CSSA-SSSA International Annual Meetings 16-19 October 2011, San Antonio, TX.

Shewmaker, G.E., R. E. Sojka, and J.A. Entry. 2010. Carbon Sequestration in Irrigated Pasture Soils. Abstract for Greenhouse Gases and Animal Agriculture Conference, 3-8 October 2010, Banff, Alberta, Canada.

Falen, C.L., Sluder, L., Gray, C.W., and Shewmaker, G.E 2010. Extending the grazing season with unconventional forages to minimize economic farm risks. Abstract for Western Region Agricultural Agents/Pacific Northwest Forage Workers Conference, 28-30 September 2010, Helena, MT.

Shewmaker, G.E. and M. Bohle. 2010. Pasture and Grazing Management in the Northwest: A New Guidebook. Abstract for ASA-CSSA-SSSA International Annual Meetings 2 November 2010, Long Beach, CA.

Shewmaker, G.E. and M. Bohle. 2010. Pasture and Grazing Management in the Northwest: A New Guidebook. Abstract #46 for Society for Range Management International Annual Meetings 7-10 Feb. 2010, Denver, CO.

Chahine, M., G. E. Shewmaker, R. J. Norell, and C. W. Gray. 2010. Impact of the 2009 economic crisis on Idaho dairies. J. Anim. Sci. Vol. 88, E-Suppl. 2/J. Dairy Sci. Vol. 93, E-Suppl. 1/Poult. Sci. Vol. 89, E-Suppl. 1:610. ADSA-PSA-AMPA-CSAS-ASAS Joint Annual Meeting, 11-15 July 2010, Denver, CO. http://adsa.psa.ampa.csas.asas.org/meetings/2010/abstracts/0610.pdf

Jensen, K. Scott, Charles Cheyney, James Hawkins, C. Wilson Gray, Glenn Shewmaker, Shannon Williams, Thomas Griggs, James R. Gerrish. 2009. Lost Rivers Grazing Academy: Management Education for Sustainable Livestock Production, p 26 In Guither, H.H., J.L. Merry, C.E. Merry (eds.) Abstracts of the 17th International Farm Management Congress: Agriculture: Food, Fiber and Energy for the Future, Bloomington, IL, 19 – 24 July 2009.

Falen, C.L., Shewmaker, G.E., Gray, C.W, Brown, B.D., and Roemer, R.L. 2009. Assessment of Winter Cereal Forage Yield and Quality Options to Reduce Livestock Feed Costs and Water Use in South Idaho. Abstract and poster Page 46-47 In Proceedings of the National Association of County Agricultural Agents Annual Meeting and Professional Improvement Conference 20-24 September 2009, Portland, OR. http://www.nacaa.com/ampic/2009/proceedings.pdf.

Shewmaker, G.E. 2009. Predicting herbage mass in irrigated orchardgrass pastures. Abstract for Society for Range Management Meeting, Albuquerque, NM.

Shewmaker, G.E., Mayland, H. F., Roberts, C. A. 2008. Multifunctional Grasslands in a Changing World, Varietal differences in rate of carbohydrate accumulation in tall fescue, Int. Grassland Congress & International Rangeland Congress 30 June 2008, Hohhot, Inner Mongolia, Peoples Republic of China.

Jensen, K.S., C. Cheyney, J. Hawkins, W. Gray, G. Shewmaker, S. Williams, J. Gerrish, T. Griggs. Abstract. Page 75 In Proceedings of the National Association of County Agricultural Agents Annual Meeting and Professional Improvement Conference 13–17 July, 2008, Greensboro, NC. http://www.nacaa.com/ampic/2008/.

Shewmaker, G.E., and T.C. Griggs. 2008. Nonstructural Carbohydrate Cycles and Accumulation Rates in Perennial Forages. Abstract 1475, 61th Annual Meeting Society for Range Management, 27-31 January 2008, Louisville, KY.

Hooper, Laura, G.E. Shewmaker, and T.C. Griggs. 2008. Relationship of sward height and herbage mass for orchardgrass (*Dactylis glomerata* L.), smooth bromegrass (*Bromus inermis* Leyss.), and perennial ryegrass (*Lolium perenne* L.) in a pasture system. Abstract, 61th Annual Meeting Society for Range Management, 27-31 January 2008, Louisville, KY.

