



55th Annual

**NORTH CENTRAL EXTENSION-INDUSTRY
SOIL FERTILITY CONFERENCE**

**November 19-20
2025**

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WEDNESDAY, NOVEMBER 19

1:00pm	Welcome
1:05pm	Beyond the Acre Furrow Slice: a New Era in Nutrient Management <i>Howard Brown - Visionary Agronomics</i>
1:35pm	Evaluating Spatial Attribution for Continuous Improvement of Fertilizer Recommendations <i>W. Kess Berg - Advanced Agrilytics</i>
2:05pm	The Future of Soil Fertility - My Two Cents <i>Robert Mullen - Heritage Cooperative</i>
2:35pm	Student Poster Minute
3:05pm	Poster Break (Cash Bar Opens at 3:30)
3:40pm	Technology, Innovation, and the Future of Soil Fertility <i>Howard Brown - Visionary Agronomics, W. Kess Berg - Advanced Agrilytics, and Robert Mullen - Heritage Cooperative</i>
4:40pm	Awards
5:00pm	Poster Mixer (Cash Bar Open)
6:00pm	Banquet

THURSDAY, NOVEMBER 20

8:00am	Investigating Potassium Fertility in Indiana: K Rates and Nutrient Interactions <i>Megan Bourns - Purdue University</i>
8:20am	Evaluating Classification Methods for Phosphorus Responsiveness for Fertilizer Recommendations <i>Dorivar Ruiz Diaz - Kansas State University</i>
8:40am	Nitrogen Fertilizer Application Consultation Tool (N-FACT) <i>Sotirios Archontoulis - Iowa State University</i>
9:25am	Poster Break
10:20am	Picking the Right Nitrogen Recommendation Tool to Improve NUE and Water Quality in Nebraska <i>Javed Iqbal - University of Nebraska-Lincoln</i>
10:40am	FRST Lime Project: Results of Pilot Study of Lime Source, Lime Rate and Incubation Time on Neutralization of Soil Acidity <i>Robert Miller - ALP</i>
11:00am	Phosphorus Fertilizer Management: Implications on Crop Yields and Soil P Budgets <i>Manbir Rakkar - The Ohio State University</i>
11:20am	Updating Oat Nitrogen Fertilizer Rate Guidelines <i>Jason Clark - South Dakota State University</i>
11:40am	How Do Cover Crops, Nitrogen Rate and Cropping System Affect Nitrate Loss in Tile Drainage Water? <i>Jeffrey Vetsch - University of Minnesota</i>
12:05pm	The Manitoba Greenhouse Gas Assessment Tool <i>Marla Riekman - Manitoba Agriculture</i>

POSTER PRESENTATIONS

Graduate Student Award Posters

- 1 Impact of Ammonia Reduction Management Practices in Land Applied Manure on Nitrogen Losses and Nitrogen Use Efficiency
Juma Bukumba, Univ. of Wisconsin
- 2 Evaluating Classification Methods for Phosphorus Responsiveness for Fertilizer Recommendations in Wheat
Sofia Cominelli, Kansas State Univ.
- 3 Fate of ¹⁵N-Labeled Urea Applied In-season for Corn in Eastern North Dakota
Megan Culpitt, North Dakota State Univ.
- 4 Effects of Nitrogen and Irrigation Management on Sugar Beet Yield and Nitrous Oxide Emissions
Sunjani De Silva, Univ. of Nebraska
- 5 Impacts of Management Practices and Soil Properties on Free-Living Nitrogen Fixation in Southeastern South Dakota
Laura Galvan Nueva, South Dakota State Univ.
- 6 Fertilizer Derived Nitrogen Dispersion in Minnesota Corn with Rye and Kura Clover Cover Crops
Jake Kastenbauer, Univ. of Minnesota
- 7 Improving Corn Grain Yield and Reducing Nitrate-N Leaching with Urease and Nitrification Inhibitors
Sowmya Koduru, Southern Illinois Univ.
- 8 Effect of Barley and Winter Pea Cover Crops on Nutrient Availability in No-Till Corn
Emily Marsh, Univ. of Kentucky
- 9 Industrial Hemp Response to Nitrogen Applications in Missouri
Anjeeta Nain, Univ. of Missouri
- 10 Soybean Yield Response to Nitrogen and Sulfur Starter Fertilizers Under Conservation Tillage
Federico Rolle, Univ. of Illinois
- 11 Effect of Manure Sources on Soil Phosphorus Dynamics
Jaspreet Singh, The Ohio State Univ.
- 12 Biological Nitrogen Suppliers for Soybeans
Vinicius Winnikes de Barros, Purdue Univ.
- 13 Two-sided Banding of Nitrogen and Sulfur Fertilizers Improves Maize Yield and Nutrient Use Efficiency in Midwestern Cropping Systems
Adam Yakubu, Iowa State Univ.

Graduate Student Award Poster AND State Report

- 14 Influence of Soil Amendments and Topographic Position on Winter Wheat Heavy Metal Uptake
Maria Kenneth Lane Suplito, Michigan State Univ.

