

Lucas A. Haag
Vitae – February 2014

OFFICE ADDRESS:

K-State Research & Extension
Northwest Research-Extension Center
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EDUCATION

Ph.D. Agronomy – Crop Production

Department of Agronomy
Kansas State University, Manhattan, Kansas

Fields: Crop Ecology, Dryland Cropping Systems
Dissertation: Ecophysiology of dryland corn and grain sorghum as affected by
alternative planting geometries and seeding rates.
(Alan Schlegel, Ph.D. and Scott Staggenborg, Ph.D., Major Professors)
Doctorial Examination Completed, July 31, 2013.
Official Graduation, December, 2013.

Graduate Certificate – Applied Statistics

Department of Statistics
Kansas State University, Manhattan, Kansas

Fields: Experiment design, analysis of messy data, multivariate analysis
Completed as part of Ph.D. Program, December, 2013.

M.S. Agronomy – Crop Production

Department of Agronomy
Kansas State University, Manhattan, Kansas

Fields: Crop Ecology, Precision Agriculture, Dryland Cropping Systems
Thesis: Variable rate seeding of corn based on spatially variable plant
available water.
(Scott A. Staggenborg, Ph.D., Major Professor)
Graduated, May, 2008.

B.S. Agricultural Technology Management

Department of Biological & Agricultural Engineering
Kansas State University, Manhattan, Kansas

Fields: Precision Agriculture, Machinery Management, Analysis and Design of
Off-Highway Machinery, Irrigation, Electronic Sensors and Control
Systems
Minor in Agricultural Economics
(Randal K. Taylor, Ph.D., P.E., Advisor)
Graduated, May, 2005

RELEVANT EXPERIENCE

- September 2013 – present: Assistant Professor / Northwest Area Agronomist, Kansas State University Research & Extension. 100% Extension appointment. Organize and support extension efforts in crops, soils, and range for a 26 county territory in northwest and north-central Kansas.
- January 2011 – August 2013: Graduate Research Assistant, Crop Production Research Group, Department of Agronomy, Kansas State University Research & Extension. Design, production management, and analysis of research experiments, personnel management of student technicians, fabrication and modification of mechanical and electronic research equipment. Coordination of Kansas Cotton Variety Performance Tests. Teaching responsibilities in 600 level Cropping Systems and Precision Ag courses.
- March 2008 – September 2010: Assistant Scientist, Southwest Research-Extension Center, Kansas State University Research & Extension. Tribune, Kansas. Design, production management, and analysis of research experiments in dryland and limited irrigation cropping systems. Oversee contract research projects involving foliar applications to corn and wheat and evaluation of hybrids with improved drought tolerance. Lead research relating to alternative planting geometries and fallow replacement crops.
- May 2005 – February 2008: Graduate Research Assistant, Crop Production Research Group, Department of Agronomy, Kansas State University Research & Extension. Design, production management, and analysis of research experiments, personnel management of student technicians, fabrication and modification of mechanical and electronic research equipment.
- January 1998 – Present: President, Silver Creek Technologies Inc., Indianola, Nebraska. Proprietor of an agricultural technology services firm providing sales and service of precision agriculture hardware, wireless internet service, two-way radio service, and formerly sales of agricultural seeds.
- January 1998 – Present: Labor and Management, Haag Farms, Bartley, Nebraska and Haag Land & Cattle Co., Norcatur, KS. Active in the operations of a 10,000 acre farming and ranching operation located in Red Willow Co., Nebraska and Decatur Co., Kansas. Past or current enterprises include: wheat, corn, grain sorghum, field peas, proso millet, commercial cow-calf, and cattle feeding.
- January 1998 – August 2009: Professional Sales Leader, Garst Seed Co., Coon Rapids, Iowa. Sales and service of agricultural seed products including corn, grain sorghum, sunflowers, and soybeans. Managed my personal account and up to three sub dealers.

PROFESSIONAL SERVICE

National:

October 2008 – Present: Non-voting member on ASABE PM-54, Committee on Precision Agriculture.

August 2004 – Present: Serve on ASABE PM-43, Committee on Machinery Management Data and Practices

KSU Service:

October 2012 – May 2013: Selected to serve on K-State College of Agriculture / K-State Research and Extension Facilities and Infrastructure planning committee as part of the campus-wide 2025 strategic planning initiative.

April 10, 2012 Selected to represent K-State Department of Agronomy and College of Agriculture in a student meeting with Secretary of Agriculture Vilsack.

July 2011 – March 2012: Served on Department of Agronomy search committee for the agricultural micrometeorology faculty position. The committee selected candidates to interview from the applicant pool, conducted 2 day interviews of each candidate and made a recommendation to the department head and dean.