Gray, C. Wilson , C.C. Cheyney, J. Gerrish, J.N. Hawkins, K.S. Jensen, G.E. Shewmaker, S. Williams, and T.C. Griggs. 2007. Lost Rivers Grazing Academy: Management-intensive Grazing for sustainable livestock production. Abstract and poster for IFMA proceedings, p. 110, 16th International Farm Management Congress, 15-20 July 2007, University College, Cork, Ireland.

Shewmaker, G.E. and D.E. Morishita, 2007. Herbicide effects on yield and quality of roundup-ready alfalfa in Idaho. ASA-CSSA-SSSA International Annual Meetings. 4-8 November 2007. New Orleans, LA. Abstract CD-ROM. unpaginated.

Shewmaker, G.E., H. F. Mayland, C. A. Roberts, P. A. Harrison, N. J. Chatterton, and D. A. Sleper. 2007. Seasonal carbohydrate accumulation in irrigated tall fescue. Abstract and poster #402, 60th Annual Meeting Society for Range Management, 10-16 February 2007, Reno, NV.

Shewmaker, G.E. and D.E. Morishita, 2006. Yield and composition of roundup-ready alfalfa in Idaho. ASA-CSSA-SSSA International Annual Meetings. 12-16 November 2006. Indianapolis, IN. Abstract 175-1 CD-ROM. unpaginated.

Shewmaker, G.E., L.M. Lawrence, G.D. Lacefield and D.H. Undersander, 2005. Alfalfa: The high quality hay for horses. ASA-CSSA-SSSA International Annual Meetings. 6-10 November 2005. Salt Lake City, UT. Abstract/poster A04-4 CD-ROM. unpaginated.

Kinder**,** C.A., G.E. Shewmaker, C. Hunt, and R.S. Thaemert. Forage quality of corn, sorghum, Sudangrass, and BMR hybrid forages. ASA-CSSA-SSSA International Annual Meetings. 6-10 November 2005. Salt Lake City, UT. Abstract 67-8 CD-ROM. unpaginated.

Thaemert, R.S., W.F. Hazen, G.E. Shewmaker, and C.A. Kinder**.** Corn, sorghum, Sudangrass, cereal, brassica, and legume forage yields during late summer. ASA-CSSA-SSSA International Annual Meetings. 6-10 November 2005. Salt Lake City, UT. Abstract/poster C6-8 CD-ROM. unpaginated.

Glaze, B., G.E. Shewmaker, and C.W. Gray. 2004. Forage availability from winter wheat in southern Idaho. Abstract p.64 In Proceedings Society for Range Management Annual Meeting 25-30 January, Salt Lake City, UT.

Shewmaker, G.E., R.E. Sojka, and J.A. Entry. 2004. Irrigation increases carbon in pasture soils. Abstract p. 184 In Proceedings Society for Range Management Annual Meeting 25-30 January, Salt Lake City, UT.

Shewmaker. G.E. 2003. Phosphorus uptake and removal from grazed ecosystems (PURGE) simulation model. Annual meeting American Society Agronomy, 2-6 November 2003, Denver, CO. Abstract & poster CD-ROM. unpaginated.

Thaemert, R. and G.E. Shewmaker. 2003. Sampling the moisture content of alfalfa in the windrow. Annual meeting American Society Agronomy, 2-6 November 2003, Denver, CO. Abstract & poster CD-ROM. unpaginated.

Salisbury, S.E., G.E. Shewmaker, R.M. Ohlensehlen, and W.F. Hazen. 2003. Interseeding ryegrass for a forage grazing alternative. Abstract and poster at ASA-CSSA-SSSA Annual Meeting, 2-6 November 2003, Denver, CO.

Thaemert, R. and G.E. Shewmaker. 2003. Sampling the moisture content of alfalfa in the windrow. Abstract and poster at ASA-CSSA-SSSA Annual Meeting, 2-6 November 2003, Denver, CO.

Mayland, H.F., J.W. MacAdam, G.E. Shewmaker, and N.J. Chatterton. 2003. The diurnal cycling of sugars in grasses impacts strip-graze management plans. In Proceedings 2nd Conference on Grazing Lands, Nashville, Tennessee, November 2003. Prepared by Grazing Lands Conservation Initiative as CD-ROM.

