

Curriculum Vitae, One-Page Summary

Revised February 2020

Jim Heitholt, Ph.D.

Employment

University of Wyoming (2018-present): Crop Physiologist, Professor, and Director, Powell Research and Extension Center. Duties include center administration and stakeholder outreach.

University of Wyoming (2014 – 2018): Crop Physiologist, Professor, and Department Head, Department of Plant Sciences, College of Agriculture and Natural Resources, University of Wyoming, Laramie. Duties include station administration and stakeholder outreach.

Texas A&M Commerce (2008 – 2014): Crop Physiologist, Professor and Head, Department of Agricultural Sciences. I coordinated the teaching, service, and research activities of faculty and staff and the University Farm. Academic programs within the department included Agribusiness, Agricultural Education, Agricultural Sciences, Animal Science, and Horticulture. My research was to identify genotypes of soybean that were tolerant to drought and biotic pests.

Texas AgriLife Research Employment (1999 - 2008): Crop Physiologist. My work was to identify soybean, wheat, and turfgrass genotypes for stress tolerance. I also developed soybean germplasm for drought and stink bug tolerance tests in north Texas and beyond. My responsibilities included a one-course-per-year teaching assignment at TAMU-Commerce.

Pre-Texas Employment (1978 - 1999): I worked as a yield physiologist with soybean, wheat, and cotton at three Midwestern USA universities and two USDA-ARS facilities. Research objectives were to identify whole plant traits associated with yield. Results were published in scientific journals (e.g., *Crop Science*) and presented at scientific meetings.

Education: Ph.D.: Crop Science, University of Kentucky, 1984

Administrative Philosophy – Effective communication, foster an environment for a positive workplace, encourage solid science, prioritize unit before all other matters, commitment to diversity, open door policy.

Publications – 32 senior-authored refereed papers, co-author on 30 other refereed papers

Courses Taught Multiple Times

Agricultural and Biological Instrumentation

Botany

Design and Analysis of Biological Experiments

Crop Physiology

Introduction to Plant Science

Service Coordinator for Texas Soybean Workers Group, 2000 - 2008
Assoc. Ed. - Crop Science (6 yr), J. Cotton Sci. (2 yr), Crop Management (2 yr)
Div. Chair, Crop Physiol. and Metabolism, Crop Sci. Soc. Amer. 2010

Grants Senior author and lead investigator of 56 submitted proposals (33 funded)

Curriculum Vitae (full version)

Jim Heitholt, Ph.D.

Current Position: Crop Physiologist and Director, Powell Research and Experiment Station, Powell, WY 82435-9135, University of Wyoming;
Direct Line: 307-271-0083; PREC Office: 307-754-2223;
Jim.Heitholt@uwyo.edu

Education

1980 - 1984 University of Kentucky, Ph.D. Crop Science, 1984
1978 - 1980 University of Missouri, M.S. Agronomy, 1980
1974 - 1978 Western Illinois University, B.S. Agronomy, 1978

Administrative Experience

2018 – present, Director, Powell Research and Experiment Station, Univ. Wyoming
2014 – 2018, Dept. Head, Department of Plant Sciences, University of Wyoming
2008 – 2014, Dept. Head, Dept. Agric. Sci., Texas A&M University – Commerce
Also served as interim head, Dept. Biol. Environ. Sci. (July 2012 to August 2013)

Research Experience

2014 – present, Professor and Crop Physiologist, Univ. of Wyoming
2008 – 2014, Professor and Crop Physiologist, Texas A&M-Commerce and Texas A&M AgriLife Research
2006 - 2008, Professor and Crop Physiologist, Texas AgriLife Research, Dallas with 10% Teaching Appointment, TAMU-Commerce, Agric. Sci. Dept.
1999 - 2005, Associate Professor and Soybean Agronomist, Texas Agricultural Experiment Station, Dallas, TX, with 10% teaching appointment, TAMU-C
1988 - 1999, Plant Physiologist, Crop Genetics and Production Research Unit, USDA-ARS, Stoneville, MS
1987 - 1988, Research Associate, Foreign Disease - Weed Science Research Unit, USDA - ARS, Frederick, MD
1984 - 1986, Research Associate, Dept. of Agronomy, Okla. State Univ., Stillwater, OK
1980 - 1984, Graduate Research Assistant, Dept. of Agronomy, Univ. of Kentucky, Lexington, KY
1978 - 1980, Graduate Research Assistant, Dept. of Agronomy, Univ. Missouri-Columbia

Refereed Publications (senior authored)

1. Heitholt, J.J. and G.F. Sassenrath-Cole. 2009. Intra-plant competition: Growth responses to row spacing and plant density. p. 179-188. In: Stewart, J. McD., D.M. Oosterhuis, J.J. Heitholt, and J. R. Mauney. 2009. *Physiology of Cotton*. Springer, Inc., Dordrecht, Netherlands. 564 pp.
2. Heitholt, J.J., D. Kee, J.J. Sloan, C.T. MacKown, S. Metz, A.L. Kee, and R.L. Sutton. 2007. Soil-applied nitrogen and composted manure effects on soybean hay quality and grain yield. *J. Plant Nutr.* 30:1717-1726.
3. Heitholt, J.J. and J.J. Sloan. 2006. Enhancement of vegetable crop growth with biosolids and yard-waste compost on a calcareous clay soil. *Texas J. Agric. Natural Resour.* 19:80-92.
4. Heitholt, J.J., J.B. Farr, A.E. Knutson, and B. Langston. 2006. Early-season thrips (Thysanoptera: Thripidae) control and soybean yield in north Texas. *Southwestern Entomologist.* 31:113-120.
5. Heitholt, J.J., J.B. Farr, and R. Eason. 2005. Cultivar-by-planting configuration effects on soybean in low-yield environments. *Crop Sci.* 45:1800-1808.
6. Heitholt, J.J., J.B. Farr, and R.L. Sutton. 2005. Risk management in north Texas soybean: mid-March soybean plantings uncertain; maturity group IV cultivars reliable. Online. *Crop Management*. doi:1094/cm-2005-0329-01-RS.
7. Heitholt, J.J., D. Kee, J.B. Farr, J. Read, S. Metz, and C.T. MacKown. 2004. Forage from soybean provides an alternative to its poor grain yield in the southern Great Plains. Online. *Crop Management*. doi: 10.1094/ CM-2004-0406-01-RS.
8. Heitholt, J.J., J.J. Sloan, C.T. MacKown, and R. Cabrera. 2003. Soybean growth on a calcareous soil as affected by three iron sources. *J. Plant Nutr.* 26:935-948.
9. Heitholt, J.J., J.J. Sloan, and C.T. MacKown. 2002. Copper, manganese, and zinc fertilization effects on growth of soybean on a calcareous soil. *J. Plant Nutr.* 25:1727-1740.
10. Heitholt, J.J., J.H. Schmidt, and J.E. Mulrooney. 2001. Effect of foliar-applied salicylic acid on cotton flowering, boll retention, and yield. *J. Miss. Acad. Sci.* 46:105-109.
11. Heitholt, J.J. 1999. Cotton: Factors associated with assimilation capacity, flower production, boll set, and yield. pp. 235-269. In Smith, D.L. and C. Hamel (eds.). *Crop yield: Physiology and Processes*. Springer, Berlin, Germany.

