Potassium Budgets in Indiana Corn Production
Purpose: Evaluate the agronomic efficiency of currently recommended potassium (K) fertilizer rates and evaluate theoretically improved soil potassium tests for ability to predict soil K supply. Contact: Alex Helms, Shaun Casteel, and James Camberato, Agronomy

Potassium Budgets in Indiana Soybean Production
Purpose: Evaluate the agronomic efficiency of currently recommended potassium (K) fertilizer rates and evaluate theoretically improved soil potassium tests for ability to predict soil K supply. Contact: Alex Helms, Shaun Casteel, and James Camberato, Agronomy

Interaction of Planting Date, Hybrid Maturity, and Fungicide on Corn Disease Control and Yield
Purpose: Examine interaction between corn planting date (early & normal), hybrid maturity (early & normal), and fungicide (yes & no) on disease control and yield. Contact: Darcy Telenko/Dan Quinn, Agronomy

Corn Response to Seeding Rate
Purpose: Accumulate additional data for continual updating of corn seeding recommendations for the state of Indiana. Contact: Dan Quinn, Agronomy

Corn response to Sulfur Application Source and Timing – Rice Farm
Purpose: Evaluate corn response to sulfur fertilizer applied at planting or side-dress in the forms of ATS or AMS. Contact: Bob Nielsen/Jim Camberato, Agronomy

Exploring physiological variation by using process-based crop model and remote sensing – PPAC
Purpose: Collect comprehensive physiological dataset via multiple instruments in the field. Contact: Diane Wang/Sujata Bogati, Agronomy

Sulfur Fertilizer Products - Rice Farm
Purpose: Evaluate AMS, MESZ, Tiger CR, Gypsum plus new formulations for soybean response to treatments. Contact: Shaun Casteel, Agronomy
PINNEY-PURDUE AGRICULTURAL CENTER
RESEARCH AND DEMONSTRATION PROJECTS
2022

Department of Agronomy (Continued)

Sulfur AMS Rate x Timing - Rice Farm
Purpose: Determine optimal timing of sulfur application (March versus at planting) with AMS and polysulfate at three application rates.
Contact: Shaun Casteel, Agronomy

Sulfur Fixation Effects - Rice Farm
Purpose: Evaluate effects of N fixation ureide and N15 based on planting treatments of pelletized gypsum, AMS, and urea, versus mid season treatments of N and S.
Contact: Shaun Casteel, Agronomy

Sulfur x Foliar Protection, Field Scale Plots - Rice Farm
Purpose: Determine potential synergies with baseline sulfur application and in-season R4 applications of fungicide and insecticide.
Contact: Shaun Casteel, Agronomy

Sulfur x Foliar Protection, Small Scale Plots - Rice Farm
Purpose: Determine potential synergies with baseline sulfur application prior to emergence and in-season R4 applications of fungicide and insecticide.
Contact: Shaun Casteel, Agronomy

Sulfur x NPK Nutrient Use Efficiency – Rice Farm
Purpose: Evaluate potential of synergistic yield effects of sulfur plus phosphorous applications.
Contact: Shaun Casteel, Agronomy

Soybeans Seeding Rate (Plant Population) x Planting Date - PPAC
Purpose: Determine optimal soybean seeding rates for planting dates in May and June.
Contact: Shaun Casteel, Agronomy

Sulfur Fixation Effects -PPAC
Purpose: Evaluate effects of N fixation ureide and N15 based on planting treatments of pelletized gypsum, AMS, and urea, versus mid season treatments of N and S.
Contact: Shaun Casteel, Agronomy

Product Evaluations-PPAC
Purpose: Evaluate several products from seed treatments, in-furrow applications, and foliar treatments across multiple varieties.
Contact: Shaun Casteel, Agronomy

Sulfur x Planting Date - PPAC
Purpose: Evaluate effects of AMS applied at/near two plantings: Early versus late planting.
Contact: Shaun Casteel, Agronomy
Biolevel Effects on soil N and Soybean – PPAC sand soil type  
Purpose: Evaluate soybean response in growth development, N supply, and yield under various soil types (loam, sand, prairie). Biolevel applied to seed and soil when factored with AMS.  
Contact: Shaun Casteel, Agronomy

