

CURRICULUM VITAE

University of Idaho

NAME: William J. Price

DATE: 7/31/2019

RANK OR TITLE: Director, Statistical Programs, Statistician

DEPARTMENT: Statistical Programs, College of Agricultural and Life Sciences

OFFICE LOCATION AND CAMPUS ZIP: Rm 307, AgSci 2337

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DATE OF FIRST EMPLOYMENT AT UI: 6/1990

DATE OF TENURE: (Year or untenured) NA

DATE OF PRESENT RANK OR TITLE: 7/2017

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D. Plant Science. University of Idaho, December 1999.

M.S. Experimental Statistics. New Mexico State University, May, 1990.

B.S. Plant Protection Entomology. Colorado State University, December 1981.

EXPERIENCE:

Academic Administrative Appointments:

Director of Statistical Programs, College of Agricultural and Life Sciences, University of Idaho. Duties include administration of the Statistical Programs unit and personnel as well as consultation and collaboration with scientists in regards to experimental design, statistical data analysis, and computer applications; Review of materials for College of Agricultural and Life Sciences personnel regarding research proposals, technical papers; maintaining an active independent and collaborative research program. July 2017 to present.

Affiliate Professor, Department of Statistics, University of Idaho. June 2016 to present.

Statistician for the Idaho Agricultural Experiment Station. Duties involved consultation and collaboration with scientists with respect to experimental design, statistical data analysis, and computer applications; maintaining an active independent and collaborative research program; review of materials for College of Agricultural and Life Sciences personnel regarding research proposals, technical papers, and theses; conducting seminars, workshops, and short courses. June 2000-July 2017.

Research associate for the Idaho Agricultural Experiment Station. Duties involved consultation and collaboration with scientists with respect to experimental design, statistical data analysis, and computer applications; maintaining an active independent and collaborative research program; review of materials for College of Agricultural and Life Sciences personnel regarding research proposals, technical papers, and theses; conducting seminars, workshops, and short courses. June 1990-June 2000.

Research Assistant, Agricultural Science Center, Farmington, New Mexico, New Mexico State University. Responsible for carrying out technical aspects of agricultural experimentation in pesticide, horticultural, and

agronomic research. 1982 to 1987.

Non-Academic Employment including Armed Forces:

Research Assistant Agricultural Research Center, Great Western Sugar Company, Longmont, Colorado.

TEACHING ACCOMPLISHMENTS:

Areas of Specialization: Statistical consultation, statistical computation, agricultural research

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

From 1991 to present, the Statistical Programs unit has provided annual workshops, both on campus and at selected Research and Extension Centers, covering specific statistical and data techniques using SAS software. The workshops are open to all faculty, staff and graduate students in the College of Agricultural and Life Sciences and range from 2 to 6 hours in length. Since 1994, I have assumed primary responsibility for topic selection, preparation, and delivery of these workshops. This has involved development of handout materials, documents, and real data examples, all of which are made accessible to participants through the Statistical Programs web site.

Previous topics have included:

- SAS Data Step
- Simple and Multiple Regression (PROC REG and PROC GLM)
- Analysis of Variance (PROC GLM)
- Mixed Linear Models (PROC MIXED)
- Nonlinear Regression (PROC NLIN and PROC NLMIXED)
- Categorical Models (PROC CATMOD)
- Generalized Linear Mixed Models (PROC GENMOD and PROC GLIMMIX)
- Multivariate procedures (PROC PRINCOMP, PROC DISCRIM, PROC CLUSTER, and PROC CANCORR)
- Graphics (SAS Graph, PROC GPLOT, PROC G3D)
- Power and Sample Size Analyses (PROC POWER, PROC GLMPOWER, PROC GLIMMIX).

SCHOLARSHIP ACCOMPLISHMENTS:

Publications, Exhibitions, Performances, Recitals:

Peer Reviewed/Evaluated:

Boothman, S., M.K. McGuire, K. Lackey, C. Meehan, M.A. McGuire, J. Williams, W. J. Price, and the INSPIRE Consortium. 2018. Maternal diet and the human milk microbiome. *Breastfeeding Medicine 13(Suppl. 7):A-51-A-52.*

Lackey, K.L., M.K. McGuire, C. Meehan, M.A. McGuire, J. Williams, W. J. Price, and the INSPIRE Consortium. 2018. What's normal? Human milk and infant fecal microbiomes vary geographically and are related to each other. *Breastfeeding Medicine 13(Suppl. 7):A-21-A22.*