Refereed Publications (senior authored), continued

12. Heitholt, J.J., W.R. Meredith, Jr., and S.T. Rayburn. 1999. Leaf area index response of modern and obsolete cotton cultivars at two nitrogen levels. *J. Plant Nutr.* 21:2319-2328.
13. Heitholt, J.J. and W.R. Meredith, Jr. 1998. Yield, flowering, and leaf area index of okra-leaf and normal-leaf cotton isolines. *Crop Sci.* 38:643-648.
14. Heitholt, J.J. and W.R. Meredith, Jr. 1998. Factors affecting yield of okra-leaf cotton types in the Mississippi Delta. *Proceedings World Cotton Res. Conf. - 2.* Athens, Greece, 6-12 Sept., pp. 502-505.
15. Heitholt, J.J. 1997. Floral bud removal from specific fruiting positions in cotton: Yield and fiber quality. *Crop Sci.* 37:826-832.
16. Heitholt, J.J., W.R. Meredith, Jr., and J.R. Williford. 1996. Comparison of cotton genotypes varying in canopy characteristics in 76-cm and 102-cm rows. *Crop Sci.* 36:955-960.
17. Heitholt, J.J. 1995. Cotton flowering and boll retention in different planting configurations and leaf shapes. *Agron. J.* 87:994-998.
18. Heitholt, J.J. 1994. Comparison of adjuvant effects on cotton leaf potassium concentration and lint yield. *J. Plant Nutr.* 17:2221-2233.
19. Heitholt, J.J. 1994. Canopy characteristics associated with deficient and excessive cotton plant densities. *Crop Sci.* 34:1291-1297.
20. Heitholt, J.J. 1994. Effects of foliar urea- and triazone-nitrogen, with and without boron, on cotton. *J. Plant Nutr.* 17:57-70.
21. Heitholt, J.J. 1994. Supplemental boron, boll retention percentage, ovary carbohydrates, and lint yield of modern cotton genotypes. *Agron. J.* 86:492-497.
22. Heitholt, J.J. and J.H. Schmidt. 1994. Receptacle and ovary assimilate concentrations and subsequent boll retention in cotton. *Crop Sci.* 34:125-131.
23. Heitholt, J.J. 1993. Cotton boll retention and its relationship to lint yield. *Crop Sci.* 33:486-490.
24. Heitholt, J.J., W.T. Pettigrew, and W.R. Meredith, Jr. 1993. Growth, boll opening rate, and fiber properties of narrow row cotton. *Agron. J.* 85:590-594.
25. Heitholt, J.J., W.T. Pettigrew, and W.R. Meredith, Jr. 1992. Light interception and lint yield of narrow row cotton. *Crop Sci.* 32:728-733.

Refereed Publications (senior authored), continued

26. Heitholt, J.J., R.C. Johnson, and D.M. Ferris. 1991. Stomatal limitation to carbon dioxide assimilation in nitrogen- and drought-stressed wheat. *Crop Sci.* 31:135-139.
27. Heitholt, J.J., R.H. Hodgson, and T.J. Tworkoski. 1990. Toxicity and uptake of nitroguanidine in plants. *Bull. Environ. Contam. Toxicol.* 44:751-758.
28. Heitholt, J.J., L.I. Croy, N.O. Maness, and H.T. Nguyen. 1990. Nitrogen partitioning in genotypes of winter wheat differing in grain N concentration. *Field Crops Res.* 23:133-144.
29. Heitholt, J.J. 1989. Water use efficiency and dry matter distribution in nitrogen- and water-stressed winter wheat. *Agron. J.* 81:464-469.
30. Heitholt, J.J., D.B. Egli, and J.E. Leggett. 1986. Characteristics of reproductive abortion in soybean. *Crop Sci.* 26:589-595.
31. Heitholt, J.J., D.B. Egli, J.E. Leggett, and C.T. MacKown. 1986. Role of assimilate and carbon-14 photosynthate partitioning in soybean reproductive abortion. *Crop Sci.* 26:999-1004.
32. Heitholt, J.J. and D.B. Egli. 1985. Influence of deflowering on dry matter production of soybeans. *Field Crops Res.* 12:163-173.

Coauthored Refereed Publications Only

1. Joshi, V.R., J.J. Heitholt, and A. Garcia y Garcia. 2017. Response of confection sunflower (*Helianthus annuus* L.) grown in a semi-arid environment to planting date and early termination of irrigation. *J. Agron. Crop Sci.* 203:301-308.
2. Sloan, J.J., P. Ampin, Y., T. Boerth, J.J. Heitholt, and Y. Wu. 2016. Improving the physical and chemical properties of a disturbed soil using drying-bed biosolids. *Comm. Soil Sci. Plant Anal.* DOI:10.1080/00103624.1179751.
3. Wherley, B., J. Heitholt, A. Chandra, and P. Skulkaew. 2014. Supplemental irrigation requirements of zoysiagrass and bermudagrass cultivars. *Crop Sci.* 54:1823-1831.
4. Washburn, J.D., D.K. Whitmire, S.C. Murray, B.L. Burson, T.A. Wickersham, J.J. Heitholt, R.W. Jessup. 2013. Estimation of rhizome composition and over-wintering ability in perennial *Sorghum* spp. using near infrared spectroscopy (NIRS). *BioEnergy Res.* 6:822-829.

Coauthored Refereed Publications (continued)

5. Reinert, J.A., M.C. Engelke, and J.J. Heitholt. 2011. Hunting billbug (Coleoptera:Curculionidae) resistance among zoysiagrass (*Zoysia* spp.) cultivars. *Florida Entomologist* 94:613-621.
6. Campos, M., A. Knutson, J. Heitholt, and C. Campos. 2010. Resistance to seed feeding by southern green stink bug, *Nezara viridula* (Linnaeus), in soybean, *Glycine max* (L.) Merrill. *Southwestern Entomol.* 35:233-239.
7. Ibrahim, A.M.H., J. Johnson, R. Sutton, G. Morgan, J. Rudd, L. R. Nelson, A. Knutson, J. Heitholt, and G. D. Buntin. 2010. Registration of ‘TAMsoft 700’ Wheat. *J. Plant Registr.* 4:50–54.
8. Stewart, J. McD., D.M. Oosterhuis, J.J. Heitholt, and J. R. Mauney. 2009. *Physiology of Cotton*. Springer Inc., Dordrecht, Netherlands. 564 pp.
9. MacKown, C.T., J.J. Heitholt, S.C. Rao. 2007. Agronomic feasibility of a continuous double crop of winter wheat and soybean forage in the Southern Great Plains. *Crop Sci.* 47:1652-1660.
10. Reinert, J.A., J. McCoy, B.M. Drees, K. Schofield, and J.J. Heitholt. 2007. Fire ant management in urban landscapes with broadcast treatments. *Proc. 2007 Annu. Imported Fire Ant Conf.* 23-25 April 2007, Gainesville, FL. p. 102-108.
11. MacKown, C.T., J.J. Heitholt, and S.C. Rao. 2007. Agronomic feasibility of a continuous double crop of winter wheat and soybean forage in the Southern Great Plains. *Crop Sci.* 47:1652-1660.
12. Sloan, J.J., M.C. Engelke, and J.J. Heitholt. 2005. Turf response to Superferrite fertilizer in contrasting soil types. *Commun. Soil Sci. Plant Anal.* 30:2641-2655.
13. Colbaugh, P.F., E.A. Williams, J.A. McAfee, and J.J. Heitholt. 2005. Use of Sphagnum peat moss topdressing to control take-all root rot of St. Augustinegrass (*Stenotaphrum secundatum*). *Internat. Turf. Soc. Res. J.* 10:170-174.
14. Davidonis, G.H., O.A. Richard, B.F. Ingber, W.R. Meredith, and J.J. Heitholt. 2005. The influence of cotton seed weight on fibers per seed and fiber property uniformity. *J. New Seeds* 7(3):1-13 (online doi: 10.1300/J153v07n03_01).
15. Reinert, J.A., J.C. Read, J. McCoy, J.J. Heitholt, and R.J. Bauernfeind. 2005. Susceptibility of *Poa* spp. to bluegrass billbug (*Sphenophorus parvulus*). *Int. Turfgrass Soc. Res. J.* 10:772-778.
16. Egli, D.B., D.M. TeKrony, J.J. Heitholt, and J. Rupe. 2005. Air temperature during seed filling and soybean seed germination and vigor. *Crop Sci.* 45:1329-1335. doi:10.2135/cropsci2004.0029.