Mayland, H.F., J.W. MacAdam, R.J. Orr, A.J. Rook, and G.E. Shewmaker. 2003. Total nonstructural carbohydrate in tall fescue leaves and pseudostems after light and dark exposure. Abstract and poster at ASA-CSSA-SSSA Annual Meeting, 2-6 November 2003, Denver, CO.

Entry, J.A., R.E. Sojka, and G.E. Shewmaker. 2003. Irrigation increases carbon in agricultural soils. Abstract and poster at ASA-CSSA-SSSA Annual Meeting, 2-6 November 2003, Denver, CO.

Shewmaker, G.E., and H.F. Mayland. 2002. Extending research of PM-cut hay and producer acceptance. Abstract and invited symposium presenter at ASA-CSSA-SSSA Annual Meeting, 10-14 October 2002, Indianapolis, IN.

Shewmaker, G.E., M. Hopwood, and R. Roemer. 2002. Alfalfa seeding rate effects on forage quality. Abstract and poster at ASA-CSSA-SSSA Annual Meeting 10-14 October 2002, Indianapolis, IN.

Shewmaker, G.E., and P.A. McDaniel. 2002. Landscape formation: result of grazing or geological events? Abstract and poster at Soc. for Range Management. Annual Meeting, 14-18 February 2002, Kansas City, MO.

Salisbury, S.E., G.E. Shewmaker, R.O. Ohlensehlen, and W.F. Hazen. 2002. Interseeding ryegrass for forage grazing alternative. Abstract and Poster at Joint Council of Extension Professionals 2002 Idaho Legislative Session Poster Display, January 2002, Boise, ID.

Shewmaker, G.E., and H.F. Mayland. 2001. Effect of Hay Conditioners and Windrow Widths on Hay Drying. Abstract and poster at ASA-CSSA-SSSA Annual Meeting, 21-25 October 2001, Charlotte, NC.

Shewmaker, G.E. 2001. Sagebrush invasion of crested wheatgrass seedings. Abstract and poster at Society for Range Management Annual Meeting, 18-23 February 2001, Kona, HA.

Shewmaker, G.E. 2000. Condition and trend of a sagebrush-grass site after 36 years exclusion from grazing. p. 78 Abstract and presentation at Society for Range Management Annual Meeting, 13-18 February 2000, Boise, ID.

Mayland, H.F., and G.E. Shewmaker. 2000. Adopting afternoon forage cutting technology. Abstract. Western Crop Science Society June 18-21, 2000, Moscow, ID.

Mayland, H.F., J.C. Burns, D.S. Fisher, R. Carlstrom, S.D. Cash, G.E. Shewmaker, and G.A. Ledbetter. 2000. Benefits of adopting afternoon forage cutting strategies. Abstract and poster at ASA-CSSA-SSSA Annual Meeting, 5-9 November 2000, Madison, WI.

Shewmaker, G.E. 1999. Best management practices of grazing to meet TMDL's. Abstract In Proceedings Water Quality Beyond 2000: Meeting our TMDL Challenge, 27-29 January 1999, Boise, ID.

Mayland, H.F., and G.E. Shewmaker. 1999. Antiquality associated with minerals and nitrogen. Antiquality Factors in Rangeland and Pastureland Forages Symposium. Abstract and poster at AFGC/SRM Annual Meeting (21-26 February) Omaha, NB.

Shewmaker, G.E., H.F. Mayland, C.A. Roberts, P.A. Harrison, and D.A. Sleper. 1999. Carbohydrate Accumulation Rates in Tall Fescue. Abstract and poster at ASA-CSSA-SSSA Annual Meeting (31 October - 4 November) Salt Lake City, UT.