August 2003 – May 2007: Three appointments to service on the University Privilege Fee Committee, annually allocate over \$10.7 million collected from student fees.

August 2002 – May 2005: Elected to serve as Department of Biological & Agricultural Engineering representative on College of Engineering Computing Services Committee

Invited Presentations and Reviews:

June 27, 2012 Invited presentation for New Mexico NRCS state staff regarding reduced-till, no-till, and strip-till technologies on broad acre dryland production, Albuquerque, NM.

March 14, 2012: Invited presentation at the USDA-ARS Ogallala Annual Conference, Garden City, KS. Evaluation of alternative planting geometries for corn and grain sorghum.

September 2008: Manuscript review, USDA-ARS Bushland, TX, Major advances of soil and water conservation in the U.S. Southern Great Plains.

Personal and Other Service:

Jan. 2011 – Present Advisory board member and KSRE representative, Kansas Agricultural Technology and Research Association (KARTA)

April 2006 – Present Member, Nebraska FFA State Stars Selection Committee

April 2003 – Present: Coordinator, Nebraska FFA Agricultural Demonstration Contest

May 2005 – May 2006 Business Manager, K-State Rodeo Club
May 2003 – May 2005 President, K-State Rodeo Club (two consecutive terms)
April 2001 – April 2002 President, Nebraska FFA Association
June 2001 – Present: Director, Red Willow County Rodeo Committee
May 1998 – Present: Trained Storm Spotter, National Weather Service – Goodland, KS
June 1997 – Present: Member, Tri-State Amateur Radio Club
June 1997 – Present: FCC Amateur Radio Licensee – Technician Class, KC0BJB

PROFESSIONAL AFFILIATIONS

Alpha Mu Honorary (Agricultural Mechanization), Inducted April 2004
American Society of Agricultural and Biological Engineers, member, 2002 – Present
American Society of Agronomy, member, 2006 – Present
Certified Crop Advisor, American Society of Agronomy, 2009 – Present
Crop Science Society of America, member, 2006 – Present
Kansas Agricultural Research and Technology Association, member, 2003 – Present
Nebraska Agricultural Technologies Association, member, 2005 – Present
Soil and Water Conservation Society, member, 2008 – Present
Soil Science Society of America, member, 2008 - Present

HONORS AND AWARDS

2012 Blue Legacy Award in Agriculture to the Ogallala Aquifer Program
(participating scientist)
K-State Recipient, Mott Award for Meritorious Graduate Students in Crop Science, 2012
Foote K-State Department of Agronomy Scholar, 2011
ASABE National Student Honor Award, Mechanization Branch, 2005
Lipper Agricultural Technology Management Scholar, 2004
Priebel Soil & Water Conservation Scholar, 2003
National FFA Agricultural Sales Entrepreneurship Proficiency Award Winner, 2001
National FFA AgriEntrepreneur Award, 2001

CETRIFICATIONS, TRAININGS, PROFESSIONAL DEVELOPMENT

Workshop participant, Analysis of Messy Data. One-day workshop training on techniques for use on non-standard datasets. Lectured by George A. Milliken and Dallas E. Johnson, K-State professors emeritus. In conjunction with the Applied Statistics in Agriculture Conference. Manhattan, KS. April 19, 2009.
Attendee, Applied Statistics in Agriculture Conference, K-State Dept. of Statistics, April 2009.
Workshop participant, Experimental design for the 21st Century – The RCBD and beyond. One-day statistical workshop sponsored by ASA-CSSA-SSSA and lectured by Roger Payne, Rothamsted Research UK. Pittsburgh, PA. November 1, 2009.
Certified Crop Advisor, American Society of Agronomy, 2009 – Present
Commercial Drivers License, 2006 – Present

GRANT ACTIVITIES

Investigating optimal variety selection and production practices for dry field pea. Kansas Center for Sustainable Agriculture and Alternative Crops. Lucas Haag, principal investigator. Requested \$5,000. Submitted November 11, 2013. Funded.

Use of UAV technology for corn replant evaluation and in-season management for maximum profit. Kansas Corn Commission. Lucas Haag, principal investigator. Ignacio Ciampitti, Kevin Price, Eric Adee, Johnathan Holman, Deon van der Merwe, and Stewart Duncan co-investigators. Requested \$33,392. Submitted November 8, 2013. In-process.

Developing a crop evaluation tool for comparing corn to alternative crops in Kansas cropping systems. Kansas Corn Commission. Dan O'Brien, principal investigator. Ignacio Ciampitti, Kraig Roozeboom, Danny Rogers, Jonathan Aguilar, Bill Golden, Lucas Haag, Brian McCornack, Xiaomao Lin co-investigators. Requested \$92,000 (Haag's share \$1,000). Submitted November 8, 2013. In-process.