Coauthored Refereed Publications (continued)

17. Abbas, H.K., C.T. Bryson, and J.J. Heitholt. 1999. Edema on tropical soda apple (*Solanum viarum*) and sticky nightshade (*Solanum sisymbriifolium*). *J. Miss. Acad. Sci.* 44:121-127.
18. Meredith, W.R., Jr., J.J. Heitholt, W.T. Pettigrew, and S.T. Rayburn. 1997. Comparison of obsolete and modern cotton cultivars at two nitrogen levels. *Crop Sci.* 37:1453-1457.
19. Meredith, W.R., Jr., W.T. Pettigrew, and J.J. Heitholt. 1996. Sub-okra, semi-smoothness, and nectariless effect on cotton performance. *Crop Sci.* 36:22-25.
20. Pettigrew, W.T., J.J. Heitholt, and W.R. Meredith, Jr. 1996. Genotypic interaction with potassium and nitrogen in cotton of varied maturity. *Agron. J.* 88:89-93.
21. van Iersel, M.W., J.J. Heitholt, R. Wells, and D.M. Oosterhuis. 1995. Foliar methanol applications to cotton in the southeastern United States: leaf physiology, growth, and yield components. *Agron. J.* 87:1157-1160.
22. Madsen, K.H., J.J. Heitholt, S.O. Duke, R.J. Smeda, and J.C. Streibig. 1995. Photosynthetic parameters in glyphosate-treated sugarbeets (*Beta vulgaris* L.). *Weed Research* 35:81-88.
23. Nimbal, C.I., J.J. Heitholt, D.R. Shaw, and S.O. Duke. 1995. Photosynthetic performance of MSMA-resistant and -susceptible Mississippi biotypes of common cocklebur. *Pestic. Biochem. Physiol.* 53:129-137.
24. Amagasa, T., R.N. Paul, J.J. Heitholt, and S.O. Duke. 1994. Physiological effects of cornexistin on *Lemna pausicostata*. *Pestic. Biochem. Physiol.* 49:37-52.
25. Pettigrew, W.T., J.J. Heitholt, and W.R. Meredith, Jr. 1993. Early season ethephon application effects on cotton photosynthesis. *Agron. J.* 85:821-825.
26. Pettigrew, W.T., J.J. Heitholt, and K.C. Vaughn. 1993. Gas exchange differences and comparative anatomy among cotton leaf-type isolines. *Crop Sci.* 33:1295-1299.
27. Pettigrew, W.T., J.J. Heitholt, and W.R. Meredith, Jr. 1992. Early season floral bud removal and cotton growth, yield, and fiber quality. *Agron. J.* 84:209-214.
28. Egli, D.B., R.D. Guffy, and J.J. Heitholt. 1987. Factors associated with lower yields of delayed plantings of soybean. *Zeitschrift fur Ackerund (Journal of Agronomy and Crop Science)* 159:176-185.
29. Johnson, R.C., D.W. Mornhinweg, J.J. Heitholt, and D.M. Ferris. 1987. Leaf photosynthesis and conductance of selected *Triticum* species at different water potentials. *Plant Physiol.* 83:1014-1017.

Coauthored Refereed Publications (continued)

30. Triplett, E.W., J.J. Heitholt, K.B. Evensen, and D.G. Blevins. 1981. Increases in internode length of *Phaseolus lunatus* L. caused by inoculation with a nitrate reductase-deficient strain of *Rhizobium* sp. *Plant Physiol.* 67:1-4.

Abstracts and other Nonrefereed Publications

- A1. Heitholt, J., A. Pierson, C. Eberle, V. Sharma. 2019. Performance of Segregating Progeny from a Pinto-by-Pink Dry Bean Cross in the Bighorn Basin of Wyoming. *Wyo. Agric. Exp. Stn. Field Day Bulletin.*
- A2. Heitholt, J., C. Eberle, V. Sharma. 2019. Performance of Segregating Progeny from a Pinto-by-Pink Dry Bean Cross in SE Wyoming after Several Hail Storms. *Wyo. Agric. Exp. Stn. Field Days Bulletin.*
- A3. Keith, J. and J. Heitholt. 2019. Potential of Seed Production of Photoperiod-Sensitive and Photoperiod-Insensitive Popping Bean Lines of *Phaseolus vulgaris* under Greenhouse Conditions during the Winter Months. *Wyo. Agric. Exp. Stn. Field Days Bulletin.*
- A4. Keith, J. and J. Heitholt. 2019. The Effect of Two Nitrogen Sources (and Rates) on Seed Yield of Six Greenhouse-Grown Common Bean Genotypes that Express the 'Popping' Trait. *Wyo. Agric. Exp. Stn. Field Day Bulletin.*
- A5. Norton, J. and J. Heitholt. 2019. Sustainable Production Practices for Edible Dry Beans. *Wyo. Agric. Exp. Stn. Field Day Bulletin.*
- A6. Rai, A, V. Sharma, and J. Heitholt. 2019. Dry bean growth and yield relationships in response to irrigation gradient in the semi-arid climate of Wyoming. *Wyo. Agric. Exp. Stn. Field Day Bulletin.*
- A7. Sharma, V., E. Oleson, and J. Heitholt. 2019. Effects of seeding-rates and row-spacing on dry bean yield under full and deficit irrigation. *Wyo. Agric. Exp. Stn. Field Day Bulletin.*
- A7. Sharma, V., A. Rai, and J. Heitholt. 2019. Dry bean yield dynamics in response to irrigation gradients under sprinkler and furrow irrigation system. *Wyo. Agric. Exp. Stn. Field Day Bulletin.*
- A8. Sharma, V. and J. Heitholt. 2018. Screening dry bean genotypes for drought tolerance in Wyoming. *Wyo. Agric. Exp. Stn. Field Day Bull.* pp. 74-75.
- A9. Heitholt, J., A. Alhasan, A. Homer, and K. Madden. 2018. 2017 (CDBN) Dry bean performance evaluation (Lingle). *Wyo. Agric. Exp. Stn. Field Day Bull.* p. 98-99.

Abstracts and other Nonrefereed Publications (continued)

- A10. Norton, J. and J. Heitholt. 2018. Edible dry beans as part of improved crop rotations in Wyoming. Wyo. Agric. Exp. Stn. Field Day Bull. p. 72-73.
- A11. Rai, A., J. Heitholt, and V. Sharma. 2018. Dry bean growth dynamics in response to deficit irrigation under surface- and sprinkler-irrigation systems. Wyo. Agric. Exp. Stn. Field Day Bull. p. 76-77.
- A12. Sharma, V., A. Rai, and J. Heitholt. 2018. Dry bean yield response to deficit irrigation under surface- and sprinkler-irrigation systems. Wyo. Agric. Exp. Stn. Field Day Bull. p. 78-79.
- A13. Norton, J. and J. Heitholt. 2018. Edible dry bean as part of improved crop rotations in Wyoming. Wyo. Agric. Exp. Stn. Field Day Bull. p. 72-73.
- A14. Alhasan, A., and J. Heitholt. 2017. Differential response of fifteen pinto bean cultivars to two nitrogen rates. Bean Improv. Coop. Rep. 60:65-66.
- A15. Alhasan, A., and J. Heitholt. 2017. Chlorophyll and vegetative traits of eighteen dry bean (*Phaseolus vulgaris* L.) genotypes grown with zero fertilizer N and 60 pounds N per acre. Wyo. Agric. Exp. Stn. Field Days Bull. p. 82-83.
- A16. Heitholt, J., and A. Piccorelli. 2017. Yield and stomatal conductance response of experimental dry bean genotypes to drought under greenhouse conditions. Wyo. Agric. Exp. Stn. Field Days Bull. p. 14-15.
- A17. Heitholt, J., V. Sharma, A. Pierson, and A. Piccorelli. 2017. Correlation between genotype differences in yield and canopy temperatures in Wyoming dry bean. Bean Improv. Coop. Rep. 60:193-194.
- A18. Heitholt, J., V. Sharma, and A. Pierson. 2017. Yield in 36 dry bean genotypes and its correlations with agronomic traits. Wyo. Agric. Exp. Stn. Field Days Bull. p. 46-47.
- A19. Heitholt, J., and V. Sharma. 2017. Variation in canopy temperature and normalized difference vegetation index for 23 dry bean genotypes grown under well-watered and water stress conditions. Wyo. Agric. Exp. Stn. Field Days Bull. p. 84-85.
- A20. Heitholt, J., A. Alhasan, and T. Suhr. 2017. Yield and associated traits of three sweet corn hybrids grown in Laramie. Wyo. Agric. Exp. Stn. Field Days Bull. p.12-13.