Liang, X., M. Rashidi, C.W. Rogers, Marshall, J. M., Price W. J. & A. Rashed. 2018. Winter wheat (*Triticum aestivum* L.) response to Barley yellow dwarf virus at different nitrogen application rates and in the presence and absence of its aphid vector, *Rhopalosiphum padi* L. (Hemiptera: Aphididae). *Entomologia Experimentalis et Applicata, in press.*

Meehan, C.L., M.K. McGuire, A. Lane, K. Lackey, A. Kaul, M.A. McGuire, J. Williams, W. J. Price, D. Gindola, and the INSPIRE Consortium. 2018. Environmental, social, and behavioral characteristics and the human milk microbiome. *Breastfeeding Medicine 13(Suppl. 7):A-10.*

Olsen, Nora L., T. Brandt, W.J. Price. 2018. The Impact of Retail Light Source on Greening of Russet Burbank Potato Tubers. *American Journal of Potato Research*, **95: 2**, Pg 123.

Price, W. J., Wenninger E. J., Shafii, B. 2018. Modeling Potato Psyllid Occurrence Using Sticky Trap Data for the Management of Zebra Chip Disease". *Proceedings of 2017 Conference on Applied Statistics in Agriculture*, W. Song (Ed). Kansas State University, Manhattan, Kansas.

Spencer J.A., K. Carnahan, B. Shafii, W.J. Price, J. Dalton, A. Ahmadzadeh. 2018. Pregnancy outcomes are not improved by administering gonadotropin-releasing hormone at initiation of a 5-day CIDR-Cosynch resynchronization protocol for lactating dairy cows, *Journal of Dairy Science*, **101:9**.

Williams JE, Carrothers JM, Lackey KA, Beatty NF, Brooker SL, Peterson HK, Steinkamp KM, York MA, Shafii B, Price WJ, McGuire MA, McGuire MK. Strong multivariate relationships exist among milk, oral, and fecal microbiomes in mother-infant dyads during the first six months postpartum. *J Nutr (accepted)*.

Zoca S. M, B. Shafii, W. J. Price, M. D. U., B. Harstine, K. McDonald, M. DeJarnette, J. C. Dalton. 2018. Use of principal component analysis to evaluate variability in CASA and flow cytometer sperm characteristics. *Animal Reproduction Science*, **194**, pgs e20-e21.

Autran CA , Price WJ, Dalton JC, and Ahmadzadeh A. 2017. Effect of Prostaglandin F_{2α} on Growth of Streptococcus uberis associated with Bovine Mastitis Dairy and Vet Sci J 3(4): JDVS.MS.ID.555619

Shafii B, Price WJ, Holderman C, Minshall GW, Anders PJ. 2017. Characterizing the Kootenai River Macroinvertebrate Community Structure Using Nonnegative Matrix Factorization. *International Journal of Applied & Experimental Mathematics* **2: 120**. doi: <https://doi.org/10.15344/2456-8155/2017/120>

Lackey K.A, Williams J.E, Price W.J, Carrothers J.M, Brooker S.L, Shafii B, McGuire M.A, McGuire M.K. 2017. Comparison of commercially-available preservatives for maintaining the integrity of bacterial DNA in human milk. *Journal Microbiol Methods*.**141:73-81**. doi: [10.1016/j.mimet.2017.08.002](https://doi.org/10.1016/j.mimet.2017.08.002).

Williams J.E, Price W.J, Shafii B, Yahvah K.M, Bode L, McGuire M.A, McGuire M.K. 2017. Relationships Among Microbial Communities, Maternal Cells, Oligosaccharides, and Macronutrients in Human Milk. *Journal of Human Lactation*, **Vol 33, Issue 3**, pp. 540 – 551.

McGuire, Michelle, Meehan, Courtney L, McGuire, Mark A, Williams, Janet E, Foster, James, Sellen, Daniel W, Kamau-Mbuthia, Eli, Kamundia, Egidioh, Mbugua, Samwel, Moore, Sophie E, Prentice, Andrew M, Kvist, Linda J, Otoo, Gloria E, Brooker, Sarah L, Price, William J, Shafii, Bahman, Placek, Caitlyn, Lackey, Kimberly A, Robertson, Bianca, Manzano, Susana, Ruíz, Lorena, Rodríguez, Juan M, Pareja, Rossina G, Bode, Lars. 2017. What's normal? Oligosaccharide concentrations and profiles in milk produced by healthy women vary geographically. *The American Journal of Clinical Nutrition*. **105(5):1086-1100**. doi:[10.3945/ajcn.116.139980](https://doi.org/10.3945/ajcn.116.139980).

