WAYNE HAROLD THOMPSON

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Soil and Cropping Systems Specialist
Strategy Advisor and Technical Consultant - Planning and Evaluation
Statistical Analysis and Data Interpretation - Technical Writing

KEY QUALIFICATIONS:

- ❖ Soil and Cropping Systems Specialist, dryland and irrigated cropping systems with emphasis on water use and nutrition, soil conditions and soil health, computer control technology adaptation and management
- ❖ Team leadership, mentoring, training and education, program planning, delivery, and outcome evaluation
- ❖ Statistical analysis and data interpretation, spatial data analysis, technical writing and reporting

EDUCATION:

- ❖ **Master of Science (MS), Soil Science and Agronomy ..... July 1995**
  Thesis Topic: **Remote sensing and landscape modeling, nutrient utilization and crop ecology**
  University of Minnesota, College of Agriculture, St. Paul USA
- ❖ **Bachelor of Science (BS), Agronomy and Pest Management ..... December 1982**
  Special Topic: **Survey to document IPM services among mid-western crop consulting firms**
  Iowa State University of Science and Technology, College of Agriculture, Ames USA

PROFESSIONAL EXPERIENCE:

Edaphos LLC – Houston, Texas ..... Current
Soil and Cropping Systems Specialist

- The focus of this work is analysis of climate and nutrient cycling data, interpretation and technical writing. This dataset was collected in 2015 through 2017 under my research project funded by WA State Department of Ecology. My current efforts are funded under affiliated project grants on crop residue burning, removal and retention soil nutrient stratification, soil water storage, and soft white winter wheat yield and quality. David R. Huggins is PI (USDA-ARS, dhuggins@wsu.edu) ..... Ongoing
- *Short-term project.* Contract to develop white paper and opinion for a proposed 188,000-acre mega-farm near Cairo, Egypt on the feasibility and sustainability of desert reclamation. This included for example, developing soil quality survey guidelines, crop yield potentials, cropping system adaptation requirements, pest management factors and pesticide use options, projected annual and seasonal evapotranspiration rates and irrigation water use requirements for a crop rotation including sugar beet, maize, checkpea and barley. This work required significant computer skill and adaptation of water use and phenology models. Projections that I developed were based on a full range of climate conditions from historical climate data (source NOAA-NCDC) ..... Completed, April 2018

Washington State University/Crop and Soil Science Department ..... 7 months, starting May 2017
Consulting Agronomist and Soil Scientist

- Data Analysis and Technical Writing (for David R. Huggins, dhuggins@wsu.edu). Compiled final project report including climate, soil nutrient cycling and crop yield data interpretation. Also developed partial enterprise budget; and prepared final agency report (descriptions, charts, tables and figures), and presented findings in-person to stakeholders in November 2017 ..... Completed, November 2017

Washington State University/Extension, SE Washington ..... 2.8 years, starting October 2013
Regional Dryland Cropping Systems Specialist

- My focus as regional agronomist was adult education and outreach. This position required rigorous program planning and outcome analysis. For example, I designed, organized and delivered outreach education activities to transfer technologies to dryland cereal and pulse grain producers in Southeastern Washington State, addressing pesticide use and safety, soil and water conservation, soil health and cover crops.
- The secondary focus of this position was applied field research. Research projects addressed 1) water use by cover cropping systems (funded with start-up monies); 2) nutrient fate under four crop residue management methods: full

burn, no-till, windrow burn and direct bale (funded by WS DOE); and 3) soil remediation methods to address nutrient and acid stratification and timing of compost applications for a semi-arid cereal, pulse grain, fallow rotation (funded by Barr-Tech Composting). My research findings were presented orally and in juried events at local, regional and national levels.

Texas A&M University/Soil and Crop Sciences Department, College Station ... 5.4 years, starting May 2008
Extension Program Specialist

- I served as interim team leader of Summer Annual Cropping Systems Research and Extension for Texas. This position was funded by the US Department of Energy. Project PI was Jurg Blumenthal, (deceased), and by David Baltensperger, department chair.
- Responsibilities for this position included managing summer annual bioenergy cropping systems research. The primary focus of this position was to manage field crews, compile and analyze cropping systems field research data, and to author summaries of findings as in-term and final project reports. To meet project goals, I mentored, managed and trained field crew personnel (two full-time technicians and six undergraduate agronomy, engineering and soil science students), developed rigorous data collection protocols to maintain data integrity standards, created a database archive and data retrieval system (MS Access), and developed multiple software utilities to streamline research activities including for example an interactive NIR data screening software utility to maintain data integrity and to streamline QA/QC protocols, and in MS Excel I created various equipment-specific calibration utilities.
- Specific projects under my assignment included delivering presentations at the local and state level, design and coordinate state-wide varietal adaptability trials, energy sorghum seeding rate studies, nitrogen application rate trials on energy sorghums; crop physiology growth studies to document bioenergy sorghum biomass and carbohydrate accumulation rates, and region-specific crop rotations trials that included energy crops.
- Crops that we studied included: maize; grain sorghum; sweet, forage, and high biomass cellulosic sorghums; sunflower; safflower; and energy cane.