Abstracts and other Nonrefereed Publications (continued)

- A21. Sharma, V., and J. Heitholt. 2017. Dynamics of leaf stomatal resistance to photosynthetic photon flux density for different dry bean genotypes. *Wyo. Agric. Exp. Stn. Field Days Bull.* p. 52-53.
- A22. Sharma, V., A. Pierson, and J. Heitholt. 2017. Dynamics of soil moisture and canopy architecture traits for dry bean in Wyoming. *Wyo. Agric. Exp. Stn. Field Days Bull.* p. 52-53.
- A23. Alhasan, A., A. Piccorelli, and J. Heitholt. 2016. Influence of nitrogen fertility level on growth, grain yield, and yield components of different dry bean cultivars. *Bean Improv. Coop. Ann. Rep.* 59:173-174 (<http://bic.css.msu.edu/Reports.cfm>).
- A24. Alhasan, A., A. Piccorelli, and J. Heitholt. 2016. Effect of two nitrogen levels on growth traits of nine dry bean cultivars in the field. *Wyo. Agr. Exp. Stn. Field Days Bull.*, p. 25-26. http://www.uwyo.edu/uwexpstn/_files/docs/2016-field-days-bulletin.pdf.
- A25. Alhasan, A., and J. Heitholt. 2016. Effect of soil nitrogen rate on leaf chlorophyll and vegetative growth of dry bean. *Wyo. Agric. Exp. Stn. Field Days Bull.*, p. 23-24. http://www.uwyo.edu/uwexpstn/_files/docs/2016-field-days-bulletin.pdf.
- A26. Heitholt, J., A. Pierson, C. Reynolds, and A. Piccorelli. 2016. Growth and pod traits correlate with grain yield among 50 dry bean cultivars. *Univ. Wyoming Agric. Exp. Stn. Field Days Bull.*, p. 59-60. http://www.uwyo.edu/uwexpstn/_files/docs/2016-field-days-bulletin.pdf.
- A27. Heitholt, J., and B. Baumgartner. 2016. Drought susceptibility index and canopy traits of 49 dry bean genotypes subjected to water stress. *Wyo. Agr. Exp. Stn. Field Days Bull.*, p. 99-100. http://www.uwyo.edu/uwexpstn/_files/docs/2016-field-days-bulletin.pdf.
- A28. Heitholt, J., and A. Piccorelli. 2016. Yield component response to water stress among six dry bean genotypes. *Bean Improv. Coop. Ann. Rep.* 59:235-236 (<http://bic.css.msu.edu/Reports.cfm>).
- A29. Panter, K., S.A. Dhekney, A. Erickson, C. Hilgert, and J. Heitholt. 2016. Vegetables and herbs under high and low tunnels. *Wyo. Agr. Exp. Stn. Field Days Bull.*, p. 37-38. http://www.uwyo.edu/uwexpstn/_files/docs/2016-field-days-bulletin.pdf.
- A30. Heitholt, J., and C. Reynolds. 2015. Screening and development of dry bean genotypes for drought tolerance. *Wyo. Agric. Exp. Stn. Field Days Bulletin.* p. 47. http://www.uwyo.edu/uwexpstn/_files/docs/2015-field-days-bulletin.pdf.

Abstracts and other Nonrefereed Publications (continued)

- A31. Joshi, V.R., J.J. Heitholt, and A. Garcia y Garcia. 2015. Deficit irrigation possible in confection sunflower production in northwest Wyoming. Wyo. Agric. Exp. Stn. Field Days Bulletin. p. 55-56. http://www.uwyo.edu/uwexpstn/_files/docs/2015-field-days-bulletin.pdf.
- A32. Joshi, V.R., A. Samet, J.J. Heitholt, and A. Garcia y Garcia. 2015. On-farm determination of the effect of early termination of irrigation and seeding rates on yield and quality of confection sunflower. Wyo. Agric. Exp. Stn. Field Days Bulletin. p. 57-58. http://www.uwyo.edu/uwexpstn/_files/docs/2015-field-days-bulletin.pdf.
- A33. Joshi, V.R., A. Samet, J.J. Heitholt, K. Hansen, and A. Garcia y Garcia. 2015. Yield Response of Confection Sunflower to Delaying the Onset of Irrigation. Wyo. Agric. Exp. Stn. Field Days Bulletin. p. 59-60. http://www.uwyo.edu/uwexpstn/_files/docs/2015-field-days-bulletin.pdf.
- A34. Jessup, R.W., B.L. Burson, J.L. Foster, J. Muir, J. Heitholt, and L. Tarpley. 2014. Upcoming warm-season perennial forage grass cultivar submissions for the southern U.S. Texas Plant Protection Conference. College Station, TX, Dec. 2014.
- A35. Blackburn, C.D., J.J. Heitholt, and D.A. Harp. 2012. The effects of extreme heat and drought on rabbiteye blueberries (*Vaccinium ashei*) yields in northeast Texas. Southern Assn. Agric. Sci., Birmingham, AL, 4-7 Feb. 2012.
- A36. Ramsey, L.L., F. R. B. Ribeiro, J. J. Heitholt, J. A. Carter, W. S. Stewart, and D. D. Weir. 2011. Effects of including okara into the diet of weanling crossbred Boer goats and its impact on growth and performance. J. Anim. Sci. Vol. 89, E-Suppl. 1/J. Dairy Sci. Vol. 94, E-Suppl. 1. <http://www.jtmtg.org/JAM/2011/abstracts/0457.PDF>
- A37. Heitholt, J.J., R. Leonard, P. Chen, A. Knutson, M. Campos, and M.O. Way. 2009. Screening soybean genotypes for tolerance to stink bugs using choice and no-choice procedures. Texas Plant Protection Conference.
- A38. Hathcoat, A.D., J.J. Heitholt, J. Swart, D. Reid, and J.J. Sloan. 2007. Comparison of soil-applied poultry litter and ammonium nitrate for optimizing cotton yield in north Texas. Amer. Soc. Agron. Annu. Meet., New Orleans, LA.
- A39. Heitholt, J.J., R.L. Sutton, M. Garcia-Martinez, and G.D. Morgan. 2006. Heat tolerance as related to leaf morphology, spike traits, and canopy temperature in winter wheat. Poster presented at Amer. Soc. Agron. Annu. Meet. 12-16 Nov., Indianapolis, IN.

Abstracts and other Nonrefereed Publications (continued)