Grants and Contracts Awarded:

Shewmaker, G.E. 2012 Dupont, Unrestricted Gift, $500

Shewmaker, G.E. 2012 Extension travel, Extension director. Unrestricted Gift, $5,000

Shewmaker, G.E. 2012 Forage Testing Study, Idaho Hay and Forage Association. Unrestricted Gift, $2,000

Shewmaker, G.E. 2012 Alfalfa Trials, BASF. Unrestricted Gift, $2,000

Shewmaker, G.E. 2011; Forage and Pasture Educational Program for Professionals in the Northwest; Western Regional Sustainable Agricultural Research and Extension (SARE) Professional Development Grant EW11-019: $71,058, spending authority = $44,445

Shewmaker, G.E. Alfalfa variety trials contracts for 2011-2014. Trials located at Kimberly R&E Center and BYU-Idaho, Rexburg, in cooperation with Greg Blaser, Alfalfa Industry, Private Grant, $20,000.

Shewmaker, G.E. 2011 Phosphorus Fertilization of Alfalfa, Kimberly R&E Center, Simplot Inc., Unrestricted Gift, $5,270.

Shewmaker, G.E. 2010 Alfalfa Seed Treatment Efficacy Trials, Syngenta Crop Protection, Inc. Unrestricted Gift, $6,000

MacAdam, J.W. Project Director ($1,019,411, spending authority = $7,605); Shewmaker, G.E. 2010. Sub award for Improved Organic Milk Production through the Use of the Condensed Tannin-Containing Forage Legume Birdsfoot Trefoil. USDA-NIFA 2010-51300-21238; spending authority $7,605

Brummer, Joe, G.E. Shewmaker, and C. Engle ($49,849, spending authority = $17,470). 2010. Reducing Nitrogen Fertilizer Inputs to Irrigated Pastures and Hayfields by Interseeding Legumes; spending authority $17,470

Shewmaker, G.E. 2007, 2008, 2009. Switchgrass variety trials. Funded by Ceres Inc. for $5000 each year

Shewmaker, G.E. and E. Wenninger, 2009 Efficacy of SPT & BXL on insect pests of Alfalfa, Bayer CropScience, Unrestricted Gift, $6,000

Shewmaker, G. E. "Seed-coating on Alfalfa Trials," Sponsored by Syngenta, Unrestricted gift. (May 1, 2009 - December 31, 2009). $6,700

Shewmaker, G.E. "Contract to perform insecticide efficacy trial," Sponsored by Bayer CropScience, Private. (May 1, 2008 - December 31, 2008).

Shewmaker, G.E. "Seed-coating on Alfalfa Trials," Sponsored by Syngenta, Private. (May 1, 2008 - December 31, 2008).

Shewmaker, G.E. Experimental Alfalfa Trials, Sponsored by CAL/WEST Seeds, Unrestricted gift. (May 1, 2008 - December 31, 2009). $14,400

Shewmaker, G.E. Experimental Alfalfa Trials, Sponsored by CAL/WEST Seeds, Unrestricted gift. (May 1, 2008 - December 31, 2009). $14,400

Shewmaker, G.E. Alfalfa Variety Trials for 2008-11. Kimberly R&E Center Alfalfa Industry, Private Grant, $20,250.

Shewmaker, G.E. Professional development: scholarships to alfalfa intensive training seminar. Topic Team Grant, State Grant, 02/10/2007. $3,000.

Shewmaker, G.E. and G. Blaser. Alfalfa variety trials contracts for 2006-210. Trials located at BYU-Idaho, Rexburg, in cooperation with Greg Blaser, Alfalfa Industry, Private Grant, June 2006.

$7,500.

Shewmaker, G.E. Unrestricted funds for conducting alfalfa research. Monsanto Company, Private Grant, 06/02/2006. $5,000.

Shewmaker, G.E. 2006. Professional development: scholarships to alfalfa intensive training seminar. Topic Team Grant, State Grant, 02/10/2006. $3,000.

Shewmaker, G.E. Alfalfa Variety Tests; Entry fees from Alfalfa Seed Industry; May 2006; $10,500.

Shewmaker, G.E. Forage and Pasture Educational Program for Extension, FSA, and NRCS in the Pacific Northwest; Western Regional Sustainable Agricultural Research and Extension (SARE) Professional Development Grant, $90,000 USDA 2006-2009.

Shewmaker, G.E. Alfalfa Yield and Quality as Affected by Herbicides; Research Contract, 2005, Monsanto, $10,000.

Shewmaker, G.E. Idaho Forage Handbook: External funding was contributed by the Natural Resource Conservation Service, Idaho State Department of Agriculture, and the Northwest Irrigation and Soils Research Laboratory; November 2005 $3,250.