State Reports

- 15 Effects of Anhydrous Ammonia Application Timing on Corn Yield and Profitability
Blake Link, Univ. of Illinois

- 16 Optimizing Nitrogen Inputs in Malting Barley Production
Mairene Scarlett Martinez de Souza, North Dakota State Univ.
- 17 Interpreting Soil Health Test Results to Guide Management for Missouri Row Crops
Md Rasel Parvej and Gurbir Singh, Univ. of Missouri
- 18 Investigating the Need for Sulfur for Kentucky Wheat Production
Edwin Ritchey, Univ. of Kentucky
- 19 Evaluating Commercial Nitrification Inhibitors Under Variable Soil Conditions
Richard Roth, Iowa State Univ.
- 20 Sensor-based Nitrogen Management Affects Corn Production and Environmental N Footprints
Amir Sodeghpour, Southern Illinois Univ.
- 21 Emerging Trends from Wisconsin's Nitrogen Optimization Pilot Program
Monica Schauer, Univ. of Wisconsin
- 34 Linking Soil Properties and Weather Variability to Nitrogen Fertilizer Needs
Sangam Dangal, South Dakota State Univ.
- 35 From the Ground Up: a Farmer-Led On-Farm Research Evaluating the Potential of a New Fertilizer Source for Nitrogen in Pastures for Missouri
Kamal Deep, Univ. of Missouri
- 36 Predicting Nitrogen Response by Winter Wheat Using Soil Health and Soil Microbiome Indicators
Chris Graham, South Dakota State Univ.
- 37 Effect of Cover Crop Diversity on Nitrous Oxide Emissions from Corn-Soybean Rotations in Central Illinois
Nathalia Guzman, Univ. of Illinois
- 38 Soybean Response to Tillage, Row Spacing and Nutrient Management Practices in Southern Illinois
Moein Javid, Southern Illinois Univ.
- 39 Evaluating Soybean Yield and Soil Fertility Response to POLY-4 As a Sulfur and Potassium Source
Rajinder Kaur, Univ. of Missouri
- 40 Soil Health Responses to Interseeded Cover Crops and Nitrogen Strategies in the Northern Corn Belt
Srinadh Kodali, South Dakota State Univ.
- 41 Cropping System Diversification Has Strong Short-term but Limited Long-term Impacts on Soil Phosphorus Dynamics
John Kovar, United State Department of Agriculture
- 42 Integrating NDVI and Plant Tissue Analysis As Decision Support Tools for Nutrient Management in Winter Wheat
Julio Leiva, Kansas State Univ.
- 43 Evaluating Soil Health Indicators in Response to Tillage, Crop Rotation, and Cover Cropping
Sierra Mesman, South Dakota State Univ.
- 44 Understanding Wheat Head Counts Effect on Yield
Allie Mutter, Univ. of Kentucky
- 45 Influence of Nitrogen Fertilization Frequency and Rate on Nitrous Oxide Emissions in Winter Wheat
Oluwaseun Ola, Southern Illinois Univ.
- 46 Nitrogen Effects on Forage Utilization and Economic Returns in Grazing and Haying Systems
Emmanuel Barfour Oppong Adjei, Univ. of Missouri
- 47 Optimizing Nitrogen Application in Corn with and Without a Nitrification Inhibitor
Rose Paul, Univ. of Missouri
- 48 Influence of Nitrogen Management and Precipitation on Sorghum Nitrogen Use Efficiency in Kansas
Mauro Platerra, Kansas State Univ.
- 49 The Effects of Phosphorus and Potassium Application on a 14-year-old Miscanthus x giganteus Stand
Jacob Studdt, Iowa State Univ.
- 50 Linking Soil Properties and Weather Variability to Nitrogen Fertilizer Needs
Sangam Dangal, South Dakota State Univ.

General Posters

- 22 Winter Wheat Residue Management Affects Corn Grain Yield and Nitrogen Requirement
Folahanmi Adeyemi, Southern Illinois Univ.
- 23 Closing the Yield Gap of Soybeans After Cereal Rye: How Limited S Application Can Affect Soybean Performance
Ava Antic, Purdue Univ.
- 24 Role of Winter Rye Cultivar and Seeding Rate in Managing Residue and Nitrogen Availability in Corn Cropping Systems
Sirwan Babaei, Southern Illinois Univ.
- 25 Terrace Construction Effects on Soil Fertility, Texture and Apparent Electrical Conductivity
Charchit Bansal, Univ. of Missouri
- 26 Field Correlation and Calibration of Soil-Test Phosphorus and Potassium for Corn and Soybean in Illinois
Franco Bardeggia, Univ. of Illinois
- 27 Impact of Phosphorus Source and Timing on Corn Yield and Root Growth
Anita Beltrame, Purdue Univ.
- 28 US Midwest Dairy Manure Nutrient Observations 2012-2022
Nancy Bohl Bormann, Univ. of Minnesota
- 29 The Impact of Shifting from N-based to P-based Manure Management on Corn Silage Yield, Quality, P Balance, and Soil Test P
Eric Brevik, Southern Illinois Univ.
- 30 Does Inoculate or Sulfur Improve Nitrogen Fixation in Soybean After Long-term Corn?
Anelise Brun, Purdue Univ.
- 31 Can Early Nitrogen and Sulfur Applications Sustain Soybean Yields After Cereal Rye?
Sofia Canafoglia, Univ. of Illinois
- 32 Efficient Nitrogen Strategies for Hybrid Winter Rye
Matheus Costa, South Dakota State Univ.
- 33 Determining the Economic Optimum Nitrogen Rate for Different Cover Crop Systems Using On-Farm Precision Experimentation
Marina Dalla Betta, Univ. of Illinois

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