- A40. Heitholt, J.J., J.B. Farr, and R.L. Sutton. 2006. Northeast Texas Soybean Variety Trial and other results for 1999 to 2010. <http://varietytesting.tamu.edu/soybeans>
- A41. Heitholt, J.J., J.J. Sloan, C.T. MacKown, R.L. Sutton, D. Kee, S. Metz, and A. Kee. 2005. Soil-applied nitrogen or composted manure does not improve soybean hay quality or grain yield. Amer. Soc. Agron. Abstr. #1428.
- A42. Reinert, J.A., M.C. Engelke, J.E. McCoy, and J.J. Heitholt. 2004. Resistance to hunting billbug, *Sphenophorus venatus vestitus* among zoysiagrass, *Zoysia* spp. cultivars, p. 567 (Abstr.). Proc. of the 15th International Plant Protection Congress. 11-16 May 2004, Beijing, China.
- A43. Heitholt, J.J., J.B. Farr, and R.L. Sutton. 2003. Cultivar-by-planting date interactions on soybean Maturity Groups 0 to 5. 2003. C03-heitholt753353-poster. Amer. Soc. Agron.
- A44. Heitholt, J.J., D.D. Kee, J.B. Farr, J.C. Read, S. Metz, and C.T. MacKown. 2002. Effect of row spacing, variety, and growth stage forage soybean yield and quality (c03-heitholt113738Poster).
- A45. Way, M.O., J. Grichar, J.J. Heitholt, T. Isakeit, G.N. McCauley. 2002. Response of ESPS (Early Soybean Planting System) soybeans to irrigation, diseases, and insects. Texas Plant Protection Conference. 3-4 December 2002.
- A46. Sloan, J.J., B. Langston, and J.J. Heitholt. 2002. Potassium requirements for narrow row cotton. Proceedings Beltwide Cotton Conference. 8-12 January, Atlanta, GA.
- A47. Heitholt, J.J., J.B. Farr, R. Sutton, and R. Eason. 2001. Cultivar-by-planting configuration effects on soybean yield. Agron. Abstr. c03-heitholt183523-P.
- A48. Heitholt, J.J. and J.J. Sloan. 2000. Micronutrient status and soybean growth on northeast Texas soils. Agron Abstr. p. 134.
- A49. Heitholt, J.J. and J. McD. Stewart. 1999. Cotton genotypes exhibiting cluster-like fruiting morphology and their response to 30-inch rows. p. 640. Proc. Beltwide Cotton Conf., Orlando, FL.
- A50. Heitholt, J.J. 1998. Dry matter distribution and yield of normal- and okra-leaf cotton genotypes released between 1975 and 1997. p. 1725. Proc. Beltwide Cotton Conf. San Diego, CA. Natl. Cotton Council of Am., Memphis, TN.
- A51. Heitholt, J.J. 1998. Yield of insect- and herbicide-resistant transgenic cottons. Agron. Abstr. p. 108.

Abstracts and other Nonrefereed Publications (continued)

- A52. Heitholt, J.J. and W.R. Meredith, Jr. 1998. Factors affecting yield of okra-leaf cotton types in the Mississippi Delta. Abstracts for World Cotton Research Conf. II.
- A53. Heitholt, J.J. 1997. Effects of assay buffer containing 3-PGA on apparent ADPG pyrophosphorylase activity of cotton leaves. Agron. Abstr. p. 82.
- A54. Heitholt, J.J. and W.R. Meredith, Jr. 1997. Yield of two okra-leaf type cottons on different soil types. p. 1482. Proc. Beltwide Cotton Conf. New Orleans, LA. Natl. Cotton Council of Am., Memphis, TN.
- A55. Sassenrath-Cole, G.F. and J.J. Heitholt. 1996. Photosynthesis limitations in cotton canopies. Agron. Abstr. p. 104.
- A56. Heitholt, J.J. 1996. Response of okra-leaf isolines from four contrasting modern cotton cultivars to 76-cm rows. p. 1186-1187. Proc. Beltwide Cotton Conf. Nashville, TN. Natl. Cotton Council of Am., Memphis, TN.
- A57. Heitholt, J.J., J.H. Schmidt, and G.F. Sassenrath-Cole. 1996. Leaf morphology and cotton leaf sucrose enzyme activity. Agron. Abstr. p. 96.
- A58. Sassenrath-Cole, G.F. and J.J. Heitholt. 1996. Limitations to optimal carbon uptake within a cotton canopy. p. 1239-1240. Proc. Beltwide Cotton Conf. Nashville, TN. Natl. Cotton Council of Am., Memphis, TN.
- A59. Heitholt, J.J. and T.A. Kerby. 1995. Effect of minimizing boll production at distal fruiting sites on cotton lint yield and fiber properties. p. 1125-1126. Proc. Beltwide Cotton Conf. San Antonio, TX. Natl. Cotton Council of Am., Memphis, TN.
- A60. Heitholt, J.J., W.R. Meredith, Jr., and J.R. Williford. 1995. Attempting to explain the inconsistency of a genotype by row spacing interaction in cotton. Agron. Abstr. p. 119.
- A61. Sassenrath-Cole, G.F., J.J. Heitholt, R.G. Percy, D.F. Wanjura, and D.R. Upchurch. 1995. Temperature profiles in cotton canopies. Proc. Beltwide Cotton Conf. San Antonio, TX. Natl. Cotton Council of Am., Memphis, TN.
- A62. Sassenrath-Cole, G.F., R.G. Percy, and J.J. Heitholt. 1995. Distribution of photon flux density within cotton canopies as a function of leaf and canopy architecture. Agron. Abstr. p. 13.
- A63. Amagasa, T., R.N. Paul, J.J. Heitholt, and S.O. Duke. 1994. Physiological effects of cornexistin on *Lemna pausicostata*. 8th International Congress of Pesticide Chemistry, 4-9 July. Washington, D.C., USA.

Abstracts and other Nonrefereed Publications (continued)

- A64. Amagasa, T., S.O. Duke, R.N. Paul, and J.J. Heitholt. 1994. Effects of cornexistin on primary metabolism in *Lemna pausicostata*. Weed Sci. Abstr. p. 63.
- A65. Heitholt, J.J. 1994. Plant population density and cotton canopy development. p. 1331. Proc. Beltwide Cotton Conf. Proc. Beltwide Cotton Prod. Resear. Conf., San Diego, CA. Natl. Cotton Council of Am., Memphis, TN.
- A66. Heitholt, J.J. 1994. Narrow-row yield increases are related to cotton flowering but not boll retention percentage. Agron. Abstr. p. 135.
- A67. Heitholt, J.J., M. van Iersel, D. M. Oosterhuis, and R. Wells. 1994. Methanol does not influence water relations, gas exchange, or growth of cotton. p. 1329. Proc. Beltwide Cotton Conf., San Diego, CA. Natl. Cotton Council of Am., Memphis, TN.
- A68. Heitholt, J.J. and W.R. Meredith, Jr. 1994. Canopy architecture and cotton performance in narrow rows. World Cotton Resear. Conf. - 1, Brisbane, Australia 14-17 Feb. p. 141.
- A69. Heitholt, J. J. 1993. Effect of plant population and row-width on insolation interception and leaf area index in cotton. p. 1285. Proc. Beltwide Cotton Conf., New Orleans, LA. Natl. Cotton Council of Am., Memphis, TN.
- A70. Heitholt, J. J. 1993. Interaction of N and B on cotton. p. 1275. Proc. Beltwide Cotton Conf., New Orleans, LA. Natl. Cotton Council of Am., Memphis, TN.
- A71. Heitholt, J. J., J. H. Schmidt, W. T. Pettigrew, and G. F. Sassenrath-Cole. 1993. Diurnal fluctuations in leaf blade carbohydrates of okra-leaf and normal-leaf isolines of cotton. Agron. Abstr. p. 113-114.
- A72. Nimbale, C. I., D. R. Shaw, J. D. Byrd, Jr., G. D. Wills, J. J. Heitholt, and S. O. Duke. 1993. Physiological differences in wild-type and arsenical herbicide-resistant common cocklebur (*Xanthium strumarium* L.). p. 381. Proc. Southern Weed Sci. Soc., Charlotte, NC.
- A73. Pettigrew, W. T., J. J. Heitholt, and W. R. Meredith, Jr. 1993. Potassium deficiency alters cotton growth, yield, and fiber quality. Agron. Abstr. p. 120.
- A74. Pettigrew, W. T., J. J. Heitholt, and W. R. Meredith, Jr., 1993. Leaf gas exchange parameters vary among cotton genotypes. p. 1277. Proc. Beltwide Cotton Prod. Resear. Conf., New Orleans, LA. Natl. Cotton Council of Am., Memphis, TN.