Integrating cattle and crops: Eye in the sky to monitor grazing, and boots on the ground to measure soil health. North-Central SARE. Lucas Haag, principal investigator. Sandy Johnson and DeAnn Presley, co-investigators. Jeanne Falk Jones, Marty Fear, Kurt Sexton, and Neil Cates, collaborators. Requested \$68,577. Submitted October 24, 2013. Not funded.

Development of economically optimized water, crop, and feeding management strategies for forage sorghum as a potential alternative to corn silage. USDA-ARS Ogallala Aquifer Program. Lucas Haag, principal investigator. Vara Prasad, Dan O'Brien, Jason Waite, and Evan Titgemeyer, co-investigators. Requested \$86,866. Submitted July 8, 2013. Not funded.

Replacing fallow for increasing producer profitability and facilitating the transition to dryland production systems. Ogallala Aquifer Program. John Holman, principal investigator. Alan Schlegel, Louis Baumhardt, Troy Dumler, and Lucas Haag co-investigators. Requested \$40,000. Submitted September 24, 2012. Funded

Irrigation practices for maximizing total returns in a corn-cotton rotation. Authored proposal to the Cotton Inc. - state support funds. L.A. Haag, principal investigators. Requested \$10,000. Submitted November 2012. Funded.

Irrigation practices for maximizing total returns in a corn-cotton rotation. Authored proposal to the Kansas Cotton Association. L.A. Haag and S.A. Staggenborg, principal investigators. Requested \$12,000 (\$6,000 FY11, \$6000 FY12). Submitted August 9, 2011. Funded.

Forage and bioenergy crops as fallow alternatives that improve producer profitability and facilitate the transition to dryland production systems. Authored proposal to the USDA-ARS Ogallala Aquifer Program. L.A. Haag and S.A. Staggenborg, principal investigators. A. J. Schlegel, J. Holman, J.S. Falk, B. Bean, R.L. Baumhardt, T. Dumler, and B. Johnson, cooperators. Requested \$61,452. Submitted June 25, 2010. Funded.

Investigating alternative plant geometries for stabilizing and/or improving dryland crop yields. Authored proposal to the USDA-ARS Ogallala Aquifer Program. L.A. Haag and A.J. Schlegel, principal investigators. P.V.V. Prasad, T. Dumler, and K.L. Martin, cooperators. Requested \$30,000. Submitted June 30, 2009. Funded.

Effect of Stubble Height on Retention of Soil Moisture. Authored proposal to the Dane G. Hansen Foundation. S.A. Staggenborg, L.A. Haag. Requested \$2,160. Submitted July 2005. Funded.

Evaluating Wheat Harvesting Systems Using Yield Monitor Data. Coauthored proposal to the Kansas Department of Agriculture, Wheat Commission. (Principal Investigators: S.A.

Staggenborg and K.C. Dhuyvetter). Requested \$14,000. Submitted October 2005. Not funded.

CLASSROOM TEACHING

Instructor for Agronomy 640, Cropping Systems, Fall 2011.

Co-taught the 3 credit course with two professors. Was responsible for approximately one third of the course content including leaf area, light interception, water use, tillage systems, economics and modeling. Received positive reviews on teaching evaluations especially in teaching effectiveness, and explaining the subject clearly.

Lab Coordinator for Agronomy 655, Site Specific Agriculture, Spring 2006, 2007, 2011, 2012.

Coordinate laboratory instruction dealing with a variety of hardware and software issues. Provide instruction in the use of EasiSuites, ArcView, Excel, and MapCalc software packages while applying precision agriculture concepts.

Guest Lecturer in Agronomy 655, Site Specific Agriculture, Spring 2006, 2007.

1 Hour lecture covering the theory of global positioning systems, common hardware data communication protocols in agricultural applications, and objectively evaluating GPS receiver accuracy.

1 Hour lecture covering GIS software use in agriculture, types of GIS data, and applying GIS concepts to a variable rate application scenario.

1 Hour lecture covering the utilization of yield data for spatial – temporal yield stability analysis. Facilitated class discussion on utilization of spatial production potential for management decisions.

1 Hour lecture covering the use of spatial statistics and interpolation techniques.

Guest Lecturer in Agronomy 640, Cropping Systems, Fall 2006, 2007.

1 Hour lecture and Discussion Facilitation regarding a review of “Dryland Winter Wheat as Affected by Previous Crops”, C.A. Norwood, Agron J. 92:121-127. 2000

1 Hour lecture and Discussion Facilitation regarding a review of “Tillage and Residue Effects on Wheat, Sorghum, and Sunflower Grown in Rotation”, P.W. Unger, Soil Sci. Soc. Am. J. 48:885-891.