Texas A&M AgriLife Extension Service, Houston and Angleton..... 6.5 years, starting October 2001
County Extension Agent for Agriculture and Natural Resources

- Responsibilities of this position included adult education and outreach extension programming for Brazoria County (3.2 years) and Harris County, Urban County Extension Office (3.3 years). To meet expectations for this position, I participated in regional planning for outreach programming and coordinated multi-county events, trained neighboring extension agents effective oral presentation delivery techniques, and coordinated outcome team reporting and evaluation activities.
- Stakeholders of my outreach programming received small landholder education, training, and volunteer opportunities. Topics identified through needs assessment included soil conservation, water quality, soil fertility and plant nutrition, pesticide use and safety, weed and insect pest identification, land resource assessment, livestock health, and sustainable forage production for small cow-calf operations.
- I provided leadership in outreach programming, field research as result demonstrations, curriculum development, adult education activities, and outcome evaluations and reporting.

Edaphos LLC/St. Paul, MN and Houston, TX ..... 6.1 years, starting September 1995
Strategy Advisor and Technical Consultant

Primary contracts included:

→ US Composting Council Research and Education Foundation (Phil Leege, co-editor, retired) – Lead developer and technical editor of the compost laboratory manual "Test Method for the Examination of Composting and Compost" (TMECC).

→ Cargill Fertilizer Division (Dean Fairchild, retired) - Authored internal variable rate fertilizer application white papers on spatial analysis, fertilizer rate selection, partial enterprise budgets, and variable rate equipment calibration challenges.

→ Cenex/Land O' Lakes Agronomy Company (John Ahlrichs, https://www.linkedin.com/in/jahlrichs) – Y2K transition team consultant. Developed and validated fertilizer blend algorithms. Surveyed off-site personnel to unify software interface and output specifications. Evaluated and validated algorithms to assist software developers with MIS software Y2K upgrade.

→ Tyler Industries (Don McGrath, retired) – Served on Precision Agriculture R&D team. Conceptualized spatial data aggregation method for variable rate nutrient blending options (patented). Designed and managed development of GIS and MIS agronomic and economic mapping software. Trained Tyler sales team and clientele spatial data and precision agriculture concepts. Developed multiple interpretation tools and training guides addressing precision agriculture concepts. Delivered Precision Agriculture outreach education programming to clientele and agricultural community in Argentina SA (Spanish). Served as precision agriculture liaison to associated industries and technical advisor for CEO.

University of Minnesota/Research Analytical Laboratory.....1.3 years, starting May 1994
Municipal Solid Waste Compost Project Manager

- This short-term project gave me an opportunity to manage the laboratory component of the Minnesota Compost Utilization Compost Project (MN-CUP). My primary responsibilities were to develop and trouble-shoot sample preparation and analytical procedures for compost analysis, and provide regular project updates for the funding agency, Minnesota Office of Environmental Assistance.
- I also developed a semi-automated apparatus for determining soil sample organic matter content using near-infra-red light reflectance, a software-driven device included protocol development, computer-programming (ANSI C) and regression analysis.
- This was a team project where I worked very closely with Robert Munter (U of MN Research Analytical Laboratory, former director, now deceased) developing and testing compost analytical protocols for chemical, physical, and biological parameters. Note that products from this project served as the first iteration of TMECC, Test Methods for the Examination of Composting and Compost (now under management of the US Composting Council).

University of Minnesota/Department of Soil, Water, and Climate.....4.8 years, starting August 1989
Assistant Research Soil Scientist and Agronomist

- This was a technician position with field research work and computer use responsibilities, under the leadership of Pierre Robert (deceased). I was responsible for collecting and analyzing spatially variable crop yield, soil profile nutrient, and crop residue data, and writing reports and preparing documents for publication. This position provided me an opportunity to strengthen and refine my computer skills with crop modeling (DSSAT), nutrient leaching models (LEACHN), raster and vector GIS applications (EPPL7, and ESRI products), image processing, layout and design, spreadsheet and database manipulations, and geospatial and Fischer statistics.
- My assigned projects addressed field testing computer-control prototypes for applying variable rate anhydrous ammonia at five locations in Minnesota (MS Thesis work), and examining spatially variable tillage technologies to vary crop residue cover rates to manipulate soil warming rates while minimizing soil erosion (RUSLE). I was responsible for research plot design, implementing treatment effects, data collection and analysis, and technical writing and reporting. To achieve results, I recruited and mentored teams of high school students to assist with harvest, exposing them to what then was futuristic farming technologies, and now somewhat commonplace.
- In summary, I regularly performed GIS, geo-statistical and conventional statistical analysis, co-wrote reports and publications, created numerous farming landscape diagrams, technical diagrams and illustrations, and assembled numerous reports and technical presentations for my supervisor.