Abstracts and other Nonrefereed Publications (continued)

- A75. Sassenrath-Cole, G. F. and J. J. Heitholt. 1993. Changes in canopy microenvironment with planting configuration. *Agron. Abstr.* p. 123.
- A76. Heitholt, J. J. 1992. Effect of boron on cotton boll retention when applied to soil or foliage. p. 1088. *Proc. Beltwide Cotton Conf., Nashville, TN., Natl. Cotton Council, Memphis, TN.*
- A77. Heitholt, J. J. 1992. Effect of plant population and row-width on lint yield in cotton. *International Crop Science Congress, Ames, IA 14-22 July.*
- A78. Pettigrew, W. T., J. J. Heitholt, and W. R. Meredith, Jr. 1992. Potassium and nitrogen fertilization effects on cotton dry matter allocation and yield. p. 1071. *Proc. Beltwide Cotton Conf., Nashville, TN. Natl. Cotton Council of Am., Memphis, TN.*
- A79. Heitholt, J. J. 1992. Carpel N concentration and cotton boll retention. *Agron. Abstr.* p. 125.
- A80. Heitholt, J. J., W. T. Pettigrew, and W. R. Meredith, Jr., 1991. Insolation interception and lint yield in cotton. *Agron. Abstr.* p. 127.
- A81. Pettigrew, W. T., J. J. Heitholt, and K. C. Vaughn. 1991. Leaf anatomical and gas exchange differences between cotton leaf type isolines. p. 839. *Proc. Beltwide Cotton Prod. Res. Conf., San Antonio, TX. Natl. Cotton Council of Am., Memphis, TN.*
- A82. Heitholt, J. J. and J. H. Schmidt. 1991. Ovary carbohydrates and cotton flower abscission. p. 839. *Proc. Beltwide Cotton Prod. Res. Conf., San Antonio, TX. Natl. Cotton Council of Am., Memphis, TN.*
- A83. Pettigrew, W. T., J. J. Heitholt, and W. R. Meredith, Jr. 1991. Genotypic variation in cotton leaf photosynthesis. *Agron. Abstr.* p. 132.
- A84. Heitholt, J. J., 1990. Variation in cotton fruiting-form abscission. *Agron. Abstr.* p. 123.
- A85. Heitholt, J. J., W. T. Pettigrew, and W. R. Meredith, Jr.. 1990. Light interception and growth characteristics of narrow row cotton. p. 56. *Proc. Beltwide Cotton Prod. Res. Conf., Las Vegas, NV. Natl. Cotton Council of Am., Memphis, TN.*
- A86. Pettigrew, W. T., J. J. Heitholt, and W. R. Meredith, Jr. 1990. Early season defruiting effects on dry matter partitioning in cotton. p. 56. *Proc. Beltwide Cotton Prod. Res. Conf., Las Vegas, NV. Natl. Cotton Council of Am., Memphis, TN.*

Abstracts and other Nonrefereed Publications (continued)

- A87. Pettigrew, W. T., J. J. Heitholt, and W. R. Meredith, Jr. 1990. Early season fruiting bud removal effects on cotton photosynthesis. *Agron. Abstr.* p. 128.
- A88. Heitholt, J. J. and R. H. Hodgson, 1988. Uptake of nitroguanidine in plants. *Plant Physiol.* 86s:58.
- A89. Heitholt, J. J., R. C. Johnson, and N. O. Maness. 1986. Photosynthesis of wheat under nitrogen and water stress. *Ann. Wheat Newslett.* p. 178.
- A90. Maness, N. O., R. C. Johnson, and J. J. Heitholt. 1986. Daily patterns of enzymatic sugar conversion during grain development in winter wheat. *Agron. Abstr.* p. 99.
- A91. Egli, D. B., and J. J. Heitholt. 1985. Patterns of reproductive abscission on the whole plant. *Agron. Abstr.* p. 79.
- A92. Heitholt, J. J. and L. I. Croy. 1985. Grain protein and nitrate reductase activity in winter wheat. *Ann. Wheat Newslett.* 31:178.
- A93. Heitholt, J. J., R. C. Johnson, and N. O. Maness. 1985. The effect of nitrogen and water stress on photosynthetic activity of wheat leaves. *Agron. Abstr.* p. 81.
- A94. Johnson, R. C., D. W. Mornhinweg, H. T. Nguyen, D. M. Ferris and J. J. Heitholt. 1985. Stomatal limitation to photosynthesis of wheat under water deficits. *Agron. Abstr.* p. 82.
- A95. Maness, N. O., R. C. Johnson, J. J. Heitholt, and L. I. Croy. 1985. Enzymatic grain sugar conversion in winter wheat at high temperatures. *Agron. Abstr.* p. 84.
- A96. Heitholt, J. J., 1984. The effect of source-sink alterations on the characteristics of reproductive abortion in soybeans. Ph. D. Dissertation, Univ. Kentucky, 146 pp.
- A97. Heitholt, J. J., D. B. Egli, and J. E. Leggett. 1983. Changes in the partitioning of ¹⁴C assimilates during reproductive growth in soybeans and its relationship to flower and pod abortion. *Agron. Abstr.* p. 91.
- A98. Heitholt, J. J. and D. G. Blevins. 1980. The effect of chlorate-resistant *Rhizobium japonicum* on bacteroid nitrate reductase and soybean stem growth. *Agron. Abstr.* p. 84.
- A99. Heitholt, J. J. 1980. The effect of root nodule bacteria and constitutive nitrate reductase activity on host plant stem growth. M. S. Thesis, Univ. Missouri-Columbia, 49 pp.

Examples of External Grants Led and Funded (past four years)

1. Yield, Maturity, and Stature of Cooperative Dry Bean Nursery Entries and Experimental Progeny in SE Wyoming. 2019. Heitholt, J. and C. Eberle. Wyoming Bean Commission. \$8,270.
2. Yield and Maturity of Cooperative Dry Bean Nursery Entries and Experimental Progeny in the Bighorn Basin. Heitholt, J., and M. Moore. 2019. Wyoming Bean Commission. \$2,050.
3. Growing the 2018 Dry Bean Nursery. Heitholt, J. and M. Moore. 2018. Wyoming Bean Commission. \$4,000.
4. Testing of LPID Experimental Lines for Yield, Agronomics, and Seed Size. 2018. Wyoming Bean Commission. \$5,000.
5. Screening and Developing Dry Bean Varieties that Use Less Water and Fertilizer. 2017. Wyoming Dept. Agric. Specialty Crop Block Grant Program (funded for \$24,421).

Invited Talks and Other Requests

1. How Drought Impacts Vegetable Crops. Master Gardener Meeting, Sheridan, WY. June 2016.
2. Dry Bean Cultivar Performance in Southeast Wyoming and Beyond. Northern Bean Annual Grower Meeting. Torrington, WY. Feb 2016.
3. The Texas A&M University-Commerce Farmers Market: Attracting “Traffic” in a Region where Disposable Income is Limited. For USDA Socially-Disadvantaged Producer Grant Project. December 2013.
4. Lessons-Learned from Operating a Pick-Your-Own Fruit Operation. For USDA Socially-Disadvantaged Producer Grant Project. March 2013.
5. Screening for Tolerance to Redbanded Stink Bug within the USDA Soybean Germplasm Collection. Dep. Biology, UT-Arlington. March 2013.
6. Impact of Stink Bug in Southern Soybean: Potential for Host Plant Resistance. Keynote Speaker. Texas A&M-Commerce Annual Research Symposium. April 2010.

Invited Talks and Other Requests (continued)

7. Screening Soybean Genotypes for Tolerance to Stink Bugs Using Choice and No-Choice Procedures. Texas Plant Protection Conference. December 2009.
8. Invited by Crop Physiology Chair to preside over session on plant stress. American Society of Agronomy, Pittsburgh, PA. November 2009.
9. Dealing with Stink Bug in Southern US Soybean. Biology Guest Speaker. Collin County Community College. November 2009.
10. Screening Soybean for Tolerance to Stink Bug. Soybean Breeder Workshop. St. Louis, MO. 17 February 2009.
11. Math-Sci Fest, Fall 2008. Presented demonstration workshop to high school students on making milk from soybean and presented summary of educational opportunities for Department of Agricultural Sciences.
12. Screening Soybean for Tolerance to Biotic and Abiotic Stress in Texas. Texas Soybean Association, El Campo, TX. Feb. 2008.
13. Soybean Growth Stages and their Relationship to Asian Soybean Rust Control. Paris, TX. July 2007.
14. Soybean Genotype Evaluations in Texas. Texas Soybean Production Conference. El Campo, TX, February 2007.
15. Soybean Variety Development and Evaluation in Texas. Texas Soybean Production Conference. Bay City, TX, February 2006.
16. Spike and Canopy Traits of Winter Wheat Cultivars: Relationship to Heat Tolerance. Texas Agricultural Research and Extension Center, Lubbock, TX. December 2005.
17. Soybean Variety Evaluations in Texas, Texas Soybean Production Conference, Victoria, TX, February 2005.
18. Invited by Chair of Soybean Breeders Workshop Conference to serve as Agronomy session Chair, St. Louis, MO., February 2005.
19. Review of Soybean Research in Texas. Texas Soybean Production Conference, Victoria, TX, February 2004.
20. Planting Date-by-Variety Effects of Soybean Yield. Collin County (TX) Field Day. July 2003.