Chilson, Jeffery M., P. Rezamand, M. E. Drownoski, W. J. Price, C. W. Hunt. 2016. Effect of homofermentative lactic acid bacteria and exogenous hydrolytic enzymes on the ensiling characteristics and rumen degradability of alfalfa and corn silages. *The Professional Animal Scientist*. **32:5, October 2016**, 598–604

Hristov, A. N., J. Ohl, F. Giallongo, T. Frederick, M. T. Harper, H. Weeks, A. F. Branco, W. J. Price, P. J. Moate, M. H. Deighton, S. R. O. Williams, M. Kindermann, and S. Duval. Short communication: Comparison of the GreenFeed system with the sulfur hexafluoride tracer technique for measuring enteric methane emissions from dairy cows. *Journal of dairy science*. **99(7)**, 5461–5465.

Kesoju Sandya R., B. Shafii, T.S, Prather, L. W. Lass, and W. J. Price. 2015. Effect of infestation size on rush skeletonweed (*Chondrilla juncea* L.) dispersal distance. *International*

Journal of Plant Biology and Research 3(4): 1048.

Love, Stephen. L., Hutchinson, P. J., & Price, W. J. 2016. Managing weeds during wildflower meadow establishment in the arid Intermountain West: efficacy of a grass-first strategy for sites with heavy annual weed pressure. *Native Plants Journal*, 17(3), 216-229.

Mahler, Robert L., Wilson, S., B. Shafii, and W. J. Price. 2015. Long-term trends of nitrogen and phosphorus use and soil pH change in northern Idaho and eastern Washington. *Communications in Soil Science and Plant Analysis* 47 (4): 414-424

McGuire, Michelle K, M. A. McGuire, B. Shafii, W. J. Price, J. M. Carrothers, K. A. Lackey, D. A. Goldstein, P. K. Jensen, and J. L. Vicini. 2016. Glyphosate and aminomethylphosphonic acid are not detectable in human milk. *American Journal of Clinical Nutrition* 103:1285–90.

Ramsay, Samantha. A., Rudley, M., Tonnemaker, L. E., & Price, W. J. 2016. A Comparison of College Students' Reported Fruit and Vegetable Liking and Intake from Childhood to Adulthood. *Journal of the American College of Nutrition*, 1-10.

Shafii, Bahman and W. J. Price. 2016. Application of Bayesian Methods for Assessing Detection Accuracy in Remote Sensing. *International Journal of Applied & Experimental Mathematics 1: 106 DOI: 10.15344/ijaem/2016/106.*

Shafii, Bahman and W.J. Price. 2016. Probability distributions for the mean and variance using maximum entropy and Bayesian analysis. *International Journal of Applied & Experimental Mathematics. 1:103, DOI: 10.15344/ijaem/2016/103.*

Carrothers, Janae M., M. A. York, S. L. Brooker, K. A. Lackey, J. E. Williams, B. Shafii, W. J. Price, M. L. Settles, M. A. McGuire, and M. K. McGuire. 2015. Fecal microbial community structure is stable over time and related to variation in macronutrient and micronutrient intakes in lactating women. *The Journal of Nutrition* 145(10): 2379-2388.

Kesoju, Sandya R., B. Shafii, L.W. Lass, W.J. Price, and T.S. Prather. 2015. Predicting rush skeletonweed (*Chondrilla juncea*) dispersal by wind within the canyon grasslands of central Idaho. *International Journal of Plant Biology and Research* 3(1): 1026.

M. McGee, C.M. Welch, J.A. Ramirez, G.E. Carstens, W.J. Price, J.B. Hall. 2014. Relationships of feeding behaviors with average daily gain, dry matter intake, and residual feed intake in Red Angus–sired cattle. *Journal of Animal Science* 92(11), 5214-5221.

M. McGee, J.A. Ramirez, G.E. Carstens, W.J. Price, J.B. Hall, R.A. Hill. 2014. Relationships of feeding behaviors with efficiency in RFI-divergent Japanese Black cattle. *Journal of Animal Science* 92(8), 3580-3590.

Minshall, G.W., B. Shafii, C. Holderman, B. Price P. Anders, G. Lester, and P. Barrett. 2014. Effects of nutrient replacement on benthic macroinvertebrates in an ultra-oligotrophic reach of the Kootenai River, 2003-2010. *Freshwater Science* 33:1009-1023.

Shafii, Bahman, W.J. Price, T.S. Prather, and L.W. Lass. 2014. Modeling dispersal of yellow starthistle in the canyon grasslands of northern Idaho. *International Journal of Plant Biology and Research*. 2(2):1011.

Watts, Jason S. , Rezamand, Pedram , Sevier, Dallace L , Price, William J., McGuire, Mark A. 2013. Short-term effects of dietary trans fatty acids compared with saturated fatty acids on selected measures of inflammation, fatty acid profiles, and production in early lactating Holstein dairy cows. *Journal of Dairy Science*, 96(11), pp. 6932-43.