Shewmaker, G.E. Alfalfa Variety Tests; Entry fees from Alfalfa Seed Industry; May 2005; $20,250.

Shewmaker, G.E. Rate of Alfalfa Quality Decline with Time, Dairy Forage Research Center, USDA-ARS Specific Cooperative Agreement #58-3644-3-151, PI's G.E. Shewmaker, Marvin Hall, Geoff Brink; $8,000, renewable BJKD41.

Neibling, H., G.E. Shewmaker, and K.D. Sanders. Rangeland, Irrigated Forage and Urban Water Management During and After a Drought, USDA-CSREES Special Needs Grant, $13,000 BFK229.

Shewmaker, G.E. Unrestricted Research Funds, 2002, Monsanto, $10,000.

Shewmaker, G.E. Mineral uptake in alfalfa as affected by dairy compost; College of Agriculture and Life Sciences Nutrient Management Team allocation of Idaho State Dept. Ag. Specialty Crops Grant. FY03, $2,340.

Shewmaker, G.E. Alternative Forage Crop Production; College of Agricultural and Life Sciences Forage Team allocation of Idaho State Dept. Ag. Specialty Crops Grant. C. Kinder and G.E. Shewmaker; FY03, $8,795

Travel Grant; University of Idaho Research Office. G.E. Shewmaker, FY03, $563.

Shewmaker, G.E., B. Glaze, and C.W. Gray. Feasibility of winter wheat grazing in southern Idaho; Idaho Wheat Commission; FY02, July 1, 2001-June 30, 2002; $9,953.

Cheyney, C., G.E. Shewmaker and others. Intensive management of irrigated pasture as alternatives to commodity production; Critical Issues, UI Extension; FY02, $1,700.

Salisbury, S.E., G.E. Shewmaker, R.M. Ohlensehlen, and W.F. Hazen. Double cropping for forage grazing alternative; Critical Issues, UI Extension; FY02, $1,325.

Thaemert, R., B. Hazen, and G. Shewmaker. Maximum baling moisture to maintain optimum forage quality for one-ton bales; United Dairymen of Idaho; FY2000; $2,600.

Shewmaker, G.E. Alfalfa Variety Tests; Entry fees from Alfalfa Seed Industry; May 2000-04; $29,750.

Shewmaker, G.E. Providing forage information on an Internet page; Critical Issues Grant, University of Idaho Extension System, March 1999; $1,800.

Shewmaker, G.E. Environmental effects on forage quality and testing for the differences; Hatch Idaho Ag. Expt. Station IDA01189; December 1, 1999-June 30, 2004; $25,000.

Honors and Awards:

2011 Don Hale Hall of Fame Award presented by the Idaho Hay and Forage Association

2010 Merit Award from American Forage and Grassland Council

2010 American Society for Agronomy Educational Materials Award for Pasture and Grazing Management in the Northwest PNW 614. Presented by division A04—Extension Education—of the American Society for Agronomy at the ASA Annual Meeting in Long Beach, CA.

2010 Western Extension Agricultural Experiment Station Directors 2010 Awards of Excellence, Regional Qualifying Program

2010 Excellence in Extension Award by University of Idaho: for writing Pasture and Grazing Management in the Northwest PNW 614; this was a team award and included $1000, which was used for scholarships for professional development to the Lost Rivers Grazing Academy. Team members from Idaho include from the University of Idaho: Charles Cheyney, Glenn Shewmaker, Shannon Williams, Sarah Baker, Scott Jensen, Brian McLain, Howard Neibling, Christine Falen, Oliver Neher, Tianna Fife, John Hall, Jim Church, Rikki Wilson, Kelly Crane, J. Benton Glaze, C. Wilson Gray, and Diane Noel; from USDA; Dan Ogle and Loren St. John; and from Producer/Consultant; Jim Gerrish, and Laura Hooper.

2007 Excellence in Extension Award by National Association of County Agents: The Lost Rivers Grazing Academy Team won the national award in Search for Excellence in Livestock Production from the NACAA. Team members include Scott Jensen, Jim Hawkins, Chad Cheyney, Shannon Williams, Wilson Gray, Glenn Shewmaker, Jim Gerrish (Grazing Consultant), and Tom Griggs (Utah State).