CAPCO SUR, S.A., Guatemala City and La Democracia - Guatemala.....1.4 years, starting February 1988
Melon Farm Agronomist and Co-Manager

- The marketing firm CAPCO contracted me for one year to assist in the development of a melon production and packaging operation on the upper gulf coast of Guatemala (Boca-Costa). I was responsible for training and managing a 165-member field crew, 10-man team of tractor operators, 4-man team of IPM crop scouts, 3-man team of mechanics, and 24-person packaging team. This opportunity gave me fluency in Spanish.
- My job responsibilities included developing strategies for the conversion of a sugarcane production system to irrigated melon, trouble-shooting, scheduling and managing plantings, harvest and irrigation (both linear move and gravity systems), fertilizer and pesticide selection and application scheduling, and crop and pest monitoring (IPM).
- This operation was in a relatively remote location on the southern coast of Guatemala. To complete the necessary tasks, I regularly improvise solutions to barriers and challenges. For example, I designed and guided construction of various pieces of specialized farm machinery, and implemented numerous biological control measures to minimize worker-exposure to nematicides and other noxious pesticides.
- Crops produced on this farm included honeydew melon, cantaloupe, and seedless watermelon.
- Note that the operation was dissolved in 1989 and sold to an Israeli produce firm.

US Peace Corps, Tegucigalpa - Honduras.....2.5 years, starting June 1985
Peace Corps Volunteer, Crop Protection and Cropping Systems Specialist

- I was assigned to the Honduran Ministry of Agriculture, Santa Catarina Agricultural Research Station; La Esparanza, Intibucá, Honduras, Central America (2.3 years).
- My primary role was research and extension outreach to address local agricultural issues as identified by leadership of local commodity cooperatives, leading farmers, NGO agriculture and nutrition specialists, and the research and extension teams of the Santa Catarina Research Agricultural Station.
- I regularly participated in personnel training opportunities where I delivered seminars (in Spanish) on soil fertility and water use under maize-potato rotations, and provided individual soil conservation and soil fertility training in

collaboration with field extension personnel as group meetings and site-visits to both large and small landholders/farmers.

- My field research activities were designed to serve as result demonstrations on soil and water conservation, and addressed acid soil remediation and soil-specific farming methods for small-scale hillside farming systems. In collaboration with animal nutrition specialists, I initiated a series of alfalfa and clover varietal trials for dairy producers. I also organized and equipped a plant parasitic nematode laboratory, and trained two technicians to extract and identify using morphology keys numerous plant parasitic and beneficial nematodes.

TARALAN, Southern Ontario - Canada.....1.2 years, starting November 1983
Lead Agronomist and IPM Crop Scout Manager

- This one-year position focused on developing, testing and managing the first field crop IPM program for Southern Ontario. I adapted crop monitoring and data collection methods from across the mid-west, and provided reports and interpretations to farmer clients. I managed a team of five IPM scouts that I mentored and trained weekly though the temporal changes of the growing season. I taught data quality assurance and collection guidelines, beneficial and pest insect identification, soil-specific sampling methods, crop growth staging criteria, crop condition interpretations, and data recording requirements. To achieve the goals of this position I developed data collection forms, compiled crop guides. I also delivered crop condition interpretations and recommendations to contracted growers, and technical training sessions on weed and insect pest identification methods for growers at the company's annual conference.

VOLUNTEER WORK:

NCBA/CLUSA, USAID - Senegal ..... March 2017
Climate-Smart Agriculture Consultant - Farmer-to-Farmer Volunteer

- Tasked to teach concepts surrounding climate change to rural children in Senegal.
- Desk-top work prior to in-country visit. Analyzed 23 years of climate data for twelve Senegal locations. Produced detailed interpretation charts illustrating local and country-wide changes in daily temperature patterns. Documented trends of climate change pointing to desertification for Senegal. Output: report available upon request.
- Taught basics of plant physiology (carbon and water cycle) drawing on "lessons from a tree" to six groups of youth ages five to eighteen.
- Developed teaching curricula/guide for youth educators: "Climate Smart Agriculture. Lessons from a Tree". (translation from English to French provided by NCBA-CLUSA personnel in Senegal). Available upon request.

Catholic Relief Services, USAID - Uganda..... July 2017
Soil Health Consultant - Farmer-to-Farmer Volunteer

- Addressed on-farm production, soil conservation and fertility management (mineral and organic nutrient sources).
- Trained eight groups of trainers and farmers (men and women). Delivered eight three- to five-hour interactive training sessions to groups of producers (cooperative leaders and members).
- Assessed needs of group and provided detailed descriptions of practices to improve cropping system resilience to climate change. Topics addressed: a) pest control – adoption of composting in place of burning crop residues (with focus on nutrient retention versus loss); b) provided examples and described effects of mineral fertilizer versus organic fertilizer sources; c) related importance of crop residues for soil health, managing soil moisture, and as a soil conservation practice; d) drew upon examples from lessons from a tree, where a tree cares for the soil and in turn, the soil cares for the tree (Climate Smart Agronomy. Lessons from a Tree").
- Supplemental Report. Demonstrated nutrient stratification as an issue of dire importance – post-country visit, authored detailed report with soil test interpretations (available upon request).

