

# ELIZABETH M. HAWKINS, PH.D.

Associate Professor and Extension Field Specialist

College of Food, Agricultural, and Environmental Sciences, The Ohio State University

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## EDUCATION

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Ph.D.	Agricultural Systems Management	Purdue University	2016
M.S.	Crop Science, Plant Breeding and Genetics	University of Illinois	2013
B.S.	Agricultural Systems Management	Purdue University	2009
A.A.	Agricultural Systems Management	Purdue University	2009

## PROFESSIONAL EXPERIENCE

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Current - 2022	Associate Professor and Extension Field Specialist, College of Food, Agricultural, and Environmental Sciences, The Ohio State University
2022 - 2016	Assistant Professor and Extension Field Specialist, College of Food, Agricultural, and Environmental Sciences, The Ohio State University
2016 - 2014	Graduate Research and Teaching Assistant, Agricultural and Biological Engineering, Purdue University
2013 - 2011	Graduate Research and Teaching Assistant, Crop Sciences, University of Illinois
2011 - 2009	Research Assistant, Soybean Breeding and Variety Development, Monsanto Company
2008 (4 months)	Research Intern, Seed Production Research, Monsanto Company
2007 (9 months)	Research Intern, Wheat Breeding and Variety Development, Westbred, LLC

## ACADEMIC APPOINTMENT

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9- Month Appointment with 95% Extension and 5% Research Budgeted Effort

Courtesy Appointment in Food, Agricultural, and Biological Engineering

Date of Initial Appointment: September 1, 2016

## PROFESSIONAL SPECIALTY

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Precision agriculture: Data collection, management, and analysis. Agronomic crop production. Plant breeding: phenotyping and genotyping.

## INSTRUCTION

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### ***Extension - Selected Presentations***

eFields: Using On-Farm Research to Advance Your Operation. 2022. Ohio Farm Bureau Young Agriculture Professionals Annual Conference, Cincinnati, Ohio. January 29, 2022.

Variable Rate Seeding using Precision Planting SmartFirmers. 2022. Premium AG Commodities, Inc. Winter Meeting, Wilmington, Ohio. January 26, 2022.

eFields On-Farm Research: Successes and Challenges of Sharing Data. 2021. Open Ag Technology and Systems Conference, West Lafayette, Indiana. March 25, 2021.

Using Research and Data to Improve Soil Health. 2021. Soil Health Webinar Series, Online. February 4, 2021.

Soil Sampling: Identifying Field Variability for Nutrient Management. 2020. Washington Co. Agronomy Night, Marietta, Ohio. February 20, 2020.

Using Precision Ag to Improve Nutrient Management. 2020. West Ohio Agronomy Day, Ft. Loramie, Ohio. January 13, 2020.

Using eFields to Drive Corn Nitrogen Decisions. 2019. Fulton County Corn and Soybean Day, Wauseon, Ohio. January 18, 2019.

eFields: Using On-Farm Leveraging Technology for On-Farm Research. 2019. North Carolina State University Digital Ag Workshop, Raleigh, North Carolina. January 15, 2019.

eFields: Helping Farmers Through On-Farm Research. 2019. North Carolina State University Digital Ag Workshop, Raleigh, North Carolina. January 15, 2019.

Data Stewardship: The Logistics of Turning Data into Decisions. 2018. Champaign County Precision Ag Day, Milford Center, Ohio. August 29, 2018.

Who Owns that Data? And Other Data Dilemmas. 2018. Tri-State UAV Day, Montpelier, Ohio. August 27, 2018.

Developing a Strategy for Optimizing Nitrogen Applications. 2018. Partnership for Ag Resource Management Webinar, Online. January 24, 2018.

Smart Farming: The Digital Revolution in Agriculture. 2018. 16th Annual Information Assurance Forum, University of Findlay, Findlay, Ohio. November 1, 2017.

Making Adaptive Nitrogen Decisions. 2017. Southwest Ohio Corn Growers Field Day, Washington Courthouse, Ohio. August 15, 2018.

Data Collection for On-Farm Research. Conservation Tillage and Technology Conference, Ada, Ohio. March 7, 2016.