1 Hour lecture on Plant Available Water – Sources of Limitation and Spatial Variability

Guest Lecturer in ATM (Agricultural Technology Management) 550, Spring 2008.

1 Hour lecture covering the theory behind components used in grain yield monitoring. Discussion of mass flow calibration methods. Discussed the use of yield monitor data for phosphorus management and machinery management comparisons.

3 Hour laboratory session that involved hands on experience for approximately 25 students. A yield monitor test stand was used to illustrate the different approaches to developing mass flow calibration curves. Calibration errors were purposely introduced to illustrate the impacts on data quality.

PUBLICATIONS

Refereed Journal Publications:

Staggenborg, S.A., M. Carignano, and L.Haag. 2007. Predicting Soil pH and Buffer pH In Situ with a Real-Time Sensor. *Agronomy Journal* 99:854-861.

Accepted, under revisions: Haag, L.A., A.J. Schlegel, and R.D. Rodgers. Agronomic evaluation of a fallow system beneficial to pheasant habitat. Accepted, under revisions.

In Draft: Haag, L.A., A.J. Schlegel, and S.A. Staggenborg. Impact of wheat stubble height on over-winter snow catch. In draft.

Haag, L.A., A.J. Schlegel. Transition from irrigated to dryland cropping systems, a wheat-sorghum-fallow example. In draft.

Haag, L.A. J. Holman, J. Ransom, T. Roberts, S. Maxwell, and M.E. Zarnstorff. Plasticity of corn yield components to late season stand reductions in the central and northern Great Plains. In draft.

Other Reviewed Publications:

Haag, L.A., J. Waite, and S. Duncan. 2013. 2012 Kansas Performance Tests with Cotton Varieties. Kansas State Univ. Agric. Exp. Stn. and Coop. Ext. Svc. Report of Progress No. 1082.

Haag, L.A., J. Waite, S. Staggenborg, and S. Duncan. 2012. 2011 Kansas Performance Tests with Cotton Varieties. Kansas State Univ. Agric. Exp. Stn. and Coop. Ext. Svc. Report of Progress No. 1064.

Haag, L.A. and A.J. Schlegel. 2011. Effect of stubble height in a no-till wheat-corn/sorghum-fallow rotation. Southwest Research-Extension Center 2011 Field Day. Kansas Agric. Exp. Stn. Report of Progress No. 1052.

Haag, L.A. and A.J. Schlegel. 2010. Dryland wheat and row crop yields as affected by tillage and rotation in a long-term, large-scale, dryland cropping systems study. Southwest Research-Extension Center 2010 Field Day. Kansas Agric. Exp. Stn. Report of Progress No. 1034.

Haag, L.A. and A.J. Schlegel. 2010. Effect of stubble height in a no-till wheat-corn/sorghum-fallow rotation. Southwest Research-Extension Center 2010 Field Day. Kansas Agric. Exp. Stn. Report of Progress No. 1034.

Haag, L.A., and A.J. Schlegel. 2009. Yield and dry matter partitioning of grain sorghum grown in clumps. Southwest Research-Extension Center 2009 Field Day. Kansas Agric. Exp. Stn. Report of Progress No. 1014.

Haag, L.A., and A.J. Schlegel. 2009. Effect of stubble height in a no-till wheat-corn/grain sorghum-fallow rotation. Southwest Research-Extension Center 2009 Field Day. Kansas Agric. Exp. Stn. Report of Progress No. 1014.

Haag, L.A., and A. J. Schlegel, 2008. Effect of stubble height in a no-till wheat-corn/sorghum-fallow rotation. Southwest Research-Extension Center 2008 Field Day. Kansas Agric. Exp. Stn. Report of Progress No. 997.

Non-Refereed Publications (including meeting abstracts):

Haag, L.A., J. Waite, J. Morris. 2013. Developing irrigation strategies for cotton-corn production systems in Southwest Kansas. 2013 ASA-CSSA-SSSA Meetings. Presentation No. 182-5 in Symposium: Improving crop water productivity through innovative irrigation and dryland management. Tampa, FL.

Haag, L.A., J.S. Falk, A.J. Schlegel, J. Holman, R.L. Baumhardt. 2012. Grain and forage yield, yield components, water use, and rotation effects of field pea grown in the Central High Plains. 2012 ASA-CSSA-SSSA Meetings. Presentation 68-2. Cincinnati, OH.