Biolevel Effects on soil N and Soybean – PPAC loam soil type  
Purpose: Evaluate soybean response in growth development, N supply, and yield under various soil types (loam, sand, prairie). Biolevel applied to seed and soil when factored with AMS.  
Contact: Shaun Casteel, Agronomy

Sulfur Fertilizers - PPAC  
Purpose: Evaluate AMS, MESZ, Tiger CR, Gypsum plus new formulations for soybean response to treatments.  
Contact: Shaun Casteel, Agronomy

Sulfur x Foliar Protection (Small Plot Trial) - PPAC  
Purpose: Evaluate AMS application at/near planting with and without follow up R4 fungicide + insect spray.  
Contact: Shaun Casteel, Agronomy

Sulfur-NPK x Variety (C1 includer, C1 intermediate) - PPAC  
Purpose: Investigate sulfur + P potential for synergistic yield improvement. Varieties are available that can limit C1 uptake versus varieties that are more sensitive to C1.  
Contact: Shaun Casteel, Agronomy

Biological Seed Treatments - PPAC  
Purpose: Evaluate effects of biological seed treatments on soybean yield. Multi state project.  
Contact: Shaun Casteel, Agronomy

Evaluation of combining ability and heterosis in sorghum hybrids- PPAC  
Purpose: Evaluate environmental effects on variety traits in sorghum hybrids.  
Contact: Gebisa Ejeta and Nate Bowser, Agronomy

Department of Entomology

Black Cutworm Pheromone Trapping  
Purpose: Monitor the presence of black cutworm.  
Contact: John Obermeyer/Laura Ingwell, Entomology
Department of Entomology, continued

Western Bean Cutworm Trapping
Purpose: Monitor the presence of western bean cutworm.
Contact: John Obermeyer/Laura Ingwell, Entomology

Corn Ear Worm Trapping
Purpose: Monitor the presence of corn earworm.
Contact: John Obermeyer/Laura Ingwell, Entomology

Corn Trap Crop
Purpose: A trap crop for corn rootworm eggs in 2022 to provide experimental area in 2023.
Contact: Christian Krupke, Entomology

Soybean rotation for future research on insect pests of corn
Purpose: Maintain a soybean crop rotation for future insect trials in corn.
Contact: Christian Krupke, Entomology

Indiana Cooperative Agricultural Pest Survey (CAPS) for Invasive Pests
Purpose: Site for trap grid to monitor for invasive insect species.
Contact: Christian Krupke, Entomology

Department of Botany & Plant Pathology

5 trials - Weed Science Confidential Evaluation of Company Products/Technology under Development
Purpose: Determine the effectiveness of new adjuvants, rates, herbicide, and/or equipment.
Contact: Julie Young, Botany & Plant Pathology

Weed Science – Herbicide carry over on sandy loam soil type
Purpose: Determine rotational crop tolerance to sequential applications of HPPD-inhibiting herbicides in corn.
Contact: Julie Young, Botany & Plant Pathology

Herbicide Degradation under cover crops
Purpose: Study effects of herbicide degradation under multiple cover crops.
Contact: Lucas Maia, Julie Young, Botany & Plant Pathology

Field Day Herbicide Demonstration Plot
Contact: Julie Young, Botany & Plant Pathology
Integrating Disease Management for Tar Spot in Organic Corn
Contact: Darcy Telenko

Uniform Fungicide Comparison for Tar Spot in Corn
Contact: Darcy Telenko

Efficacy of CX-9032 and CX-10250 Against Tar Spot in Corn
Contact: Darcy Telenko

Fungicide Timing and Application for Tar Spot in Corn
Contact: Darcy Telenko

Industry Sponsored Fungicide Comparison for Tar spot and Foliar Diseases in Corn
Contact: Darcy Telenko

Fungicide Timing and Application for Tar Spot in Corn
Contact: Darcy Telenko

Fungicide Efficacy and Timing for Tar Spot in Corn
Contact: Darcy Telenko

Fungicide Programs for Tar Spot in Corn
Contact: Darcy Telenko

AgPMT – Tillage and Variety Evaluation for Diseases in Corn
Contact: Darcy Telenko

Integrated Management of Tar Spot of Corn Hybrid, Fungicide Timing and Model Validation
Contact: Darcy Telenko