ACDI VOCA, USAID - Egypt .....Four Visits
Soil and Cropping Systems Specialist, Compost Specialist - Farmer-to-Farmer Volunteer

- Consultant (two in-country visits). Quality/Quantity Survey. Devised standing crop data collection protocols, verified protocols in two separate production regions, and created field data collection sheets with instructions. Produced training videos (in Arabic) and guides, wrote interpretation guidelines (English). Outcome: Adoption of practice decreased error of reported production Quality/Quantity estimates approximately ±10%..... September 2011
- Consultant (in-country visit plus pre- and post-visit desktop work). Created "Planting and Harvest Date Decision Tool". Interactive MS Excel based utility designed to manage risk (available upon request). Adoption of utility resulted in approximately three-fold increase in plantings (number of plantings/harvests). Outcome: Change of practice resulted in local tomato market saturation, increased fruit quantity and quality for local processors. Effort supported transition of Egypt to become net exported of tomato paste. .....March 2012

- Compost Consultant. Toured composting facilities in and around Cairo. Presented compost quality assessment and compost end use seminars to compost producers and marketers. Introduced TMECC to Egypt. ..... September 2012
- Cropping Systems Consultant/Invited Speaker at ACDI-VOCA Project Completion Conference. Topic: "Climate Smart Agriculture. How daily temperatures affect cropping systems decisions." ..... September 2013

PROFESSIONAL AFFILIATIONS:

2015 – 2016	American Society of Agricultural and Biological Engineers (ASABE)
2015 – 2017	Soil and Plant Analysis Council (SPAC)
2001 – 2016	Crop Science Society of America (CSSA)
1998 – 2016	American Registry of Certified Professionals in Agronomy Crops and Soils (ARCPACS)
1990 – 2016	Soil Science Society of America (SSSA)
1990 – 2016	American Society of Agronomy (ASA)

SERVICE AWARDS:

2013	Presidential Volunteer Service Award, Bronze Level
1981	Honorable Discharge, US Army
1978	Good Conduct Medal, US Army
1978	Certificate of Meritorious Service, 25th Infantry Division Band, US Army

LANGUAGES/GEOGRAPHICAL EXPERIENCE:

Languages: English (mother tongue); Spanish (professional proficiency)

Countries of Work Experience: USA, Canada, Honduras, Guatemala, Argentina, Egypt, Senegal, Uganda

REFERENCES:

David Baltensperger
Professor and Department Chair, Department of Soil and Crop Sciences, Texas A&M University
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David Huggins
Soil and Cropping Systems Scientist, Professor, WSU/USDA-ARS
Cell Phone: +1 208-301-4786 dhuggins@wsu.edu

Thomas Halbach
Extension Professor (emeritus), Department of Soil Water and Climate, University of Minnesota, St. Paul
Cell Phone: +1 612-269-0655 thalbach@umn.edu

SUPPLEMENTAL INFORMATION

PRESENTATIONS/PUBLICATIONS:

International Presentations

1. Thompson, W.H. 2013. Effects of Daily Temperatures on Crop Growth. Capitalizing on the Untapped Agribusiness Resources of Upper Egypt Conference. ACDI/VOCA Annual Conference. Cairo, Egypt. September 2013. (keynote, invited)
2. Thompson, W.H. 1997. Precisión Agrícola, una visión global. Expo Chakra and Tres Arroyos, Buenos Aires, Argentina. March 1997. (invited)

Training Guides and Curricula Development

1. Thompson, W.H. 2017. Climate Smart Agronomy – Lessons from a tree. Catholic Relief Services.

2. Thompson, W. H. 2003. Master Urban Ranch Lecture Series and Volunteer Recruitment Program. The Texas A&M Agrilife Extension Service.

Extension Education Publications

1. Thompson, W.H., C. McFarland, T. Brown, D.R. Huggins. 2016. Agricultural Lime and Liming - Part 1. Introduction to Lime and Liming. WSU Soil Acidification Working Group Publication Series. WSU Extension. http://cru.cahe.wsu.edu/CEPublications/FS212E/FS212E.pdf
2. Thompson, W.H., C. McFarland, T. Brown, D.R. Huggins. 2016. Agricultural Lime and Liming - Part 2. Laboratory Testing. WSU Soil Acidification Working Group Publication Series. WSU Extension. http://cru.cahe.wsu.edu/CEPublications/FS217E/FS217E.pdf
3. Thompson, W.H., C. McFarland, T. Brown, D.R. Huggins. 2016. Agricultural Lime and Liming - Part 3. Agricultural Lime Comparison Worksheet User-guide. WSU Soil Acidification Working Group Publication Series. WSU Extension. http://cru.cahe.wsu.edu/CEPublications/FS213E/FS213E.pdf
4. Blumenthal, J. and W.H. Thompson. 2009. Estimating Corn Grain Yields. Texas A&M AgriLife Extension Service. Publication Number: L-5515 (06-09). http://publications.tamu.edu/CORN_SORGHUM/PUB_Estimating%20Corn%20Grain%20Yields.pdf
5. Gerngross, C.A., M.L. McFarland, and W.H. Thompson. 2004. Compost Sampling Guideline. A Texas Cooperative Extension/Texas Water Resource Institute publication prepared in cooperation with the Texas Commission on Environmental Quality and U.S. Environmental Protection Agency.