Schlegel, A.J. and L.A. Haag. Wheat stubble height on subsequent corn and grain sorghum production. 2012. Impact of hail damage (stand thinning) on irrigated corn. 2012 ASA-CSSA-SSSA Meetings. Presentation 68-2. Cincinnati, OH.

Holman, J., L. Haag, M. Zarnstorff, J. Ransom, S. Maxwell, and T. Roberts. 2012. Impact of hail damage (stand thinning) on irrigated corn. 2012 ASA-CSSA-SSSA Meetings. Presentation 68-2. Cincinnati, OH.

Haag, L.A., A. J. Schlegel, and S.A. Staggenborg. 2011. Canopy temperature and CWSI as affected by alternative dryland corn and grain sorghum planting geometries. 2011 ASA-CSSA-SSSA Meetings. Presentation No. 255-10. San Antonio, TX.

Haag, L.A. and A.J. Schlegel. 2011. Fallow efficiency in dryland cropping systems as effected by previous crop, crop rotation, and other factors. 2011 ASA-CSSA-SSSA Meetings. Presentation No. 268-3. San Antonio, TX.

Taylor, R., J. Fulton, D. Mullenix, M. Darr, R. McNaull, L. Haag, S. Staggenborg. 2011. Using yield monitors to assess on-farm test plots. 2011 ASABE International Meetings, ASABE Meeting Paper No. 110690. St. Joseph, MI.

Haag, L.A., and A.J. Schlegel. 2009. Effects of planting geometry on light interception, leaf temperature, and yield components of corn and grain sorghum. 2009 International ASA-CSSA-SSSA Meetings. Presentation No. 292-14. Pittsburg, PA.

Haag, L.A., and A.J. Schlegel. 2009. Grain yields and soil water dynamics in a long-term, large-scale dryland cropping systems study. 2009 International ASA-CSSA-SSSA Meetings. Presentation No. 226-3. Pittsburg, PA.

Haag, L.A., and A.J. Schlegel, 2008. Skip-row, clump, and conventional planting: Evaluation of dryland corn and grain sorghum planting geometries in the High Plains of West-Central Kansas. 2008 International ASA-CSSA-SSSA Meetings. Presentation No. 557-2. Houston, TX.

Haag, L.A. and S.A. Staggenborg. 2007. Impact of Stubble Height and Plant Population on High Plains Dryland Corn Production. 2007 International ASA-CSSA-SSSA Meetings. Presentation No. 64-2. New Orleans, LA.

Haag, L.A. and S.A. Staggenborg. 2006. Variable Rate Corn Seeding based on Spatially Variable Growing Season Water Supply. 2006 International ASA-CSSA-SSSA Meetings. Presentation No. 52-7. Madison, WI.

Haag, L.A., R.K. Taylor, K.C. Dhuyvetter, and M.D. Schrock. 2004. Using Yield Monitor Data to Compare Grain Harvesting Methods. 2004 International ASAE Meetings, ASAE/CSAE Meeting Paper No. 041094. St. Joseph, MI.

Poster Presentations with published abstract:

Haag, L.A. and S.A. Staggenborg. 2006. Impact of Stubble Height on Soil Moisture Dynamics. 2006 International ASA-CSSA-SSSA Meetings. ASA Presentation No. 154-6. Madison, WI.

Research Slide Presentations:

AutoSwath – An Early Analysis on Yield Data Quality. S.A. Staggenborg, L.A. Haag, and K. Staggenborg. Presented at the 13th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 21-22, 2010.

Evaluation of Clump Planted Sorghum Using On-Farm Research at Multiple Locations. L.A. Haag. Presented at the 13th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 21-22, 2010.

Current K-State Research Efforts in Alternative Planting Geometries. L.A. Haag. Presented at the Ogallala Region Planting Geometry Working Group. Canyon, TX. December 15, 2009.

Skip-row / Clump Planting of Corn and Sorghum. L.A. Haag. Presented at the 12th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 22-23, 2009.

Skip-row corn: A new practice for high plains dryland agriculture. L.A. Haag. Presented at the 11th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 25th, 2008.

Utilizing Yield Monitor Data – Determining spatial-temporal yield stability and its uses. L.A. Haag. Colorado State University – Department of Soil and Crop Sciences guest seminar. Ft. Collins, CO. February 2, 2007.

Improving Combine Efficiency Using Stripper Headers. L.A. Haag. Presented at the 10th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 25, 2007

Agronomic Impacts of Stripper Harvested Wheat Stubble. L.A. Haag. Presented at the 10th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 25, 2007

Implementation of Skip-Row Corn – On Farm Research Study. L.A. Haag. Presented at the 10th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 25, 2007.