2005 Outstanding Publication (1-12 pages) for Alfalfa: the high quality hay for horses awarded by A-04 division of American Society for Agronomy

2005 Outstanding Publication (over 12 pages) for Idaho Forage Handbook awarded by A-04 division of American Society for Agronomy

Best 2003 Soil & Water Management & Conservation Division (S-6) Paper in volume 66 of the Soil Science Society of America Journal titled Management of Irrigated Agriculture to Increase Organic Carbon Storage in Soils, November 2003

SERVICE:

Major Committee Assignments:

University Multi-campus Communications Committee (2009-2011; 2012-2015 Alternate)

Technical Editor (2007-2010) Forages and Agronomy, Forage and Grazing Lands
http://www.plantmanagementnetwork.org/fg/about/board/

Associate Editor (2005-2007) for alfalfa management and utilization for Forage and Grazing Lands
http://www.plantmanagementnetwork.org/fg/about/board/

Elected to (2006-2010) Forage and Grassland Foundation Board, Forage and Grassland Foundation, Inc. PO Box 469, Princeton, Kentucky

Consultation for Western States Pest Management Strategic Plan for Non-Rangeland Forages, 22-23

February 2006, Boise, ID

Western WCC-091: Improving Stress Resistance of Forages in the Western United States (2000-2006)

Department Promotion and Tenure Committee (2)

Mentor Committee for Co. Extension Faculty (3)

Forage Team Leader for College of Agricultural and Life Sciences (2001-2010)

Northwest Irrigation and Soils Research Laboratory (USDA-ARS) Seminar Committee

Professional and Scholarly Organizations:

Alpha Zeta, Agriculture honor society, 1973-present
American Forage and Grasslands Council, 2008-present
American Society of Agronomy-Crop Science Society of America- 1997-present
NIRS Forage and Feed Testing Consortium, 2008-present
2009 and 2011-Elected board member
2009-present served on quality and assurance committee
Society for Range Management, 1975-present:
1983 and 2001 Idaho Section President
1988-90 Excellence in Range Management Committee
1991-93 Range Consultants Certification Panel (1992-93 Chair)
1997-2000 Finance Committee (2000 Chair)
1997-2000 Program Committee Co-chair for International Meeting of Society for Range Management 2000 Annual Meeting in Boise, ID

Outreach Service:

Shewmaker, G.E. 2010. Mob Grazing or Ultra High Density Stocking. In September 2010 Forage News, University of Kentucky.

Undersander, D.J., M. Hall, R. Leep, G. Shewmaker, D. Westerhaus, and L. Whitlow. 2009. Moldy hay. Pg 10 In: *Progressive Forage Grower* 6:10 November 16, 2009.

Shewmaker, G.E., O. Neher, M. Chahine, and B. Glaze. 2009. What to do with moldy hay. Fact sheet delivered by electronic mailing lists to Idaho Hay Association, Idaho Dairy Association, and some county mailing lists. http://www.idahohay.com/Moldy%20hay%20in%20Idaho.pdf

Undersander, D.J., M. Hall, R. Leep, G. Shewmaker, D. Westerhaus, and L. Whitlow. 2009. Moldy hay. Fact sheet delivered by electronic list serves nationally. http://www.idahohay.com/Moldy%20hay%20in%20Idaho.pdf

Undersander, D.J., M. Hall, R. Leep, G. Shewmaker, D. Westerhaus, and L. Whitlow. 2009. Moldy hay for horses. Fact sheet delivered by electronic list serves nationally. http://www.idahohay.com/Moldy%20hay%20in%20Idaho.pdf

Interview Articles:

O'Connell, J. 2012. Most alfalfa growers report good year. *Capital Press*, October 19, 2012:15.

Snyder, C. 2012. Hay crop short. *Times News*, September 16, 2012:AG3

Holin, F. 2012. These machines make dew. *Hay and Forage Grower*, March 2012 p. 14-14. Minneapolis, MN.

Tietz, N. 2012. Mysterious alfalfa menace. *Hay and Forage Grower*, March 2012 p. 14-14. Minneapolis, MN.