Welch, C. M. , Thornton, K. J. , Murdoch, G. K. , Chapalamadugu, K. C. , Schneider, C. S. , Ahola, J. K. , Hall, J. B. , Price, W. J. , Hill, R. A. 2013. An examination of the association of serum IGF-I concentration, potential candidate genes, and fiber type composition with variation in residual feed intake

in progeny of Red Angus sires divergent for maintenance energy EPD. *Journal of Animal Science*, 91(12), pp. 5626-36.

Hinz, Harriet L., M. Schwarzländer, J. L. McKenney, M. G. Cripps, B. Harmon, W. J. Price. 2012. Biogeographical comparison of the invasive *Lepidium draba* in its native, expanded and introduced ranges. *Biological Invasions*, 14(10): 1999-2016.

Peterson, Sarah E., P. Rezamand, J. E. Williams, W. J. Price, M. Chahine, M. A. McGuire. 2012. Effects of dietary betaine on milk yield and milk composition of mid-lactation Holstein dairy cows. *Journal of Dairy Science* 95(11): 6557-62.

Price, William J., B. Shafii and S. S. Seefeldt. 2012. Estimation of dose-response models for discrete and continuous data in weed science. *Weed Technology* 26(3): 587-601.

Rood, Jonquil, J. Campbell, D.C. Thill, D. Ball, L. Bennett, J. Yenish, J. Nelson, R. Rood, B. Shafii and W. J. Price. 2012. Tillage Affects Imazamox Carryover in Yellow Mustard. *Weed Technology* 26(2): 308-315.

Puliafico, K P., Mark Schwarzländer, William J. Price, Bradley L. Harmon, and Harriet L. Hinz. 2011. Native and Exotic Grass Competition with Invasive Hoary Cress (*Cardaria draba*). *Invasive Plant Science and Management* 4(1), pp 38-49. Kansas, pp. 152-165.

Hristov, A. N., D. Mertens, S. Zaman, M. Vander Pol, and W. J. Price. 2010. Variability in feed and total mixed ration neutral detergent fiber and crude protein analyses among commercial laboratories. *J. Dairy Science*, 93: 5348-5362.

Rauch, T. A., D. C. Thill, S. A. Gersdorf, W. J. Price. 2010. Widespread occurrence of herbicide-resistant Italian ryegrass (*lolium multiflorum*) in northern Idaho and eastern Washington. *Weed Technology*. 24(3): 281-288.

Barney, D.L., Lopez, O.A., Shafii, B. and Price, W.J. (2009). Effects of stratification and cold storage on seed germination characteristics of dwarf huckleberry. *Acta Horti*. 810, 591-598.

J. M. Tarara, P. E. Blom, B. Shafii, W. J. Price, and M. A. Olmstead. 2009. Modeling Seasonal Dynamics of Canopy and Fruit Growth in Grapevine for Application in Trellis Tension Monitoring. *Hortscience* 44(2):334-340.

Shafii, B., Price, W.J., Barney, D.L. and Lopez, O.A. 2009. Effects of stratification and cold storage on the seed germination characteristics of cascade huckleberry and oval-leaved bilberry. *Acta Horticulturae* 2009 pp. 599-608.

Lopez OA, Barney DL, Shafii B, Price W. J. 2008. Modeling the effects of temperature and gibberellic acid concentration on red huckleberry seed germination. *HortScience* 43(1):223-228.

Michael G. Cripps, H. L. Hinz, J. L. McKenney, W. J. Price, M. Schwarzlander. 2008. No evidence for an 'evolution of increased competitive ability' for the invasive *Lepidium draba*. *Basic and Applied Ecology*, 10(2): 103-112.

Hutchinson, P.J.S., Morishita, D.W., Price, W.J. 2007. Season-long Dose-response of Potato to Sulfometuron. *Weed Science*, 55(5): 521-527.

McKenney, J. L., M. G. Cripps, W. J. Price, H. L. Hinz, and M. Schwartzlander. 2007. No difference in competitive ability between invasive North American and native European *Lepidium draba* populations. *Plant Ecology*, 193: 293-303.

Cripps, M. G., M. Schwarzlander, J. L. McKenney, H. L. Hinz, and W. J. Price. 2006. Biogeographical comparison of the arthropod herbivore communities associated with *Lepidium draba* in its native, expanded and introduced ranges. *Journal of Biogeography*. 33: 2107-2119.