### ***Teaching Assistant, Purdue University***

ASM 105 Computations and Communications in Agriculture (Spring 2014, 2015, 2016)

ASM 104 Introduction to Agricultural Systems (Fall 2014, 2015, Spring 2015)

ASM 221 Career Opportunities Seminar (Fall 2014, 2015)

ASM 422 Advanced Machine Technology for Agricultural Crop Production (Spring 2015)

### ***Teaching Assistant, University of Illinois***

CPSC 113 Agriculture, Society, and the Environment (Fall 2012, 2013, 2014)

CPSC 213 Evolution in Action (Fall 2011)

CPSC 336 Tomorrow's Environment (Spring 2012, 2013)

## PUBLICATIONS

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### *Refereed and Peer-Reviewed*

- Hennessey, D., A. Lindsey, Y. Che, L. Lindsey, M. Singh, H. Feng, **E.M. Hawkins**, S. Subburayalu, R. Black, E. Richer, D. Ochs. (2021). **Characterizing the Decision Process in Setting Corn and Soybean Seeding Rates.** *Journal of Extension*.
- Beam, B., and **E.M. Hawkins**. (2020). **Virtual Reality for Extension Education and Learner Engagement.** *Journal of the National Association of County Agriculture Agents*. 13(1). ISSN 2158-9429.
- Matcham, E.G., W.P. Hamman, **E.M. Hawkins**, J.P. Fulton, S. Subburayalu, and L.E. Lindsey. (2020). **Soil and Terrain Properties that Predict Differences in Local Ideal Seeding Rate for Soybean.** *Agronomy Journal*, 112(3): 1981-1991. <https://doi.org/10.1002/agj2.20179>.
- Zoller, C., **E.M. Hawkins**, S. Custer, J.P. Fulton, and E. Richer. (2019). **Developing a Successful On-Farm Research Program.** *Journal of the National Association of County Agriculture Agents*. 12(2). ISSN 2158-9429.
- Hawkins, E.M.**, D.R. Buckmaster. (2015). **Benchmarking Costs of Fixed- Frame, Articulated, and Tracked Tractors.** *Applied Engineering in Agriculture*, 31(5), 741. doi:10.13031/aea.31.11074.
- Burks, P.S., C.M. Kaiser, **E.M. Hawkins**, P.J. Brown. (2015). **Genome-Wide Association for Sugar Yield in Sweet Sorghum.** *Crop Science*, 55(5), 2138. doi:10.2135/cropsci2015.01.0057.

### *Chapters in Edited Books*

- Hawkins, E.M.**, B. Beam, A. Klopfenstein, S. Shearer, J. Fulton. (2021). **Using Virtual Reality Field Demonstrations to Increase Engagement with Farmers.** Stafford, J.V. (Eds.), *Precision Agriculture '21* (pp. 787-793). Wageningen Academic Publishers, Netherlands. doi: 10.3920/978-90-8686-916-9.
- Fulton, J., R. Colley, S. Shearer, A. Gauci, **E.M. Hawkins**. (2021). **High Definition Fertilizer As-Applied Maps for Pneumatic Applicators.** Stafford, J.V. (Eds.), *Precision Agriculture '21* (pp. 601-607). Wageningen Academic Publishers, Netherlands. doi: 10.3920/978-90-8686-916-9.
- Fulton, J.P., **E.M. Hawkins**, R. Taylor, A. Franzen. (2018). **Chapter 5- Yield Monitoring and Mapping.** *Precision Agriculture Basics*. ASA/CSSA/SSSA, Madison, Wisconsin.

### *Proceedings*

- Klopfenstein, A., **E.M. Hawkins**, J. Fulton, S. Shearer. (2022, July). **Corn Yield and Emergence Impacts on Planters Equipped with Automated Closing System.** Paper no. 2200292. 2022 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Houston, Texas.
- Fulton, J., A. Gauci, A. Lindsey, S. Shearer, D. Barker, **E.M. Hawkins**. (2022, July). **Yield Monitor Data within On-Farm Research.** Paper no. 2201132. 2022 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Houston, Texas
- Zoller, C., **E.M. Hawkins**. (2021, July). **What We Have Learned from Four Years of Corn Population Trials in Ohio and Tuscarawas County.** National Association of County Agricultural Agents Proceedings of the 106th Annual Meeting and Professional Improvement Conference. Online.
- Beam, B., **E.M. Hawkins**. (2021, July). **Virtual Reality Field Demonstrations for Increased Online Engagement.** National Association of County Agricultural Agents Proceedings of the 106th Annual Meeting and Professional Improvement Conference. Online.
- Hawkins, E.M.**, B. Beam, A. Klopfenstein, S. Shearer, J. Fulton. (2021, July). **Using Virtual Reality Field Demonstrations to Increase Engagement with Farmers.** 13th European Conference on Precision Agriculture. Budapest, Hungary (online).