Utilizing Yield Monitor Data – Determining spatial-temporal yield stability and its uses. L.A. Haag. Presented at the 2006 Annual Conference of the Nebraska Agricultural Technologies Association. Grand Island, NE. February 2, 2006.

Seed Applied Insecticides in High Plains Dryland No-Till Corn. L.A. Haag (presenter) and D.L. Kastens. Presented at the 2006 Kansas Precision Ag Conference – Kansas Agricultural Research Association annual meeting. McPherson, KS. January 25, 2006

Using Yield Monitor Data for Agronomic and Machinery Management. L.A. Haag. Presented at the second annual Aberlardo Cuffia S.A. precision agriculture conference. Marcos Juárez, Córdoba, Argentina. October 28, 2005.

Extension Presentations, Publications, Activities:

Wheat Fertility Management. L.A. Haag and M.F. Vigil. Presentation to producers and local extension agents on recent research findings in managing nutrients to maximize wheat yield and quality. Cover Your Acres Conference, Oberlin, KS. January 21 and 22, 2014. (220 in attendance over 4 sessions).

Cropping intensity, are there limits? M.F. Vigil and L.A. Haag. Presentation to producers and local extension agents on recent research findings in crop rotation intensity and the integration of cover crops. Cover Your Acres Conference, Oberlin, KS. January 22, 2014. (132 in attendance over 2 sessions).

Soil fertility update – Sampling strategies and site specific management. L.A. Haag and D. Ruiz-Dias. Presentation to producers and local extension agents on soil sampling strategies and implementation of site specific management systems. January 15th and 16th. Barton, Ellis, and Ness Counties. (132 in attendance over 2 sessions).

Precision Ag Technologies Update. L.A. Haag. Presentation to local extension agents on recent advances in precision ag technology. Northwest Area Agronomy Update, Hays, KS. December 17th, 2013. (10 extension agents in attendance).

Using Agriculture Smartphone and Tablet Apps. L.A. Haag and D. Dunn. Training for county/district ag extension agents regarding smartphone and tablet technology and apps available for the agricultural industry and to assist in extension work. Hays, KS. November 14th, 2013. (8 extension agents in attendance).

Sorghum production strategies for Central Kansas. L.A. Haag and M. Buchanan. Reviewed key management strategies for profitable sorghum production. Hollyrood, KS. October 15th, 2013. (35 in attendance).

Kansas Cotton Association Moscow Plot Tour - Irrigation Study. L.A. Haag. Presented information regarding cotton yield components and irrigation strategies for corn/cotton production systems. Moscow, KS. September 5, 2013. (30 in attendance)

Kansas Cotton Association Moscow Plot Tour - Irrigation Study. L.A. Haag. Presented information regarding cotton yield components and irrigation strategies for corn/cotton production systems. Moscow, KS. September 5, 2012. (40 in attendance)

Principles of wind erosion, soil water, and irrigation management. L.A. Haag. Training session for agronomy undergraduate students preparing for the CCA exam. Manhattan, KS. April 4, 2012. (20 in attendance)

Yield Monitor Data Filtering and Analysis. L.A. Haag. Presented to a group of producers from across western Kansas at a Ness County Extension meeting. Ness City, KS. February 13, 2012. (25 in attendance)

On-Farm Research – Why and How? L.A. Haag. Presented at the 15th Annual Kansas Ag Technology Conference. Salina, KS. January 19-20, 2012. (115 in attendance)

Utilizing yield monitor data for better farm, field, and site-specific management. L.A. Haag. Presented at the Cover Your Acres Winter Conference. Oberlin, KS. January 17-18, 2012. (245 in attendance)

Residue Management. L.A. Haag. Presented at 2012 K-State Ag Extension Agent In-Depth Training also available via web. Manhattan, KS. January 5, 2012. (50 in attendance)

Ag Agent Cotton Training. L.A. Haag. Worked with Stu Duncan in a training event for southwest Kansas ag extension agents. Presented data regarding irrigation management. Hugoton, KS. October 4, 2011 (10 in attendance)

Kansas Cotton Association Moscow Plot Tour - Irrigation Study. L.A. Haag. Presented information regarding cotton yield components and irrigation strategies for corn/cotton production systems. Moscow, KS. September 8, 2011. (80 in attendance)

Overview of crop production and biofuels in Kansas. L.A. Haag. Presented to International Military Officers attending the US Army Command and General Staff College. Manhattan, KS. September 6, 2011. (120 in attendance)

Making use of your yield monitor. L.A. Haag. Producer extension meeting. Abilene, KS. September 1, 2011. (18 in attendance)

Sorghum planting geometries and leaf temperatures. L.A. Haag. Presented at the Southwest Research-Extension Center Fall Field Day. Tribune, KS. August 17, 2011. (150 in attendance)