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- Foley, A. E., A. N. Hristov, A. Melgar, J. K. Ropp, R. P. Etter, S. Zaman, C. W. Hunt, K. Huber, W. J. Price. 2006. Effect of barley and its amylopectin content on ruminal fermentation and nitrogen utilization in lactating dairy cows. *Journal of Dairy Science*. 89: 4321-4335.
- M. Rehman, J. L. Hansen, J. Brown, W. J. Price, R. S. Zemetra, C. A. Mallory-Smith. 2006. Effect of wheat genotype on the phenotype of wheat:jointed goatgrass (*Aegilops cylindrica*) hybrids. *Weed Science*. 54:4, 690-694.
- Porter, L. D., J. S. Miller, P. Nolte, and W. J. Price. 2006. In vitro somatic growth and reproduction of phenylamide-resistant and -sensitive isolates of *Phytophthora erythroseptica* from infected potato tubers in Idaho. *Plant Pathology*. 56: 492-499.
- Quinn, M. P., D. W. Morishita, and W. J. Price. 2006. Determining physiological maturation of jointed goatgrass (*aegilops cylindrica* Host) caryopses. *Weed Technology*, 20:921-933.
- Dalton, Joseph C., R. Manzo, A. Ahmadzadeh, B. Shafii, W. J. Price, and J. M. DeJarnette. 2005. Short Communication: Conception rates following estrous detection and timed AI in dairy cows synchronized using GnRH and PGF2. *Journal of Dairy Science* 88:4313-4316.
- Hanson, B. D., C. A. Mallory-Smith, W. J. Price, B. Shafii, D.C. Thill, and R. S. Zemetra. 2005. Interspecific Hybridization: Potential for movement of herbicide resistance from wheat (*Triticum aestivum*) to jointed goat grass (*Aegilops cylindrica*). *Weed Technology*. 19: 25-33.
- Hristov, A. N., W. J. Price, and B. Shafii. 2005. A Meta-Analysis on the Relationship Between Intake of Nutrients and Body Weight with Milk Volume and Milk Protein Yield in Dairy Cows. *Journal of Dairy Science*. 88:2860-2869.
- Dalton, J. C., A. Ahmadzadeh, B. Shafii, W. J. Price, and J. M. DeJarnette. 2004. Effect of simultaneous thawing multiple 0.5-ml straws of semen and sequence of insemination on conception rate in dairy cattle. *Journal of Dairy Science*. 87: 972-975.
- Hristov, A.N., W. J. Price, and B. Shafii. 2004. A meta-analysis examining the relationship among dietary factors, dry matter intake, and milk and milk protein yield in dairy cows. *Journal of Dairy Science*. 87:2184-2196.
- Love, S.L., T. Salaiz, B. Shafii, W. J. Price, A. R. Mosley, and R. E. Thornton. 2004. Ascorbic acid content and stability in North American potato germplasm. *Journal of Horticultural Sciences*. 39(1):156-160.
- Shafii, B., J. W. Price, T. S. Prather, L. W. Lass, and D. C. Thill. 2004. Using landscape characteristics as prior information for Bayesian classification of yellow starthistle. *Weed Science*. 52:948-953.
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- Shafii, B., W. J. Price, T. S. Prather, L. W. Lass, and D. C. Thill. 2003. Predicting the likelihood of yellow starthistle occurrence using landscape characteristics. *Weed Science*. 51: 748-751.
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Barney, D. L., B. Shafii, and W. J. Price. 2001. Cold Stratification delays germination in black huckleberry. *Journal of Horticultural Sciences*. 36(4):813.

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Shafii, B. and W. J. Price. 2001. Estimation of cardinal temperatures in germination data analysis. *Journal of Agricultural, Biological and Environmental Statistics*. 6(3):356-366.

Lass, L. W., B. Shafii, W. J. Price, and D. C. Thill. 2000. Assessing agreement in multispectral images of yellow starthistle (*Centaurea solstitialis*) with ground truth data using the Bayesian methodology. *Weed Technology*. 14:539-544.

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Shafii, B., K. A. Mahler, W. J. Price, and D. A. Auld. 1992. Genotype x environment interaction effects on winter rapeseed yield and oil content. *Crop Science* 32:922-927.

Refereed/Adjudicated:

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Price, WJ. and Shafii, B, 2017, "Alternative Estimation Techniques for Correlated Discrete Data," Conference on Applied Statistics in Agriculture.
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Brooker SL, Yahvah KM, Casperson BA, Williams JE, Shafii B, Price WJ, Tinker J, McGuire MA. 2017. The bovine milk microbiome and somatic cell count. Poster presented at the 2017 ADSA ASAS Joint Annual Meetings, June 25-28, Pittsburgh, Pennsylvania.