- Fulton, J., R. Colley, S. Shearer, A. Gauci, **E.M. Hawkins**. (2021, July). **High-Definition Fertilizer As-Applied Maps for Pneumatic Applicators**. 13th European Conference on Precision Agriculture. Budapest, Hungary (online).
- Hawkins, E.M.**, B. Beam, A. Klopfenstein, S. Shearer, J. Fulton. (2021, July). **Using Virtual Reality to Increase Engagement with Online Field Demonstrations**. 2021 Annual International Meeting of the American Society of Agricultural and Biological Engineers, St. Joseph, MI: American Society of Agricultural and Biological Engineers. Online.
- Klopfenstein, A., R. Tietje, C. Weigman, **E.M. Hawkins**, J. Fulton, S. Shearer. (2021, July). **Corn Emergence and Grain Yield Impacts of Large Central Fill Planters Equipped with Wing Downforce**. 2021 Annual International Meeting of the American Society of Agricultural and Biological Engineers. Online.
- Gauci, A., A. Lindsey, S. Shearer, D. Barker, **E.M. Hawkins**, J. Fulton. (2021, July). **Scalability of Yield Monitor Data for Supporting On-Farm Research**. 2021 Annual International Meeting of the American Society of Agricultural and Biological Engineers. Online.
- Fulton, J., R. Colley, A. Gauci, S. Shearer, **E.M. Hawkins**. (2021, July). **Mass Flow Sensor for Pneumatic Fertilizer Application Equipment**. 2021 Annual International Meeting of the American Society of Agricultural and Biological Engineers. Online.
- Douridas, A., **E.M. Hawkins**. (2020, July). **Podcasting as a Teaching Tool**. 2020 National Association of County Agriculture Agents 105th Annual Meeting and Professional Improvement Conference Proceedings. Online.
- Hawkins, E.M.**, J. Fulton, J. Hartschuh. (2020, July). **Effectively Communicating On-Farm Research Results to Support Farm Level Decision-Making**. Annual International Meeting of the American Society of Agricultural and Biological Engineers. Online.
- Hawkins, E.M.**, J. Lee, J. Fulton, E. Richer, C. Zoller, S. Custer, J. Hartschuh, A. Wilson, B. Brown. (2019, November). **Increasing the Impact of On-Farm Research through Digital Engagement with Farmers**. Paper no. 395-1. ASA/CSSA/SSSA Annual Meeting, San Antonio, Texas.
- Moore, J., L. Lindsey, A. Dorrance, C. Sprunger, **E.M. Hawkins**. (2019, November). **Effect of Soybean Seeding Rate on Self-Thinning**. Paper no. 52-12. ASA/CSSA/SSSA Annual Meeting, San Antonio, Texas.
- Matcham, E., J. Fulton, **E.M. Hawkins**, P. Paul, L. Lindsey. (2019, November). **Soil and Terrain Attributes That Predict Differences in Local Ideal Seeding Rate for Soybean**. Paper no. 151-12. ASA/CSSA/SSSA Annual Meeting, San Antonio, Texas.
- Hawkins, E.M.**, J. Fulton. (2019, July). **Using On-Farm Research Data to Inform Variable Rate Seeding**. Paper no. 1901722. 2019 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Boston, Massachusetts.
- Fulton, J., M. Dignan, R. Colley III, **E.M. Hawkins**, S. Shearer. (2019, July). **Measurement of Granular Fertilizer Particles Using Image Processing for Spread Distribution Evaluation**. Paper no. 1901828. 2019 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Boston, Massachusetts.
- Matcham, E., S. Subburayalu, J. Fulton, **E.M. Hawkins**, P. Paul, L. Lindsey. (2018, November). **Grid Soil Sample Interpolation Using Geographically Weighted Regression and Random Forest**. North Central Extension-Industry Soil Fertility Conference, Des Moines, Iowa.
- Matcham, E., L. Lindsey, S. Subburayalu, **E.M. Hawkins**, J. Fulton, P. Paul. (2018, November). **Which Soil and Terrain Characteristics Are Most Predictive of Spatial Variation in Ideal Seeding Rate within Ohio Soybean Fields?**. Paper no. 130-2. ASA/CSSA/SSSA Annual Meeting, Baltimore, Maryland.