Uniform CDWG Comparison Trials for Xyway on Corn
Contact: Darcy Telenko

Xyway LFR Fungicide Programs in Field Corn
Contact: Darcy Telenko

Fungicide Programs for Tar Spot in Corn
Contact: Darcy Telenko

Evaluation of Foliar Fungicides in Corn
Contact: Darcy Telenko

Fungicide Programs for Tar Spot in Corn
Contact: Darcy Telenko
Department of Botany & Plant Pathology, cont’d

**Fungicide Timing and Application for Tar Spot in Corn**
Contact: Darcy Telenko

**Fungicide Programs for Tar Spot in Corn**
Contact: Darcy Telenko

**Fungicide Timing and Application for Tar Spot in Corn**
Contact: Darcy Telenko

**Evaluation of Drone Applications for Tar Spot in Corn**
Contact: Darcy Telenko

**Hybrid and Fungicide Evaluation for Tar Spot in Corn**
Contact: Darcy Telenko

**Evaluation of Seed Treatment for Management of Sudden Death Syndrome in Soybean**
Contact: Darcy Telenko

**Fungicide Comparison for Foliar Disease in Soybean**
Contact: Darcy Telenko

**Integrated Disease Management for White Mold in Organic Soybean**
Contact: Darcy Telenko

**Uniform Fungicide Evaluation for White Mold in Soybean**
Contact: Darcy Telenko

**Fungicide Evaluation for White Mold in Soybean**
Contact: Darcy Telenko

**Compare the Efficacy of Fungicides for White Mold in Soybean**
Contact: Darcy Telenko

**Plant disease phenotyping studies and decision support systems for Tar Spot and Gray Leaf Spot – Rice Farm**
Purpose: The goals are 1) to develop tools for yield prediction, and (2) early warning systems using weather and related disease parameters to support producer management decisions.
Contact: Christian Cruz

**Plant disease phenotyping studies and decision support systems for Tar Spot and Gray Leaf Spot – PPAC**
Purpose: The goals are 1) to develop tools for yield prediction, and early warning systems using weather and related disease parameters to support producer management decisions.
Contact: Christian Cruz
Department of Botany & Plant Pathology, cont’d

**Genetics of Disease resistance to maize tar spot**  
Purpose: Discover new sources of tar spot resistance via induced mutagenesis.  
Contact: Gurmukh Johal

**Resistance to maize tar spot**  
Purpose: Evaluate diverse maize genotypes for response to tar spot resistance.  
Contact: Stephen Goodwin, Raksha Singh

Department of Horticulture & Landscape Architecture

**No-till Sweet Corn into winter rye**  
Purpose: Investigate stand establishment of sweet corn planted into winter rye cover crop terminated by rolling or other means in comparison to conventional tillage.  
Contact: Elizabeth Maynard, Horticulture

**USDA sweet corn trueness to variety test**  
Purpose: A USDA project to test commercially available sweet corn seed for trueness to variety.  
Contact: Elizabeth Maynard, Horticulture

**Demonstration of drip irrigation scheduling methods**  
Purpose: Use of evapo-transpiraton and soil moisture sensors for managing drip irrigation in vegetable and melon crops.  
Contact: Elizabeth Maynard, Wenjing Guan, Horticulture

**Demonstration of drip irrigation soil wetting patterns**  
Purpose: Demonstrate wetting patterns of soil irrigated with various drip tape types and installation methods.  
Contact: Elizabeth Maynard, Wenjing Guan, Horticulture

**Arugula Seed Increase**  
Purpose: Increase seed inventory of Arugula, a slow bolting variety developed at Purdue.  
Contact: Elizabeth Maynard, Horticulture

**Improving Two Spotted Spider Mite Management Under High Tunnel Cucumber Production**  
Purpose: Evaluate cucumber varieties for tolerance and control practices for two spotted spider mites in high tunnel production using organic methods. A second high tunnel will be utilized to evaluate miticides for efficacy under high tunnel conditions.  
Contact: Laura Ingwell and Elizabeth Maynard, Horticulture
Department of Horticulture & Landscape Architecture, cont’d