Lee S, Baniasadidehkordi M, Joyner H, Ross C, Price WJ, Ramsay S. 2017. Effects of Repeated Texture Exposure on Young Children's Intake and Liking of Yogurts.

Poster presented at the 2017 Experimental Biology Annual Meeting, April 22-26, Chicago, IL. Merickel, John W., B. Shafii, S.D. Eigenbrode, C. J. Williams, and W.J. Price. 2015. Modeling the occurrence of four cereal crop aphid species in Idaho. *Applied Statistics in Agriculture*, P.E. Reyes (Ed). Kansas State

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Lass, L. W., T. S Prather, B. Shafii, W. J. Price. 2007. Using spatial network techniques to model movement of yellow starthistle in canyon grasslands. Abstract: *Proceedings of the Western Society of Weed Science*, 60:40.

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Tian, Fei, T. S. Prather, B. Shafii, W. J. Price, and L. W. Lass. 2005. Modeling yellow starthistle dispersal in canyon grasslands of Idaho. Abstract. *Weed Science Society of America*, 45: 120.

Johnson-Maynard, J. L., K. J. Umiker, W. J. Price, B. Shafii, P. McDaniel. 2004. Surface and subsurface controls on carbon and nitrogen stocks. Abstract, [CDROM], *ASA/CSSA/SSSA*.

Morishita, D. W., B. Shafii, R. W. Downard, and W. J. Price. 1994. Area of influence of three broadleaf weeds in sugarbeets. Abstract, *Weed Science Society of America* 34:10.

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- Lopez, Omar A., D. L. Barney, B. Shafii, and W. J. Price. 2005. Modeling the effects of cold stratification on Cascade huckleberry (*Vaccinium deliciosum* Piper) seed germination. Paper presented at Annual Meeting for Northwest Center for Small Fruit Research, December 1, Portland, OR.
- Mahler, R. L., B. Shafii, W. J. Price and K. A. Loeffelman. 2005. Using Survey Data Warehoused on the Water Needs Assessment Website. Talk presented at the National Water Quality Conference, February 6-10, 2005, San Diego, CA.
- Price, W. J. and B. Shafii. 2005. Bayesian Analysis of Dose-response Calibration Curves. Paper presented at the Seventeenth Conference on Applied Statistics in Agriculture, April 25-27, 2005. Manhattan KS.
- Price, W. J., B. Shafii, and S. Seefeldt. 2005. Estimation of Dose-response Functions. Invited symposium presented at the 58th Annual Meetings of the Western Society of Weed Science, March 8-10, 2005, Vancouver, British Columbia, Canada.