Precision Ag 101 and Improving Profitability with Precision Ag. L.A. Haag. Two seminars presented at the 50th Annual Western Farm Show. Kansas City, MO. February 26-27, 2011) (110 in attendance)

Managing Wheat Residue in Dryland and Irrigated Cropping Systems L.A. Haag. Presented at the Cover Your Acres Winter Conference. Oberlin, KS. January 18-19, 2011. (250 in attendance)

Precision Ag – Where do your customers want to go? What is your role in getting them there? L.A. Haag. Presented to implement dealer members of the Southwestern Association and faculty at Oklahoma State Univ. Institute of Technology. Okmulgee, OK. December 13, 2010. (35 in attendance)

Skips, rows, and clumps. Corn and sorghum planting geometries. L.A. Haag. Presented at the Southwest Research-Extension Center Fall Field Day. Tribune, KS. August 17, 2010. (120 in attendance)

Agronomic and Machinery Management Aspects of Stubble Height and Stripper Headers. L.A. Haag. Presented at Wallace County, KS grower meeting. Sharon Springs, KS. March 26, 2010. (40 in attendance)

Technology that pays. L.A. Haag. Presented at the 2010 Commodity Classic. Tampa, FL. March 5, 2010. (105 in attendance)

Production Opportunities for Safflower as a Fallow Alternative Crop. L.A. Haag. Presented at a producers meeting sponsored by Texas Tech University and Dreamland Industries. Lubbock, TX. February 23, 2010. (40 in attendance).

Effects of Stubble Height on Soil Water Retention. L.A. Haag. Presented at the No-Till Oklahoma Conference, Norman, OK. February 8-9, 2010. (80 in attendance).

Wheat stubble height on subsequent corn and grain sorghum. L.A. Haag. Presented at the Southwest Research-Extension Center Fall Field Day. Tribune, KS. August 20, 2009. (105 in attendance)

Managing Wheat Residue in Dryland and Irrigated Cropping Systems L.A. Haag. Presented at the Cover Your Acres Winter Conference. Oberlin, KS. January 20-21, 2009. (250 in attendance)

Tribune Research Update. L.A. Haag. Presented at Greeley and Wichita County, KS grower meetings. Tribune and Leoti, KS. December 16, 18, 2008. (60 in attendance)

In-Field Evaluation of Agricultural Machinery Technologies. Field demonstration moderator at the 2008 Kansas Ag Research Association field day. Introduced technologies to audience, led discussion regarding evaluating and comparing technologies. Great Bend, KS. August 5, 2008 (120 attended session)

Taking your data to the next level – who is going to do it? L.A. Haag. Presented at the 11th Annual Kansas Precision Ag Conference – Kansas Agricultural Research Association Annual Meeting. Salina, KS. January 23-25, 2008 (130 in attendance)

Data to Decisions, Collecting and Utilizing Yield Data. L.A. Haag. Presented at the Kansas Agricultural Research Association workshop on field data collection and utilization. Concordia, KS. February 26th, 2007. (40 in attendance)

Kansas Agricultural Research Association On-Farm Research Data Analysis Workday. Assisted producers in using GIS and Excel software to analyze results from on-farm research projects. December 11, 2006. Manhattan, KS (15 attendees)

Utilizing Yield Monitor Data, On The Go Sensing of OM, and Approaches to Variable Rate Nitrogen. L.A. Haag. Presented to visiting members of APRESID, the Argentina No-Till Producers Association. Manhattan, KS. August 28, 2006. (10 in attendance)

Yield Monitors – Systems, Data, and Uses. L.A. Haag. Presented at the 2006 Kansas Agricultural Research Association Field Day. Great Bend, KS. August 1, 2006 (90 attendees over 2 sessions)

Yield Monitoring. L.A. Haag. Whitepaper handout (2 p.) summarizing the concepts of yield monitor calibration and suggested calibration procedure based from ASAE X579 proposed standard. Distributed via web and extension activities. August 2006.

Using Microsoft Excel Workshop. Co-facilitated introductory workshop for producers. Topics included basic use, importing data, basic statistical functions, If statements, lookup tables, functions, graphing, and regression. Clay Center, KS. February 22, 2006 (15 attendees)

Yield Data Filtering and Yield Stability Analysis. Presented at a day long precision agriculture workshop sponsored by K-State and KARA. Lyons, KS. February 15, 2006 (14 attendees)

What is yield potential and how do we determine it? Moderator of group discussion, 2006 Kansas Precision Ag Conference – Kansas Agricultural Research Association annual meeting. McPherson, KS. January 25, 2006. (125 producers, agribusiness representatives, and university personnel.)