- Hamman, W., L. Lindsey, P. Thomison, S. Shearer, **E.M. Hawkins**. (2018, November). **The Impact of Seeding Rate on Plant Architecture, Harvest Grain Loss, and Combine Fuel Use**. Paper no. 130-3. ASA/CSSA/SSSA Annual Meeting, Baltimore, Maryland.
- Zoller, C., **E.M. Hawkins**, J. Barker, A. Bennett, et al. (2018, July). **Ohio State University Extension eFields: Connecting Science to Fields**. Paper no. 1544. 103rd Annual Meeting and Professional Improvement Conference, Chattanooga, Tennessee.
- Hawkins, E.M.**, J. Fulton, R. Colley, K. Port, A. Klopfenstein, S. Shearer. (2018, July). **eFields- Utilizing On-Farm Research to Improve Farm Recommendations**. Paper no. 1801479. 2018 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Detroit, Michigan.
- Colley, R., J. Fulton, S. Virk, **E.M. Hawkins**. (2018, June). **Field Level Management and Data Verification of Variable Rate Fertilizer Application**. International Conference on Precision Agriculture, Montreal, Quebec, Canada.
- Hawkins, E.M.**, J. Fulton, R. Colley, K. Port, A. Klopfenstein, S. Shearer. (2018, June). **eFields- An On-Farm Research Network to Inform Farm Recommendations**. International Conference on Precision Agriculture, Montreal, Quebec, Canada.
- LaBarge, G., H. Watters, **E.M. Hawkins**. (2017, October). **Building Nutrient and Water Quality Knowledge through Fertilizer Applicator Certification Training in Ohio**. Paper no. 106-012. ASA/CSSA/SSSA Annual Meeting, Tampa, Florida.
- Hawkins, E.M.**, J. Fulton. (2017, July). **Utilizing Precision Ag Tools to Facilitate On-Farm Research**. Paper no. 1701269. 2017 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Spokane, Washington.
- Colley, R., J. Fulton, S. Virk, **E.M. Hawkins**. (2017, July). **Dry Fertilizer Distribution Uniformity of Two Sources when Applying with VRT Spinner-disc Spreader**. Paper no. 1700094. 2017 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Spokane, Washington.
- Hawkins, E.M.**, D. Buckmaster, R.L. Nielsen, D.R. Ess, J.V. Krogmeier, and S.K. McMillan. (2016, July). **Improving Yield Data Quality with Data Integrity Zones**. ASABE Paper no. 162457348. 2016 Annual International Meeting of the American Society of Agricultural and Biological Engineers, Orlando, Florida.
- Hawkins, E.M.** and D. Buckmaster. (2015, December). **Utilizing Descriptive Metadata to Identify Data Integrity Zones in Agricultural Fields**. ASTA Corn and Sorghum Seed Research Conference, Chicago, Illinois.
- Hawkins, E.M.**, and D. Buckmaster. (2015, July). **Practicing metadata analysis with corn production data from research plots**. ASABE Paper no. 152188595. 2015 Annual International Meeting of the American Society of Agricultural and Biological Engineers, New Orleans, Louisiana.
- Hawkins, E.M.** and P. Brown. (2012, October). **Genetic Diversity for Biomass Yield, Plant Architecture, and Density Response in Sorghum**. Paper no. 241-10. ASA/CSSA/SSSA Annual Meeting, Cincinnati, Ohio.

### *Extension*

- Culman, S., L. Deiss, B. Fortune, M. Gingery, M. Mann, C. Sprunger, **E.M. Hawkins**, C. Brown, T. Hurriso, A. Fulford, D. Francis, L. Lindsey, B. Bergefurd. (2022). **Baseline Assessment of Soil Health in Ohio**. The Ohio State University Extension, Columbus, Ohio. 7pp.  
<https://soilhealth.osu.edu/sites/soilhealth/files/imce/WhitePapers/Baseline%20Ohio%20Soil%20Health.pdf>.