**Cover Crop Herbicide Trial in Pumpkin**
Purpose: Demonstrate the influence of cereal rye cover crop on weed control in jack o’lantern pumpkin production.
Contact: Steve Meyers, Horticulture

**Watermelon Weed Science Trial**
Purpose: Document herbicide injury symptoms associated with reduced rates of agronomic herbicides.
Contact: Steve Meyers, Horticulture

**Banana Pepper Tolerance to Clomazone Herbicide**
Purpose: Determine the response of two banana pepper cultivars to three rates of Command herbicide (clomazone).
Contact: Steve Meyers, Horticulture

**Understanding the integration of production, food safety, and profitability in small to medium size operations**
Purpose: Contribute to knowledge of cultural practices, crop quality, production capacity, soil health, and food safety expectations.
Contact: Petrus Langenhoven, Horticulture

Department of Forestry & Natural Resources

**2005 Black Cherry Coppice Trial**
Purpose: To test the effect of coppicing cherry trees after four years of growth on timber form and quality.
Contact: Don Carlson and Brian Beheler - Department of Forestry & Natural Resources. Phil O’Connor, IN-DNR Division of Forestry

**2009 Black Cherry Progeny Test**
Purpose: One of a series of progeny tests of various cherry families from a grafted seed orchard.
Contact: Don Carlson, Caleb Kell, and Brian Beheler - Department of Forestry & Natural Resources

**2009 Containerized Stock Test**
Purpose: Compare Red Oak and Walnut grown in two different sized containers vs. bare rootstock.
Contact: Don Carlson, Caleb Kell, Lenny Farlee, and Brian Beheler - Department of Forestry & Natural Resources
2011 MOG Butternut Study
Purpose: Compare hybrid and pure Butternut in relation to Black Walnut and Red Oak.
Contact: Don Carlson, Caleb Kell, Brian Beheler, and Doug Jacobs - Department of Forestry & Natural Resources

2011-2013 Advanced Butternut Seed Orchard
Purpose: A grafted seed orchard with new selections that have proven resistant to Butternut Canker fungus in screening tests at Purdue University.
Contact: Don Carlson, Caleb Kell, and Brian Beheler - Department of Forestry & Natural Resources

Collaborative Forestry Research Study
Purpose: Study the Competition, coexistence and community structure: Identifying the mechanisms that structure Indiana forests.
Contact: Dr. Brady Hardiman

Natural Resources Demonstration Area
Purpose: Natural Resource Management demonstration area maintained since 2002 at PPAC. The site was developed to provide a consolidated location with a wide range of natural resource research and management examples to allow efficient use during educational field days, workshops for the general public, as well as training and applied research opportunities for future FNR students.
Contact: Don Carlson, Jarred Brooke, Phil Woolery, Lenny Farlee, and Brian Beheler, Forestry & Natural Resources

United States Department of Agriculture-ARS

USDA-ARS Northern Regional Soybean Trials
Contact: Guohong Cai, USDA-ARS

Food Science

Specialty corn flours as novel food ingredients – values, challenges, and applications
Purpose: Produce isolated seed increase of sweet corn grain for laboratory testing.
Contact: Yuan Yao, Food Science
Other Cooperating Units or Areas

**Corn production under cover crop, no-till, and conventional systems**  
Purpose: Demonstrate corn production under three tillage systems.  
Contact: Phil Woolery, Nikky Witkowski, Bob Yoder, Azad Chalal - Area X Extension Educators

**Soybean production under cover crop, no-till, and conventional systems**  
Purpose: Demonstrate soybean production under three tillage systems.  
Contact: Phil Woolery, Nikky Witkowski, Bob Yoder, Azad Chalal - Area X Extension Educators

**Soybean Aphid Suction Trapping**  
Purpose: Monitor the presence of soybean aphid.  
Contact: Dave Voegtlin, National Soybean Research Center

**National Weather Service Manual Read Station**  
Purpose: Provide daily weather information to the National Weather Service.  
Contact: Pinney-Purdue Ag Center Staff

**Purdue Automatic Weather Station (PAWS)**  
Purpose: Automated collection of weather data from this site sent to a data base at the Indiana State Climate Office, which can be observed at [http://climate.agry.purdue.edu](http://climate.agry.purdue.edu).  
Contact: Beth Hall, Agronomy