Kansas Agricultural Research Association On-Farm Research Data Analysis Workday. Assisted producers in using GIS and Excel software to analyze results from on-farm research projects. December 21, 2005. Manhattan, KS (12 attendees)

Using Precision Ag Technologies for On-Farm Research. L.A Haag. Presented to seed industry representatives, Elwood, NE, November 22, 2005 (25 personnel from Garst / Syngenta)

Software and Software-related Manuscripts:

Haag, L.A., and S.A. Staggenborg. 2006. Using Microsoft Excel – A guide for beginners with applications in production agriculture. Whitepaper handout (21 p.) with Microsoft Excel training examples from production agriculture. Included calculating the field capacity of different machinery widths, importing raw yield monitor data, calculating phosphorus recommendations from grid samples. Distributed at workshops and via web.

Haag, L.A. 2006. “PlanterBox.MB”. Software application written in MapBasic 7.0 and is used internally. Software creates polygons from as applied planter data. These polygons can then be used as spatial units for querying of data.

Haag, L.A., and R.K Taylor. 2005. Determining Spatial – Temporal Yield Stability, A Procedure Using MapCalc Analysis Software. Automated script and documentation (13 p.) distributed via web and extension activities.

Haag, L.A. 2005. "STYS.MB". Software application written in MapBasic 7.0 and is used internally. Software analyzes multiple years of yield data to determine spatial-temporal yield stability as proposed in: Taylor, R.K., N. Zhang, M.D. Schrock, J.P. Schmidt, and G.J. Kluitenberg. 2000. Classification of yield monitor data to determine yield potential. ASAE Paper No. 001087. Presented at 2000 International Meeting, Milwaukee, WI.

Popular Press:

Residue fuels crop rotations. L.R. Reichenberger. *Successful Farming Magazine*. Direct quotes regarding the impact of wheat stubble height on corn and grain sorghum yields. Will run in 2012.

Plant in a clump. D. Deterding. *Progressive Farmer Magazine*. Direct quotes regarding clump planting sorghum. Included interview with on-farm research collaborator Steve Arnold. September, 2011.

Heads up for higher yields. L.R. Reichenberger. *Successful Farming Magazine*. Direct quotes regarding sorghum planting geometries. 2011.

Peas on the Plains. L.R. Reichenberger. *The Furrow Magazine*. Direct quotes regarding fallow efficiency and the water use of field peas. 2010.

Wheat Residue Management. Interview with Eric Atkinson for the K-State Radio Network. Complete interview (11 min.) was integrated in the *Agriculture Today* radio program and aired on statewide radio network January 21, 2009. An edited 3-minute feature segment was distributed to network stations February 2, 2009.

Row Crop Farmer. S. Watson. Have provided comment in numerous issues, typically in the Q&A section. Fall 2008 - present

No-Tillers Like Stripper Headers. L.R. Reichenberger. *Successful Farming Magazine*. Direct quotes regarding the impact of stripper headers on machine efficiency, soil water retention, and subsequent row-crop yields. Included summarized tables and graphs of research findings. April 2007.

Yield Monitors – Systems, Data, and Uses. Interview with Eric Atkinson for the K-State Radio Network. Complete interview (15 min.) was available via web. Edited 3-minute segment aired on statewide radio network. August 1, 2006

Indianola student's research incorporates farming, satellites, to evaluate harvesting machinery. *McCook Daily Gazette*, September 7, 2004

EDUCATIONAL TRAVEL

October 2006 – One week trip to Argentina. Met with producers, agribusiness representatives, and INTA researchers in the Cordoba province. Learned about many aspects of production agriculture in Argentina, specifically the adoption of precision agriculture technologies. Spent considerable time with operations producing wheat, corn, soybeans, and sorghum. Observed the processes involved

in developing cropland. Delivered a presentation at a regional precision agriculture conference.

June 2005 – Two week trip to Costa Rica. Traveled with the National FFA Organization as National Proficiency Winner in Agricultural Sales Entrepreneurship. Toured and met with a variety of agricultural entities including government, agribusiness, and producers. Extensively toured production operations for pineapple (Del Monte), coffee, bananas, and sugarcane. Spent three days at EARTH University exploring their research programs and curriculum.

January 2005 – Two week trip to Finland, Germany, and Austria. Traveled with the National FFA Organization as Nebraska State FFA President. Toured and met with a variety of agricultural entities including government, agribusiness, and producers. Met with executives and engineers at Deere & Co. – Mannheim Product Engineering & Production, Bay-Wa Agricultural Cooperative, Ierks Milling, and Pioneer Hi-Bred International. Also met with the owners of a certified angus herd, dairy operators, and faculty at a technical agriculture college.