- Gauci, A., J. Fulton, A. Lindsey, **E.M. Hawkins**, C. Lee. (2022). **Precision Agriculture Tools for On-Farm Research (Report No. FABE-558)**. The Ohio State University Extension, Columbus, Ohio. 9pp. <https://ohioline.osu.edu/factsheet/fabe-558>.
- Arnold, A., G. Arnold, M. Badertscher, J. Barker, **E.M. Hawkins**, et. al. (2022). **2021 eFields Report**. The Ohio State University Extension, Columbus, Ohio. 258pp. [https://issuu.com/home/published/efields\\_2021\\_final](https://issuu.com/home/published/efields_2021_final).
- Arnold, A., G. Arnold, M. Badertscher, J. Barker, **E.M. Hawkins**, et. al. (2021). **2020 eFields Report**. The Ohio State University Extension, Columbus, Ohio. 258pp. <https://osu.box.com/v/efieldsreport2020>.
- Fulton, J., J. Elleman, **E.M. Hawkins**. (2020). **Developing a Farm Digital Strategy 1 – Introduction (Report No. FABE-555)**. The Ohio State University Extension, Columbus, Ohio. <https://ohioline.osu.edu/factsheet/fabe-555>.
- Fulton, J., J. Elleman, **E.M. Hawkins**. (2020). **Developing a Farm Digital Strategy 2 – Precision Technology and Data Generation (Report No. FABE-556)**. The Ohio State University Extension, Columbus, Ohio. <https://ohioline.osu.edu/factsheet/fabe-556>.
- Fulton, J., J. Elleman, **E.M. Hawkins**. (2020). **Developing a Farm Digital Strategy 3 – Data Management Considerations (Report No. FABE-557)**. The Ohio State University Extension, Columbus, Ohio. <https://ohioline.osu.edu/factsheet/fabe-557>.
- Arnold, G., J. Barker, B. Beam, **E.M. Hawkins**, et al. (2020). **2019 eFields Report**. The Ohio State University Extension, Columbus, Ohio. 218pp. <https://osu.box.com/v/2019eFieldsReport>.
- Arnold, G., M. Badertscher, J. Barker, **E.M. Hawkins**, et al. (2019). **2018 eFields Report**. The Ohio State University Extension, Columbus, Ohio. 194pp. <https://osu.box.com/v/2018eFieldsReport>.
- Fulton, J., **E.M. Hawkins**, R. Colley III, J. Lee, L. Thompson, et al. (2018). USB Ag Data Literacy Toolkit. United Soybean Board, St. Louis, Missouri. <https://api.unitedsoybean.org/uploads/files/58544-usda-whitepgs-datafundamentals.pdf>.
- Bowen-Ellzey, N., **E.M. Hawkins**. (2018). **Economic Contribution Analysis of the Corn and Wheat Industries of Ohio**. The Ohio State University Extension, Columbus, Ohio. 13pp.
- Sundermeier, A., G. Labarge, G. Arnold, H. Watters, **E.M. Hawkins**, et al. (2018). **A Field Guide to Identifying Critical Resource Concerns and Best Management Practices for Implementation**. The Ohio State University Extension, Columbus, Ohio. 124pp. <https://extensionpubs.osu.edu/a-field-guide-to-identifying-critical-resource-concerns-and-best-management-practices-for-implementation/>.
- Logan E., J. Lee, E. Landis, S. Custer, A. Bennett, J. Fulton, K. Port, **E.M. Hawkins**. (2018). **FABE-552.02: Crop Nutrition Apps**. The Ohio State University Extension, Columbus, Ohio. 17pp. <https://ohioline.osu.edu/factsheet/fabe-55202>.
- Logan E., J. Lee, E. Landis, S. Custer, A. Bennett, J. Fulton, **E.M. Hawkins**, K. Port. (2018). **FABE-552.03: Crop Protection Apps**. The Ohio State University Extension, Columbus, Ohio. 14pp. <https://ohioline.osu.edu/factsheet/fabe-55203>.
- Khanal S., J. Fulton, A. Shah, S. Shearer, **E.M. Hawkins**. (2018). **FABE-552.04: Free, Online Data and Tools for the Agriculture Community**. The Ohio State University Extension, Columbus, Ohio. 9pp. <https://ohioline.osu.edu/factsheet/fabe-55204>.
- Arnold, G., J. Barker, A. Bennett, **E.M. Hawkins**, et al. (2018). **2017 eFields Report**. The Ohio State University Extension, Columbus, Ohio. 101pp. <https://osu.box.com/v/2017eFieldsReport>.
- Hawkins, E.M.**, J. Fulton, and K. Port. (2017). **ANR-8: Tips for Calibrating Grain Yield Monitors- Maximizing the Value of Your Yield Data**. The Ohio State University Extension, Columbus, Ohio. 8pp. <http://ohioline.osu.edu/factsheet/anr-8>.