Anon. 2012. Forage outlook. Progressive Forage Grower, (2):30, 1 February 2012

Thomas, Heather. 2011. Windrowed forage cuts down on waste, saves money on feed. *Progressive Cattleman*, Jerome, ID.

Thomas, Heather. 2011. Extend fall and winter grazing. *Western Farmer-Stockman*, Farm Progress, Boone, IA.

Mooney, R. and F. Holin. 2011. Hay Supply Scramble Intensifies. *Hay & Forage Grower*, Minneapolis, MN.

Anon. 2011. Western Alfalfa: Low Yields, High Prices. *Hay & Forage Grower*, Minneapolis, MN.

Anon. 2011. Alfalfa Management Book Has New Edition, *Hay & Forage Grower*, Minneapolis, MN.

Anon. 2010. Grazing, Forage Meetings Scheduled For February. *Hay & Forage Grower*, Minneapolis, MN.

Holin, F. 2010. Mob grazing: A viable method? *Hay & Forage Grower*, Minneapolis, MN.

Kohn, F. 2010. Voles – And More Voles Invade Alfalfa: Rodent injures Idaho fields; will winter bring control? *Hay & Forage Grower*, Minneapolis, MN.

Anon. Northwest Pasture, Grazing Guide Available. 2010. *Hay & Forage Grower*, Minneapolis, MN.

Zenk, P. 2009. Smarter Forage-Harvesting Machines. *Hay & Forage Grower*, Minneapolis, MN.

Anon. 2009. Worrisome Weeds in Alfalfa: Prepare for these pesky competitors, experts say. *Hay & Forage Grower*, Minneapolis, MN.

Mooney, R. 2007. When Credit Is Due. *Hay & Forage Grower*, Minneapolis, MN.

Anon. 2006. Western States Lack Water but Not Dairies. *Hay & Forage Grower*, Minneapolis, MN.

Anon. 2005. New Publication Promotes Alfalfa for Horses. *Hay & Forage Grower*, Minneapolis, MN.

Dumas, C. 2000. Farmers rely on proper management for good hay crop. p. 15 In C. Dumas (ed.) *Ag Weekly*, Twin Falls, ID.

Workshops, Seminars, and Field Days Organized:

Idaho Hay and Forage Conference Program Chairman: 2000-2012

Organized and chaired Symposium: Canopy Management for Pasture Production and Forage Quality, American Forage and Grassland Council, 13 June 2011

Western Alfalfa and Forage Conference, December 11, 2009, Reno, NV, Program Co-chair with Dan Putnam, UC Davis, western region, 664 participants.

Cool Season Grass Initiative professional development training at Grand Rapids, MI, Springfield, MO, Columbus, OH, and French Lick, IN.

Organized and chaired "Effects of Diurnal Variation in Water-soluble Carbohydrates on Grazing and Animal Production Symposium" at 2008 International Annual Meeting of American Forage and Grassland Council/Society for Range Management, 31 January 2008, Louisville, KY.

Pacific Northwest Forage Workers Conf., 1) Kimberly, ID 1-2 October 2012; 2) Kimberly, ID 30 September 2008; 3) 27-29 October 2003, Nampa, ID

Western Alfalfa and Forage Conference: 11 December 2002, Reno, NV, Program Co-Chair with Dan Putman, UC Davis

Forage Field Day: 1) 20 August 2003, Kimberly R&E Center, ID; 2) 23 July 2001, Kimberly, ID

Community Service:

Appointed by Governors John Evans (1983-1988), Cecil Andrus (1989-1994), and Phil Batt (1995-2000) to Idaho Department of Parks and Recreation Board, policy setting board for the department and oversees a $30 million budget, Chairman 1996-2000.