- Quinn, M. P., D. W. Morishita and W. J. Price. 2005. Determining physiological maturation of jointed goatgrass (*Aegilops cylindrica*) caryopses. Presented at the 45th Annual Meeting of the Weed Science Society of America, February 7 - 10, 2005, Honolulu, HI.
- Shafii, B. and W. J. Price. 2005. Estimation, Diagnosis, and Comparative Procedures in Nonlinear Regression Models. Special Topics talk given at the Forty Fourth Annual Meeting of the Society of Nematologists, July 9-13, 2005, Fort Lauderdale, FL.
- Tian, F., T. S. Prather, B. Shafii, W. J. Price, and L. W. Lass. 2005. Modeling yellow starthistle dispersal in canyon grasslands of Idaho. Presented at the 45th Annual Meeting of the Weed Science Society of America, February 7 - 10, 2005, Honolulu, HI.
- Frago, F., A. Ahmadzadeh, B. Shafii, J. C. Dalton, M. A. McGuire, and W. J. Price. 2004. Effect of clinical mastitis on days in milk at first service, services per conception, days open, in Holstein cattle. Paper presented at the 2004 ADSA/ASAS Joint Meetings, July 25-29, 2004, St. Louis, MO.
- Johnson-Maynard, J. L., P. McDaniel, K. Umiker, W. J. Price, and B. Shafii. Surface and subsurface controls on carbon and nitrogen stocks. Poster presented at the ASA/CSSA/SSSA Annual Meetings, October 31 – November 4, 2004.
- Price, W. J., B. Shafii, and K. B. Newman. 2004. Bayesian Analysis of Dose-response Calibration Curves. Paper presented as part of Applied Statistics Seminar Series, College of Agriculture, University of Idaho. March 9, Moscow, ID.
- Quinn, M. P., D. W. Morishita, W. J. Price, and M. J. Willie. Interaction of seeding rate and herbicide rate on weed control in spring wheat. Poster presented at the 56th Meeting of the Western Society of Weed Science, March 10-13, Kauai, HI.
- Shafii, B., W. J. Price, and K. B. Newman. 2004. Bayesian analysis of dose-response calibration curves. Paper presented at the Joint Statistical Meetings of the American Statistical Association, August 8-12, 2004, Toronto, Ontario, CA.
- Tian, F., B. Shafii, C. J. Williams, T. S. Prather, W. J. Price, and L. W. Lass. Prediction of yellow starthistle survival and movement over time and space. Paper presented at the Sixteenth Conference on Applied Statistics in Agriculture, April 25-27, 2004. Manhattan KS.
- Tian, F., B. Shafii, T. S. Prather, W. J. Price, C. Williams, and L. W. Lass. Dispersal of Yellow Starthistle can be Predicted from Community Susceptibility. Paper presented at the 57th Meeting of the Western Society of Weed Science, March 9-11, Colorado Springs, CO.
- Brixey, J. D., M. A. McGuire, and W. J. Price. Validation of a prediction equation for energy balance in Holstien cow and heifers. Poster presented at the 2003 ADSA, ASAS Joint National Meeting, June 22-26, Phoenix, AZ.
- Higley, J. S., S. L. Love, W. J. Price, J. E. Nelson, and K. C. Huber. The Rapid Visco Analyzer (RVA) as a tool for differentiating potato cultivars on the basis of flour pasting profiles. Poster presented at 2003 Meetings of the Potato Association of America, August 9-11, Spokane, WA.
- Hristov, A. N., J. K. Ropp, K. L. Grandeen, R. P. Etter, A. Foley, A. Melgar, and W. J. Price. Paper presented at the 2003 European Association of Animal Production Symposium on Energy and Protein Metabolism and Nutrition, September 13-18, Rostock, Germany.
- Prather, T. S., B. Shafii, L. W. Lass, W. J. Price, B. Bingham, and L. Eubank. Which plant communities are susceptible to invasion by *Centaurea solstitialis*? Poster presented at the 7th International Conference on the Ecology and Management of Alien Plant Invasions, November 3-7, Ft. Lauderdale, FL.

Price, W. J., B. Shafii, K. B. Newman, S. Early, J. P. McCaffrey, and M. J. Morra. 2003. Comparing Estimation Procedures for Dose-response Functions. Paper presented at the Fifteenth Conference on Applied Statistics in Agriculture, April 27-29, 2003. Manhattan KS.

Shafii, B., W. J. Price, T. S. Prather, L. W. Lass, and D. C. Thill. 2002. Predicting the likelihood of yellow starthistle occurrence using a nonlinear regression model. Paper presented at the 55th Meeting of the Western Society of Weed Science, March 12-14, Salt Lake City, UT.

Dalton, J. C., A. Ahmadzadeh, B. Shafii, W. J. Price, and J. M. DeJarnette. Effect of elapsed time between initial thawing of multiple 0.5-mL semen straws and AI on conception rates in dairy cattle. Paper presented at the 2002 ADSA/ASAS/CSAS Joint Meetings, July 21-25, 2002, Quebec, Canada.

Hristov, A. N., W. J. Price, and B. Shafii. Dietary factors influencing milk yield and milk protein yield in dairy cows. Invited Paper presented at the Pacific Northwest Animal Nutrition Conference, Oct., 2002, Portland, OR.

Price, H. J., W. J. Price, and B. Shafii. 2002. Non-parametric Distributions for Quantile, Average, and Combined Average-Standard Deviation, Using Bayesian Analysis and Maximum Entropy. Paper presented at the Joint Statistical Meetings of the American Statistical Association, August 11-15, 2002, NY, NY.

Price, W. J. 2002. Using landscape characteristics as prior information for Bayesian classification of remotely sensed imagery. Paper presented as part of Applied Statistics Seminar Series, College of Agriculture, University of Idaho. March 5, Moscow, ID.

Price, W. J. 2002. Comparing Estimation Procedures for Dose-response Functions. Paper presented as part of Applied Statistics Seminar Series, College of Agriculture, University of Idaho. November 10, Moscow, ID.

Price, W. J. 2002. Determining Prior Distributions for Discrete Data using Maximum Entropy. Invited lecture presented to Bayesian Statistics Class, STAT 404, December 2, 2002, University of Idaho, Moscow, ID.

Price, W. J., B. Shafii, L. W. Lass, and T. S. Prather. 2002. Using Landscape Characteristic as prior Information for Bayesian Classification of remotely Sensed Imagery. Paper presented at the Fourteenth Conference on Applied Statistics in Agriculture, April 28-30, 2002. Manhattan KS.