Invited Talks and Other Requests (continued)

21. Agronomic Practices and Soybean Yield. Prosper (TX) Crop Management Field Day. June 2003.
22. Organic Amendments in Vegetable Production - John Sloan and Jim Heitholt, Turf and Ornamental Field Day. TAMU-Dallas. September 2003.
23. Effect of Row Spacing and Seeding Rate on Soybean Yield. Upper Gulf Coast Soybean Seminar, Edna, Texas, 6 February 2002
24. Soybean Research Information, Crops Production Seminars, Hunt and Delta Counties, 16 January 2002, Commerce, TX
25. Cultivar-by-Planting Configuration Effects on Soybean Yield. Presented to the Soybean Breeders, Agronomist, Physiologists Workshop, 19 February 2002, St. Louis.
26. Summary of Soybean Research in Northeast Texas. Presented brief talks at the field days for Collin and Lamar Counties in July and August 2002.
27. Presented Seeding Rate and Row Spacing Talk at Paris, Texas for the Texas Soybean Association Annual Meeting in February 2002.
28. Invited by Cotton Physiology Program Chair to preside over one session at Cotton Beltwide meeting in San Antonio in January 1998.
29. Invited by Dr. D.R. Ort and S.C. Huber to present a talk "Will a different leaf shaped cotton improve production efficiency?" at a conference entitled "ARS Research Frontiers in Photosynthate Production, Partitioning, and Utilization" held in Monticello, IL in March 1996.
30. Invited by Cotton Physiology Program Chair to preside over one session at Cotton Beltwide meeting in San Antonio in January 1995.
31. Invited by CSSA C-2 program chair to preside over seminar session entitled "Yield development: Crop development and assimilate partitioning" at the 1994 American Society of Agronomy meeting in Seattle in November 1994.
32. Invited by Mississippi State University Department of Biochemistry in Starkville, MS to present seminar entitled "Physiological differences associated with cotton leaf shape" in May 1994.
33. Invited by USDA-ARS Crop Simulation Research Unit in Starkville, MS to present a seminar entitled "Factors affecting fruit retention in cotton" in February 1993.
34. Invited by Cotton Physiology Chairman to preside over one session at Cotton Beltwide meeting in New Orleans in January 1993.

Invited Talks and Other Requests (continued)

35. Invited by National Cotton Council and Potash & Phosphate Institute to present a field demonstration entitled "Foliar Potassium - Surfactants" in August 1992.
36. Invited by Cotton Physiology Chairman to preside over one session at Cotton Beltwide meeting in San Antonio in January 1991.
37. Invited by Crop Science Society's C-2 Division (Crop Physiology and Metabolism) Chair to preside over a session entitled "Photosynthesis and carbohydrate partitioning" at the 1990 ASA meetings in San Antonio, TX in October 1990.
38. Uptake and apparent volatilization of nitroguanidine in three crop species. USDA-ARS, Stoneville, MS, September 1988.
39. Toxicity of nitroguanidine in soybean and tall fescue. Sunflower Army Ammunition Plant, DeSoto, KS in August 1988.

Advisory, Consultant, and Other Activities

M.S. Graduate Theses Led

Lauren Ramsey. M.S. Thesis. Effects of Including Okara into the Diet of Post-Weanling Crossbred Boer Goats and its Impact on Growth and Performance. Texas A&M-Commerce. 2012.

Niccole Rech. M.S. Thesis. Morphological Characterization and Fungicide Sensitivity of *Phytophthora* species in Texas. Texas A&M-Commerce. 2010.

David K. Colbert. M.S. Thesis. Efficacy of Commercially-Classed Inoculant Groups from Rhizobia and Application Rate on Pigeon Pea (*Cajanus cajan*) for Forage Production. Texas A&M-Commerce. 2010.

A. Daniel Hathcoat. M.S. Thesis. Comparison of Soil-Applied Poultry Litter and Ammonium Nitrate for Optimizing Cotton Yield in North Texas. Texas A&M-Commerce. 2007.

Graduate Student Thesis Committee Member

Mavis Badu Brempong. Ph.D. Carry-over effects of composted manure and cover crops on greenhouse gas (GHG) fluxes, soil organic matter dynamics and crop performance in organic wheat (*Triticum aestivum* L.) in eastern Wyoming. Univ. Wyoming. 2018.

Sayantana Sarkar. M.S. Effects of planting method, harvesting frequency, and cultivar on growth, yield, and nutritive value of birdsfoot trefoil. Univ. Wyoming. 2017.

Graduate Student Thesis Committee Member (continued)

Abhijit Rai. M.S. Thesis. Dry bean crop water use, growth, and yield dynamics, and production functions in response to rates and methods of irrigation. Univ. Wyoming. 2019

Abdelaziz Nilahyane. Ph.D. Dissertation. Effect of irrigation and nitrogen rates on yield, quality, and physiological traits of silage corn. Univ. Wyoming. 2016.

Vijaya Joshi. M.S. Thesis. Irrigation management for confection sunflower production in the Bighorn Basin, Univ. Wyoming. 2015. Co-led with Axel Garcia y Garcia.

Bhargavi Sowmya Chilukuri. M.S. Thesis. Development of Heterogeneous Mesoporous Acid Catalyst for the Esterification of Oleic Acid with Methanol. Texas A&M-Commerce. 2014.

Cheng Chen. M.S. Thesis. Seed Germination in Green Roof Media. Texas A&M-Commerce. 2013.

Barton Day. Determination of ACCase Tolerance in Italian Ryegrass (*Lolium multiflorum*) in Northeast Texas. Texas A&M-Commerce. 2013.

Nate Hanson. M.S. Thesis. Novel Ultrasound Techniques with Starch Based Heterogeneous Acid Catalysts for Biodiesel Synthesis. Texas A&M-Commerce. 2013.

Camilla Pearson, M.S. Thesis. Concerns of Early Career Agricultural Science Teachers and the Perceived Effectiveness of Educator Preparation Programs in Addressing those Concerns. Texas A&M-Commerce. 2013.

Mirian J. Ortez Ferrufino. M.S. Thesis. Effect of Late-Season Fertilizer and Herbicide Application on the Recovery of a Bermudagrass (*Cynodon dactylon* L.) Pasture. Texas A&M-Commerce. 2013.

Kandy Rojas. M.S. Thesis. An Economic Analysis of Foliar Fungicides Used in Northeast Texas Wheat Production. Texas A&M-Commerce. 2013.

Mihira Vasana. M.S. Thesis. Efficient Production of Biodiesel Using Starch as a Heterogenous Catalyst. Texas A&M-Commerce. 2013.

Samantha Durborow. M.S. Thesis. An Analysis of the Potential Economic Impact of Huanglongbing on the California Citrus Industry. Texas A&M-Commerce. 2012.

Chelsea Suttle. M.S. Thesis. Evaluation of Landscape Plants for Green Roof Gardens in Texas. Texas A&M-Commerce. 2009.

Brittney Junell. M.S. Thesis. Novelty Tall Fescue Effects on Goat Performance and Prolactin Levels. Texas A&M-Commerce. 2008.

Graduate Student Thesis Committee Member (continued)

Erin Wilson. M.S. Thesis. Secondary Agriscience Teachers' Perspectives and Preferences Regarding Agricultural Safety Education and Certifications. Texas A&M-Commerce. 2007.