Digital Media

1. Thompson, W.H. 2018. Crop-specific Phenology Modeling to Assess Evapotranspiration Rates and Irrigation Requirements. MS-Excel Application. [http://]
2. Thompson, W.H. 2015. Interactive Lime Requirement Calculator and Unit of Measure Conversion Utility. Companion to Agricultural Lime and Liming - Part 2. Laboratory Testing. WSU Extension. [http://www.smallgrains.wsu.edu/wp-content/uploads/2013/11/PART_2_Calculator.xlsx]
3. Thompson, W.H. 2015. Agricultural Lime Comparison Worksheet. Companion to Agricultural Lime and Liming - Part 3. Agricultural Lime Comparison Worksheet User-Guide. WSU Soil Acidification Working Group Publication Series. WSU Extension. [https://aglime.cahnrs.wsu.edu/Tools/Calculator/]
4. Thompson, W.H. 2009. Sprayer Calibration and Record-Keeping Utility. Department of Soil and Crop Sciences, Texas A&M University. [http://]
5. Faries, F. and W.H. Thompson. 2007. Beef Herd Health Management Calendar on Compact Disk. Texas A&M Agrilife Extension. Publication Number: SP-289 (07-07).
6. W.H. Thompson. 2002. Dry Fertilizer Blend Calculator (MS Excel 97 Application). Texas A&M Agrilife Extension.

Published Works

1. Thompson, W. H., D. Pietsch, J.M. Blumenthal, A.M.H. Ibrahim, and D.D. Baltensperger. 2013. Agronomic Optimum Seeding Rate for Irrigated Maize in Texas is Concomitant to Growing Season Mean Daily Minimum Temperature. J Agron and Crop Sci. 199(4). 299-307. JACS. doi: 10.1111/jac.12015
2. Thompson, W.H., and D.E. McGrath. 1998. System for determining fertilizer blend and application rate method and apparatus for determining optimum fertilizer blends, based on a plurality of factors, to match field nutrient requirements. Patent Number 5,768,128 (June 16, 1998). Assignee: IBOCO, Inc., Benson, MN
3. Thompson, W.H., and T. Halbach. 2015. Total Solids and Moisture at 105°C. Method 03.09-B. *In* Test Methods for the Examination of Composting and Compost (TMECC, 2015 Update). 2pp. US Composting Council. Bethesda, MD 20814 USA
4. Thompson, W.H. 2015. Air-dry Laboratory Sample Preparation at 36°C. Method 03.09-C . *In* Test Methods for the Examination of Composting and Compost (TMECC, 2015 Update). 1p. US Composting Council. Bethesda, MD 20814 USA
5. Thompson, W.H. 2015. On-Site Approximation of Total Solids and Moisture by Microwave. Method 03.09-D . *In* Test Methods for the Examination of Composting and Compost (TMECC, 2015 Update). 2pp. US Composting Council. Bethesda, MD 20814 USA
6. Thompson, W.H., and T. Halbach. 2015. 1:5 Slurry Method, Mass Basis. Method 04.10-A. *In* Test Methods for the Examination of Composting and Compost (TMECC, 2015 Update). 6pp. US Composting Council. Bethesda, MD 20814 USA

7. Thompson, W.H., and T. Halbach. 2015. Seedling Emergence and Relative Growth. Method 05.05-A. *In* Test Methods for the Examination of Composting and Compost (TMECC, 2015 Update). 3pp. US Composting Council. Bethesda, MD 20814 USA
8. Michel, F., D. Sullivan, and W.H. Thompson. 2015. Carbon Dioxide Evolution Rate. TMECC Method 05.08-B. *In* Test Methods for the Examination of Composting and Compost (TMECC, 2015 Update). 3pp. US Composting Council. Bethesda, MD 20814 USA
9. Thompson, W.H., P.B., Leege, P.D. Millner, and M.E. Waston (editors). 2002. Test Methods for the Examination of Composting and Compost. U.S. Composting Council Research and Education Foundation. Bethesda, MD 20814 USA