Price, W. J., H. J. Price, and B. Shafii. 2002. Using Bayesian Analysis and Maximum Entropy to Develop Non-parametric Probability Distributions for the Mean and Variance. Paper presented at the Twenty Second International Workshop on Bayesian Analysis and Maximum Entropy Methods in Science and Engineering, August 3-7, 2002, University of Idaho, Moscow, ID.

Shafii, B., and W. J. Price. A Bayesian solution for assessing detection accuracy in remote sensing. Paper presented at the 2002 Hawaii International Conference on Statistics, July, 2002, Honolulu, HI.

Hristov, A. N., W. J. Price, and B. Shafii. 2001. An overview of dietary factors influencing dry matter intake and milk protein yield in early lactation dairy cows. Paper presented at the International Animal, Agriculture and Food Sciences Conference. July 24-28, Indianapolis, IN.

Lass, L. W., B. Shafii, W. J. Price, T. S. Prather, and D. C. Thill. 2001. Predicting the occurrence of yellow starthistle using an empirically derived nonlinear regression model. Paper presented at the National Meetings of the Weed Science Society of America. February 12-14, Greensboro, NC.

Shafii, B. and W. J. Price. 2001. Comparing binomial, bootstrap and Bayesian estimation methods in assessing the agreement between classified images and ground truth data. Paper presented at the Thirteenth Conference on Applied Statistics in Agriculture. April 29- May 1, Kansas State University, Manhattan, KS.

Price, W. J., and B. Shafii. 2000. Development of wild oat seed dispersal distribution using an individual-plant growth simulation model. Paper presented at the Twelfth Conference on Applied Statistics in Agriculture. April 30 - May 2, Kansas State University, Manhattan, KS.

Price, W. J., D. C. Thill, and B. Shafii. 2000. Investigating wild oat seed dissemination using an individual-plant growth model. Poster presented at the Annual Meeting of Western Society of Weed Science. March 14-16, Tucson, AZ.

Shafii, B. and W. J. Price. 2000. A comparison of three estimation methods for assessing the agreement of classified images with ground truth. Paper presented at the Joint Statistical Meetings of the American Statistical Association. August 13-17, Indianapolis, IN.

Lass, L. W., D. C. Thill, B. Shafii, and W. J. Price. 1999. Protected spatial data exchange from multiple data sources using the World Wide Web. Paper presented at the National Meeting of the Weed Science Society of America. February 7-11, San Diego, CA.

Lass, L. W., B. Shafii, W. J. Price, and D. C. Thill. 1998. Using Bayesian statistics to enhance understanding of spatial resolution and timing when detecting yellow starthistle. Paper presented at the National Meeting of the Weed Science Society of America. February 8-12, Chicago, IL.

Price, W. J., and B. Shafii. 1997. Alternative procedures for estimation of nonlinear regression parameters. Paper presented at the Ninth Annual Conference on Applied Statistics in Agriculture. April 27-29. Kansas State University, Manhattan, KS.

Price, W. J., and B. Shafii. 1996. The use of SAS/AF FRAME application in the analysis of two-way classification data. Paper presented at the sixth annual meeting of the Snake River Chapter of the American Statistical Association. June 23. Washington State University, Pullman, WA.

Price, W.J., B. Shafii, and D. C. Thill. 1996. Quantifying competition between spring barley and wild oat with an individual-plant growth simulation model. Paper presented at the 49th Annual Meeting of the Western Society of Weed Science. March 13, Albuquerque, NM.

Price, W. J., and B. Shafii. 1995. Using SAS/AF FRAME application for estimation and diagnostics of nonlinear regression models. Paper presented at the annual meeting of Pacific Northwest SAS Users Group. June 30, Portland, OR.

McGeehan, S. L., B. Shafii, D. V. Naylor, and W. J. Price. 1993. Statistical evaluation of phosphorus breakthrough data. Paper presented at the Annual Meeting of the Soil Science Society of America, November 8-12. Cincinnati, OH.

Shafii, B, and W. J. Price. 1993. Use of PROC GLM, PROC IML, and PROC MIXED for spatial statistical analyses. Paper presented at the fall meeting of the Inland Empire SAS Users Group, October 29. University of Idaho, Moscow, ID.

Shafii, B., and W. J. Price. 1992. Biplot analysis of two-way classification data using SAS IML/GRAPH. Paper presented at the fall meeting of the Inland Empire SAS Users Group, October 22. University of Idaho, Moscow, ID.

OUTREACH SERVICE:

Annual visits to Research and Extension Centers in Southern Idaho for the primary purpose of statistical consulting with off-campus faculty and research personnel, presenting statistical seminars, distributing technical handouts, and occasional SAS workshops.