PROFESSIONAL DEVELOPMENT:

Teaching:

University of Idaho Teaching Workshop, September 1999

Scholarship:

American Forage and Grassland Council Annual Conference: 9-10 Jan. 2012, Louisville, KY; 12-15 June 2011, French Lick, IN; 21-23 June 2010, Springfield, MO; 21-23 June 2009, Grand Rapids, MG; 10-14 March 2006, San Antonio, TX

American Society for Agronomy—Crop Science Society of America—Soil Science Society for America (ASA-CSSA-SSSA) Annual Meetings: 31 Oct. - 3 November 2010, Long Beach, CA; 4-8 November 2007, New Orleans, LA; 12-16 November 2006, Indianapolis, IN; 6-10 November 2005, Salt Lake City, UT; 2-6 November 2003, Denver, CO; 10-14 November 2002, Indianapolis, IN; 21-25 November 2001, Charlotte, NC; 2 November 1999, Salt Lake City, UT

Idaho Nutrient Management Conference, 9 March 2010, Shoshone, ID; 07 March 2006, Jerome, ID

Intermountain Range Livestock Symposium: 13-14 January 2012, Twin Falls, ID; 3-4 January 2007, Twin Falls, ID.

International Grassland & Rangeland Conference: 29 June – 5 July, 2008, Hohhot, Inner Mongolia, People's Republic of China; 26 June – 1 July, 2005, Dublin, Ireland; 2-8 April 2011, Rosario, Argentina

NIRS Feed and Feed Testing Consortium Annual Meeting, 15-17 February 2011, Omaha, NB; 18-19 February 2010, 18-19 February 2009, Madison, WI; San Antonio, TX; 13-14 February 2008, Indianapolis, IN

Pacific Northwest Forage Workers Conference: 1-2 October 2012, Kimberly, ID; 10-11 October 2011, Pasco, WA; 28-30 September 2010, Helena, MT; 29 September - 1 October 2009, Corvallis, OR; 30 September - 2 October 2008, Kimberly, ID; 18-20 September 2007, Salmon, ID; 19-21 September 2006, Logan, UT; 1-3 November 2005, Prosser, WA; 12-14 October 2004, Prineville, OR; 27-29 October 2003, Nampa, ID; 9-12 September 2002, Lethbridge, Alberta, Canada; 25-29 September 2000, Abbotsford and Vancouver Island, B.C., Canada; 22-25 September 1998, Logan, UT

Society for Range Management Annual International Meeting: 29 January – 2 February 2012, Spokane, WA; 7-10 February 2010, Denver, CO; 8-13 February 2009, Albuquerque, NM; 26-31January 2008, Louisville, KY; 10-16 February 2007, Reno, NV; 14-18 February 2004, Salt Lake City, UT (16 CEU's); 14-18 February 2002, Kansas City, MO; 19-21 February 2001, Kona, HA; 15-20 February 2000, Boise, ID; (American Forage and Grassland Council/Society for Range Management) 21-24 February 1999, Omaha, NB.

WERA 1014—Managed Irrigated Grazing Systems: 10-11 October 2011, Pasco, WA; 28-30 September 2010, Helena, MT; 28-30 September 2009, Corvallis, OR; 30 September - 2 October 2008, Kimberly, ID

WERA 1016--Adaption, Quality, and Management of Sustainable Cellulosic Biofuel Crops in the

West: 6-8 August 2012, Fargo, ND; 10-11 October 2011, Pasco, WA

Western Crop Science Soc. June 18-21, 2000, Moscow, ID; 28-29 June 1999, Powell, WY

Greenhouse Gases and Animal Agriculture Conference, 3-8 October 2010, Banff, Alberta, Canada

4th National Conference on Grazing Lands, Grazinglands Conservation Initiative, 13-16 December 2009, Sparks, NV

Cal/West Seeds Alfalfa Field Day, 23-24 July 2007, West Salem, WI

Idaho-Nevada-Utah Interagency Plant Materials Committee Meeting, 4-5 May 2006, Elko, NV

3-day training on Multiple Use Indicator Monitoring, 15-17 August 2006, Twin Falls, ID

Alternative Forages Workshop. University of Idaho Forage Team Workshop, 19 February 2003, Glenn's Ferry, ID

Dairy Forage Research Center Stakeholder Meeting (USDA-ARS): 6-7 January 2010, Madison, WI; 8-19 September 2000, Madison, WI

Scholarship in Outreach:

National Institute of Health Protecting Human Research Participants training certification: 30 Dec. 2010 #587743

University of Idaho Annual Extension Conference: 1999, 2000, 2001, 2003, 2004, 2005, 2007, 2008, 2009, 2010, 2012

The Supervisor's Guide to Employee Criticism and Feedback, training by Rockhurst Web Conference Series, 2009

Civil Rights Training, 24 April 2006