Juried Events

1. Thompson, W.H., and D.R. Huggins. 2016. Soil Degradation under Minimum Tillage Systems. Soil Health for Resilient Agroecosystems. ASA-SSSA-CSSA Annual Meetings, Nov. 8, Phoenix, AZ. (volunteered poster)
2. Thompson, W.H., and D.R. Huggins. 2015. Assessing Soil Water Status to Optimize Cover Crop Termination in a Semi-Arid Environment. ASA-SSSA-CSSA Annual Meetings, Nov. 16-19, Minneapolis, MN. (volunteered oral)
3. Stewart, M, Z. Smith, C. McFarland, D.R. Huggins, and W.H. Thompson (PI). 2015. Accelerated Incubation Protocols for Aglime Requirement Calibration. ASA-SSSA-CSSA Annual Meetings, Nov 16-19, Minneapolis, MN. (volunteered poster)
4. Taylor, S., D.R. Huggins, D. Brown, W.H. Thompson, and A. Esser. 2015. Precision Nitrogen Management: Evaluating Management Zones and Optimizing Nitrogen Rates in Dryland Winter Wheat. ASA-SSSA-CSSA Annual Meetings, Nov 16-19, Minneapolis, MN. (volunteered poster)
5. Thompson, W.H., P. Carter. 2014. Cover Crop Water Consumption in Southeastern Washington Palouse. ASA-SSSA-CSSA Annual Meetings, Nov. 3-6, Long Beach, CA. (volunteered poster)
6. Zilahi-Sebess, S., J. Blumenthal, W.H. Thompson. 2011. Effects of nitrogen fertilization on biofuel sorghum yield and quality. ASA-SSSA-CSSA Annual Meetings, Oct. 16-19, San Antonio, TX. (volunteered poster)
7. Thompson, W.H., R.W Myatt, J. Blumenthal. 2011. Effects of Seeding Rates On Sorghum Quality As a Bionergy Feedstock. ASA-SSSA-CSSA Annual Meetings, Oct. 16-19, San Antonio, TX. (volunteered poster)
8. Blumenthal, J., and W. H. Thompson. 2010. Intercropping Biomass Sorghum with Legumes. ASA-SSSA-CSSA Annual Meetings, Oct. 31-Nov. 4, Long Beach, CA. (volunteered poster)
9. Zilahi-Sebess, S., J. Blumenthal, and W. H. Thompson. 2010. Effects of Nitrogen Application On Bioenergy Sorghum Yield and Quality. ASA-SSSA-CSSA Annual Meetings, Oct. 31-Nov. 4, Long Beach, CA. (volunteered poster)
10. Thompson, W.H., J. Blumenthal, and D. Pietsch. 2009. Economic Optimum Plant Density for Maize Under Irrigation in Texas. ASA-SSSA-CSSA Annual Meetings, Nov. 1-5, Pittsburgh, PA. (volunteered poster)
11. Thompson, W.H., and P.C. Robert. 1994. Evaluation of variable rate applications mapping strategies. In: 1994 Site Specific Management for Agricultural Systems Conference. University of Minnesota. Proceedings of the 1994 ASA-SSSA Symposium. Mar. 27-30, 1994. Bloomington, MN
12. Robert, P.C., W.H. Thompson and D. Fairchild. 1991. Soil specific anhydrous ammonia management system. In: Automated Agriculture for the 21st Century; Proceedings of the 1991 ASAE Symposium. 11(91):418-426.
13. Robert, P.C., S. Smith, W.H. Thompson, W. Nelson, D. Fuchs and D. Fairchild. 1990. Soil specific management. In: A Report on Field Research in Soil Science 1990, pp. 54-59. (Soil Series #130) Misc. Publication 62-1990. Minn. Ag. Exp. Sta., U of MN, St. Paul.

Other Publications and Creative Works

1. Growing Degree Day (GDD or Thermal Unit) Calculator - ACDI/VOCA – Cairo, Egypt. 2011-2013. Interactive planting/harvest interval evaluation utility to assess cropping systems for potential growing season paradigms. MS Excel-driven utility requires average daily maximum and minimum temperature data for up to five locations, corresponding daily standard deviations (e.g., for ten-year datasets), and daily daylight hours.
2. Backpack Sprayer Calibration Calculator – College Station. 2012. MS Excel utility. i) interactive calculator for calibrating pesticide sprayers (both backpack and tank systems); ii) calculator to determine AMS needs for conditioning water carrier for glyphosate applications; iii) application record (TDA rules).
3. Cenex/Land O' Lakes Agronomy Company - St. Paul, Minnesota. Contracted as technical advisor for the AgriSource agronomic management software development team during the Y2K upgrade process of their fertilizer blending module for AgriSource, Land-O-Lakes management information software (1.5 years).

4. Meridith Publishing – Des Moines, IA. Contracted as technical writer and Precision Agriculture Software Specialist to write a series of three articles on the requirements and advances in precision agriculture software tools for "Ag Innovator" (1.5 years).
5. Fertilizer Blend Optimizer. Tyler Industries – Benson, MN [Tyler Industries was acquired by Case Corp. in 1998]. Contracted as Tyler Industries' agronomist with their precision agriculture research and development team and as precision agriculture specialist for their Argentina project. Blend Optimizer software. (4 years).