Nathan Melson. M.S. Thesis. The Value of Overseeding Established Stands of TAM-90 Annual Ryegrass with Additional Rates of TAM-90 Ryegrass in Northeast Texas. Texas A&M-Commerce. 2001.

Other Service and Activities:

1. Member of:
 - a. American Society of Agronomy (1978 - 2011)
 - b. Crop Science Society of America (1978 - present)
2. Search committee member, College of Science, Engineering, and Agriculture Safety Officer - 2013
3. Committee Member – Department Representative, College of Science, Engineering, and Agriculture Institutional Effectiveness. 2013
4. Search committee member for Head, Dep. Biology and Environ. Sci., TAMU-C, 2012
5. Search committee member, Wildlife Biologist, Dept. Biol. Env. Sci., TAMU-C, 2011
6. Served as Co-Coordinator w/ Dr. A. Chourasia, TAMU-C, Annu. Res. Symp, 2011-2013
7. Search committee member, Toxicologist, Dept. Biol. Environ. Sci. TAMU-C, 2010
8. Represent the Department of Agricultural Sciences (TAMUC) at the Council of Agricultural Administrators (Prairie View A&M, TAMUC, TAMUK, WTAMU, Tarleton) and AASCARR (American Association of State Colleges of Agriculture and Renewable Resources); now NARRU (Non-Land-Grant Agricultural and Renewable Resource Universities), 2011-2014.
9. Member, University Scholarship Committee, TAMU-C. 2009
10. Member, University Research Committee, TAMU-C, 2010-2012
11. Commerce (TX) Community Garden Association, 2009 – 2012
12. Crop Physiology Division (C-2) Chair (2009), Crop Science Society of America
13. Chair, United Soybean Board Graduate Fellowship Committee, 2007

Other Service and Activities (continued):

14. Associate Editor - *Journal of Cotton Science* - Agronomy & Soils Section
2003 (8 manuscripts)
2004 (13 manuscripts)
15. Associate Editor – *Crop Management* (2006 - 2008)
16. Cotton Physiology Steering Committee 1996-1998 (Chair for 1998)
17. Associate Editor, *Crop Science* (Crop Physiology, C-2 Division), 1995 - 2001
(approximately six manuscripts per year)
18. Coordinator - Texas Soybean Work Group (1999 – 2008, met annually)
19. Co-Chair – Land Use Committee, Tex. Agric. Exp. Stn. – Dallas (2004 - 2007)
20. Reviewed manuscripts for *Agronomy Journal*, *Journal of Production Agriculture*, and *Field Crops Research* and two chapters of “Seed Biology and Yield of Grain Crops,” a book written by D.B. Egli (1998, CAB International).
21. Served on one USDA-ARS Research Position Evaluation System Panel in April 1998.
22. The incumbent reviewed grant applications in 1991, 1992, 1994, and 2004 as part of the USDA's CSRS National Research Initiative Competitive Grants Program.
23. Served as the Radiation Safety Officer for the Stoneville location (USDA-ARS) from 1989-1992. This duty required reviewing lab protocols, inspecting laboratories, maintaining records of radioactive inventories, monitoring film badges, and coordinating disposal of radiolabeled waste.

Teaching – As Graduate Student and Post-Doc (before 1999)

I taught one Introductory Plant Science Laboratory at University of Missouri in 1979, assisted teaching (one lesson) Crop Ecology at University of Kentucky in 1983, and assisted teaching (one lesson) Crop Physiology at Oklahoma State University in 1985.

Teaching – Texas A&M Commerce (1999 – 2014)

I was assigned as teacher of record and taught one or two three-semester hour classes per year from 1999 to 2007. From 2008 forward, I was assigned a minimum one course per semester as Department Head. On selected semesters, I taught two courses per semester.

Teaching – University of Wyoming (2015 - 2020)

I typically teach a graduate course in Advanced Crop Physiology and Management and an undergraduate course in Crop Physiology. In spring 2018 and spring 2020, I assisted teaching a course entitled Field Crop Production.

Undergraduate Courses:

1. Introduction to Plant Science (PIS 115). To develop an awareness of the fundamentals of plant science that facilitate plant growth, how plants are cultured, and how they interact with the environment. To teach students the importance of plant growth and agricultural practices and how they affect human and animal nutrition, rural economics, world sociological events. Taught twice.
2. Crop Physiology (PIS 381, colisted for graduate credit as PIS 502) or as PLNT 4790. Objective is to convey how crop plants develop and explain factors that govern their yield. Taught four times in Texas and twice in Wyoming.
3. Genetics of Livestock Improvement (AnS 310). Objective is to learn genetic principles used in biological and agricultural science as related to livestock improvement. Learn concepts such as gene action, crossbreeding, and inbreeding. Learn to apply genetic principles so that students will (1) be able to articulate genetic concepts and (2) apply these principles to real-life situations in livestock genetics. Spring 2010. Substituted the entire semester for the Professor of Animal Science who was on sick leave. Taught once.
4. Botany (BSc 1411). Objective is to teach students in Agriculture, Wildlife and Conservation Science, and the Environmental Science about the structure, function, diversity, and ecology of plants. Topics include the plant cell, anatomy, morphology, plant physiology, plant biochemistry, genetics, evolution, and classification. Taught three times.
5. Writing for Publication (Ag 300). Objective is to teach student to write effectively and recognize the different formats and approaches for resumes, white papers, proposals, cover letters, citations, references, and scientific papers. Taught one time.
6. Seminar (Ag 400). Objective is to foster the development of verbal presentation skills, how to prepare user-friendly slides, the importance of knowing the subject matter, and poise in front of an audience so that student will be able to effectively communicate. Taught one time.
7. Field Crop Production. Objective is to provide students with a fundamental understanding of production cropping systems. Led by Dr. Carrie Eberle. I co-taught twice (33% of course).

Graduate Courses:

1. Agricultural and Biological Instrumentation (PLS 501). Objective is to teach the different instruments and methods used to quantify variables in life sciences. Taught three times.
2. Design and Analysis of Biological Experiments (Ag 505), three semester hours taught with Ag 506 Analysis Lab (one hour). Taught seven times.
3. Research Literature and Techniques (Ag 595). Objective is to teach graduate students how to seek out appropriate citations and to evaluate publication quality. Taught three times.
4. Scientific Methods in Agricultural Research (Ag 532). Objective is to teach students how to organize and write their theses as well as making sure their research asks the best questions. Taught twice.
5. Graduate Seminar (Ag 599). Taught each fall/spring semester from 2008 to 2013.
6. Advanced Crop Physiology and Plant Breeding (PLS 597). The course covers physiological processes underlying crop growth and development. The second set of lectures covers principles of breeding self-pollinated, cross-pollinated, and vegetatively (asexually) propagated plants. The effect of crop management practices on physiology is also discussed. Taught two times.
7. Advanced Crop Physiology and Management (PLNT 5410). The course covers the basic principles of crop growth and development as well as cultural practices that affect crop yield and cost of production. Taught four times.

Other Noteworthy Achievements (past four years)

In 2018 and 2019, I worked with Brian Mealor and Bret Hess to formalize novel and online degree options for students in the plant sciences. Dr. Mealor led the charge on an accelerated MS and a distance MS and Dr. Hess and I led the charge on the badge/certificate programs in seed certification and seed analysis.

From 2015 to 2019, I screened multiple dry bean genotypes for tolerance to drought in two field locations within Wyoming. At multiple locations (Lingle, 2015; Powell, 2016; Powell 2017, Lingle 2017; Powell 2018; Powell 2019), canopy temperature was negatively correlated to genotype yield for both the well-watered and drought components of the tests. In 2019, this yield vs. canopy temperature (CT) was found within a set of sister lines suggesting that CT needs to be considered as a selection criteria.

In 2018, I am in the process of testing F₅ progeny from various dry bean crosses. Parents include public varieties from Colorado and Idaho as well as accessions from the *Phaseolus* Collection housed in Pullman, WA. Progeny are intended for use in drought-tolerance screening programs.