- Khanal, S., J. Fulton, **E.M. Hawkins**, K. Port, and A. Klopfenstein. (2017). **FABE-554.1: Remote Sensing in Precision Agriculture**. The Ohio State University Extension, Columbus, Ohio. 7pp. <http://ohioline.osu.edu/factsheet/fabe-5541>.
- Hawkins, E.M.**, J. Fulton, and K. Port. (2017). **FABE-565-16: Using Soil Electrical Conductivity (EC) to Delineate Field Variation**. The Ohio State University Extension, Columbus, Ohio. 9pp. <http://ohioline.osu.edu/factsheet/fabe-565>.
- Watters, H., G. LaBarge, **E.M. Hawkins**, M. Rose, S. Custer, P. Hall, S. Culman, L. Dayton, K. King, R. Zondag, T. Malinich, D. Miller. (2016). **Agricultural Fertilizer Applicator Certification Training Manual**. The Ohio State University Extension. Columbus, Ohio. 69pp.

## GRANTSMANSHIP

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Dr. Hawkins has been a PI or Co-PI on over 6 million dollars in successful grants from various funding sources included USDA-AFRI, USDA-NRCS, North Central-SARE, United Soybean Board, Ohio Soybean Council, Ohio Department of Higher Education Harmful Algal Blooms Research Initiative, Kubota Corporation, and Bayer Ag.

## STUDENT ADVISING

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### *Current Graduate Advising*

Andrew Klopfenstein. Committee Member. PhD in Food, Agricultural, and Biological Engineering. Effect of Load on Tire Traction. Expected completion: May 2023.

### *Past Graduate Advising*

Greg McGlinch. Committee Member. PhD in Horticulture and Crop Science. Developing Agronomic Recommendations for Winter Malting Barley Production in Ohio. Completion: December 2021.

Jenna Moore. Committee Member. MS in Horticulture and Crop Science. Evaluating In-Season Soybean Survival. Completion: May 2021.

Ryan Tietje. Committee Member. MS in Food, Agricultural, and Biological Engineering. Assessment of Large vs. Small equipment platforms on soil structure and harvest capacity in corn and soybean cropping systems. Completion: December 2020.

Brittany Schroeder. Committee Member. PhD in Food, Agricultural, and Biological Engineering. Prescription Tillage Agronomic Rule Set and ISOBus Class III Control System for Improved Tillage Operations and Soil Conditions. Completion: August 2019.

Emma Matcham. Committee Member. MS in Horticulture and Crop Science. Predicting Spatial Variation in Ideal Seeding Rate using Soil and Terrain Characteristics within Ohio Soybean Fields. Completion: May 2019.

## AWARDS AND HONORS

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- 2022 **Distinguished Early Career Extension Faculty Award**, College of Food, Agricultural, and Environmental Sciences
- 2020 **NACAA Achievement Award**
- 2019 **National Finalist NACAA Communication Award: Bound Book**, 2018 eFields Report

- 2018 **OSU Emerging Community Engagement Award**, eFields: Connecting Science to Fields
- 2018 **ASABE Educational Aids Blue Ribbon Award**, ANR-8: Tips for Calibrating Grain Yield Monitors
- 2018 **ASABE Educational Aids Blue Ribbon Award**, FABE-554.1: Remote Sensing in Precision Agriculture
- 2018 **National Finalist NACAA Communication Award: Bound Book**, 2017 eFields Report

## **SERVICE TO THE PROFESSION**

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- Associate Editor, **Agronomy Journal** (2019 – current)
- Member, **Future of Waterman Taskforce, The Ohio State University** (2018 – 2019)
- Member, **The Ohio State University Center for Soybean Research** (2017 – current)
- Co-Leader, **The Ohio State Digital Ag Team** (2016-current)
- Member, **The Ohio State University Extension Agronomic Crops Team** (2016 – current)
- Member, **The Ohio State University Extension Precision Agriculture Team** (2016 – current)
- Member, **Joint Council of Extension Professionals** (2016 – current)
- Member, **National Association of County Agricultural Agents** (2016 – current)
  - Chair, Agronomy and Pest Management Committee, Ohio Chapter (2019 - 2022)
  - Vice-Chair, Agronomy and Pest Management Committee, Ohio Chapter (2017 - 2019)
- Member, **American Society of Agricultural and Biological Engineers** (2014 - current)
  - Chair, EOPD- 208 Extension Professionals Committee (2022-current)
  - Vice-Chair, EOPD- 208 Extension Professionals Committee (2021-2022)
  - Voting Member, MS-54 Precision Agriculture (2016 – current)
- Member, **American Society of Agronomy** (2012 - current)