National Presentations (USA)

1. Thompson, W.H., and D.R. Huggins. 2015. Assessing Soil Water Status to Optimize Cover Crop Termination in a Semi-Arid Environment. ASA-SSSA-CSSA Annual Meetings, Nov. 16-19, Minneapolis, MN. (volunteered)
2. Blumenthal, J. and D. Pietsch (W.H. Thompson). 2011. Lessons Learned from 30 Years of Corn and Grain Sorghum Crop Testing in Texas. ASA-SSSA-CSSA Annual Meetings, Oct. 16-19, San Antonio, TX. (substitute speaker)
3. Thompson, W.H., S. Zilahi-Sebess, and J. Blumenthal. 2010. Nutrient Removal with Sorghum Biomass. ASA-SSSA-CSSA Annual Meetings, Oct. 31-Nov. 4, Long Beach, CA. (volunteered)
4. Thompson, W.H., and F. C. Faries, Jr. 2008. Scheduling Nutrition Evaluations for Beef Herd Health Management. ASA-SSSA-CSSA Annual Meetings, Oct. 5-9, Houston, TX. (volunteered)
5. Thompson, W.H. 2007. Evaluating compost electrical conductivity as related to other analytical data, for in-process and end-use interpretation. Analytical Data Interpretation Session. US Composting Council (USCC) Annual Conference and Trade Show. Orlando, FL. January 2007. (invited)
6. Thompson, W.H. 2005. How to prepare symposia papers - guidelines on formats. Writing Workshop. US Composting Council (USCC) Annual Conference and Trade Show. Albuquerque, NM. January 2006. (invited)
7. Thompson, W.H. 2005. Compost as a Nutrient Source and End-Use Considerations. Compost End-Use Guidelines Workshop. US Composting Council (USCC) Annual Conference and Trade Show. San Antonio, TX. January 2005. (invited)
8. Thompson, W.H.. 2004. Physical Attributes of Compost. Bio-Based Nutrient Sources Workshop. Workshop held in conjunction with the ASA/SSSA/CSSA annual international conference and sponsored by USDA-CSREES, USDA-ARS, and USCC. Seattle, WA. October 2004. (invited)
9. Thompson, W.H. 2004. Standards and the Availability of Compost Analytical Methods. Waste Utilization in Horticulture Working Group. American Society for Horticultural Science. Austin, TX. July 2004. (invited)
10. Thompson, W.H. 2003. Availability of Compost Analytical Methods. Special Symposium on Compost and Animal Manure Analysis. Soil Science Society of America. Denver, CO. November 2003. (volunteered)
11. Thompson, W.H. 2002. Compost Test Methods, an Overview of Test Methods for the Examination of Composting and Compost. US Recycling Coalition Conference. Austin, TX. July 2002. (invited)
12. Thompson, W.H. 1999. History of TMECC - Test Methods for the Examination of Composting and Compost. The US Composting Council Annual Conference. Cincinatti, OH. November 1999. (invited)
13. Thompson, W.H. 1998. Managing Waste Byproducts. Nutrient Management Strategies Session. The 4th International Conference on Precision Agriculture. St. Paul, MN. July 1998. (invited)
14. Thompson, W.H. 1997. Development of TMECC - Test Methods for the Examination of Composting and Compost. The US Composting Council Annual Conference. New Orleans, LA. February 1997. (invited)
15. Thompson, W.H. 1996. Compost Test Methods and the Development of TMECC - Test Methods for the Examination of Composting and Compost. The US Composting Council Annual Conference. Arlington, VA. November 1996. (invited)

Regional Presentations (USA, partial list through 2013)

1. Thompson, W.H. 2016. Open discussion on the science and myths of the soil health question, and barriers and motivations on the adoption of cover cropping systems. WSU Extension Outreach Program, Walla Walla Community College, simulcast in Clarkston WA.
2. Thompson, W.H., and Mary Dye. 2015. Can Cover Crops Replace Summer Fallow? Moisture Removal Rates in Cover Crops on Five Low to High Rainfall Farms. PNW Oilseed Direct Seed Conference. Kennewick, WA. (invited)
3. Thompson, W.H. 2008-2014. On-site and laboratory testing methods for compost and compost feedstocks, data interpretation, feedstock selection, and compost characterization. Team Instructor of the Midwest Extension Compost School. Ames, IA, St. Paul, MN, Madison, WI, and Normal, IL. (invited)

4. Thompson, W.H. 2009. Overview of Bioenergy cropping systems. District 4 County Extension Agent Training. Texas Agrilife Extension Service. Waco, TX. November 2009. (invited)
5. Thompson, W.H. 2007. Beef herd health management calendar, an overview of the interactive calendar and supporting materials. 2007 Beef Cattle Short Course. College Station, TX. August 2007. (invited)
6. Thompson, W.H. 2003. History of TMECC and CAP - Test Methods for the Examination of Composting and Compost, and Compost Analysis Proficiency testing. Texas Recycling Alliance Summit. Galveston, TX. October 2003. (invited)
7. Thompson, W.H. 2001. Introduction to TMECC - Test Methods for the Examination of Composting and Compost. Texas Recycling Summit. Arlington, TX. October 2001. (invited)
8. Thompson, W.H. 2016. Seminar and Open Discussion and Soil Health: 1) Nutrient and acid stratification; 2) Effects of Cover Crop on nutrient cycling and wáter status; 3) Conversion of plant materials to soil organic matter and humus. Walla Walla, WA. May 2016. (event coordinator/speaker)
9. Thompson, W.H., and D. Huggins. 2016. Cover Crop Soil Water Consumption versus Evaporative Water Loss under Fallow. Walla Walla, WA. January 2016. (event coordinator/speaker)
10. Thompson, W.H., and D. Lyon. 2015. Drift Minimization and Off-target Migration of Pesticides. Clarkston, WA. December 2015. (invited – Asotin County Extension)
11. Thompson, W.H. 2015. High Temperature Stress. How do plants cope with high temperatures? Can we manage a cropping system for high temperature stress conditions? Walla Walla, WA. December 2015. (event coordinator/speaker)
12. Thompson, W.H. 2015. Cover Crop Biomass Accumulation Rates and Water Use. Hermiston, OR. December 2015. (invited - Hermiston Farmer Fair)
13. Thompson, W.H., and D. Lyon. 2015. Drift Minimization and Off-target Migration of Pesticides. Walla Walla, WA. November 2015. (event coordinator/speaker)
14. Thompson, W.H., D. Huggins, P. Carter, and J. Harsh. 2015. Causes and Effects of Soil Acidification. Walla Walla, WA. January 2015. (invited – Walla Walla County Conservation District)
15. Thompson, W.H., D. Huggins, P. Carter, and J. Harsh. 2015. Causes and Effects of Soil Acidification. Ritzville, WA. January 2015. (invited – WSU Adams County Extension)
16. Thompson, W.H. 2015. Water consumption by cover crops. Walla Walla, WA. January 2015. (event coordinator/speaker)
17. Thompson, W.H., J. Harsh., D. Huggins. 2015. Causes and Effects of Soil Acidification. Walla Walla, WA. January 2015. (event coordinator/speaker)
18. Thompson, W.H. 2015. Nutrient Stratification under Minimum Tillage Systems. Walla Walla, WA. January 2015. (invited – Farmer's Coop)
19. Thompson, W.H. 2015. Nutrient Stratification under Minimum Tillage Systems. Clarkston, WA. January 2015. (invited – Asotin County, WA Conservation District)
20. Thompson, W.H., P. Carter. 2014. Effects of Soil Acidification on Legume Production Systems. Walla Walla, WA. December 2014. (event coordinator/speaker)
21. Thompson, W.H. 2014. Water use by cover crops versus fallow systems. Hermiston Farmer Fair. Hermiston, OR. December 2014. (invited)
22. Thompson, W.H. 2014. Soil Carbon and its Importance in Agriculture. Walla Walla County Conservation District Annual Meeting. Walla Walla, WA. January 2014. (invited)
23. Thompson, W.H. 2014. Soil Carbon and its Importance in Agriculture. Garfield County Extension Meeting. Pataha, WA. January 2014. (invited)
24. Thompson, W.H. 2014. Soil Carbon and its Importance in Agriculture. Walla Walla County Conservation District Annual meeting. Walla Walla, WA. January 2014. (invited)
25. Thompson, W.H. 2013. Pesticide Applicator Calibration Techniques and Common Problems. Asotin, WA. December 2013. (invited)
26. Thompson, W.H. 2013. Pesticide Applicator Calibration Techniques and Common Problems. Last Chance Pesticide. WSU Extension, Walla Walla, WA. December 2013. (coordinator)
27. Thompson, W.H. 2013. Pesticide Applicator Calibration Techniques and Common Problems. WSU Extension, Asotin County, WA. December 2013. (invited)
28. Thompson, W.H. 2013. Soil Quality and Cover Crops. Last Chance Pesticide. WSU Extension, Walla Walla, WA. December 2013. (event coordinator/speaker)

CONFERENCES/SEMINARS/TRAININGS ATTENDED:

Conferences

American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America International Annual Meetings..... from 1990 through 2015

US Composting Council Annual Conferences..... from 1995 through 2003

Training

Innovations in Organic Food Systems for Sustainable Production & Enhanced Ecosystem Services. The Long Beach Convention Center and Hyatt Regency Long Beach Hotel, Long Beach, CA.....November 2014

South Region Excellence in Programming Academy. Texas A&M AgriLife Extension Service.....November 2006

Spatially Variable Crop Modeling Workshop. Ten-day course on theory and principles of spatial statistics and crop modeling as geographic information system (GIS) applications. Department of Soil Science. Wageningen University, The Netherlands ..... July 1992