

PINNEY-PURDUE AGRICULTURAL CENTER RESEARCH AND DEMONSTRATION PROJECTS 2021

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Department of Agronomy

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: Sylvie Brouder, 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: Sylvie Brouder, Shaun Casteel, and James Camberato, Agronomy

Yield Component Response of Corn Hybrid to Sulfur Fertilizer – Pinney Purdue

Purpose: Corn responses to 2x2 & side dress applications of Sulfur Fertilizer treatments. All plots eventually receiving same total amounts of nitrogen. Contact: Bob Nielsen/Jim Camberato/Dan Quinn, Agronomy

Yield Component Response of Corn Hybrid to Sulfur Fertilizer – Mary Rice Farm

Purpose: Corn responses to 2x2 & side dress applications of Sulfur Fertilizer treatments. All plots eventually receiving same total amounts of nitrogen. Contact: Bob Nielsen, Agronomy

Soybean Yield Response to Sulfur Fertilizer and the Potential for Sulfur Carryover to the Following Corn Crop – Mary Rice Farm

Purpose: Evaluate potential for residual soil S the following year in corn. Contact: Bob Nielsen/Jim Camberato/Dan Quinn, Agronomy

Soybean Yield Response to Sulfur Fertilizer and the Potential for Sulfur Carryover to the Following Corn Crop – Pinney Purdue

Purpose: Evaluate potential for residual soil S the following year in corn. Contact: Bob Nielsen/Jim Camberato/Dan Quinn, Agronomy

Phosphorous (P) Response of Soybean Germplasm on a Low P Soil – Pinney C2

Purpose: To evaluate the response on low phosphorous soil on soybean crops. Contact: Zang Cankui/James Camberato, 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

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Department of Agronomy (Continued)

Sulfur AMS Rate x Timing-Rice Farm

Purpose: AMS application at planting vs. split (planting + R1) applications.

Contact: Shaun Casteel, Agronomy

Sulfur Foliar Rate-Rice Farm

Purpose: Apply S at previously tested growth stages to confirm yield response.

Contact: Shaun Casteel, Agronomy

Sulfur AMS x NPK-Rice Farm

Purpose: Determine synergies or limitations to blending AMS with N, P, or K at planting.

Contact: Shaun Casteel, Agronomy

Undercover Sulfur – Rice Farm

Purpose: Evaluate potential of sulfur applications to correct deficiency of S.

Contact: Shaun Casteel, Agronomy

UAV Stand Assessment of Soybeans (Seeding Rate x Plant Type) PPAC

Purpose: Use UAV imagery to assess stand establishment and protocol for scouting early to late season.

Contact: Shaun Casteel, Richard Smith, Agronomy

Product Evaluations-PPAC

Purpose: Evaluate seed treatments, in-furrow applications, and foliar treatments for soybean response.

Contact: Shaun Casteel, Agronomy

Sulfur fertilizer products-PPAC

Purpose: Evaluate AMS, MESZ, Tiger CR, Gypsum plus new formulations for soybean response to treatments.

Contact: Shaun Casteel, Agronomy

Brandt's High Yield System management - PPAC

Purpose: Evaluate interaction of intensive management with foliar feeding and protection across R stages with a base of ATS.

Contact: Shaun Casteel, Agronomy

N:S x Variety- PPAC

Purpose: Evaluate effect of N and S management on seed quality (protein and amino acids).

Contact: Shaun Casteel, Agronomy

Sulfur starters x Placement - PPAC

Purpose: Determine best placement (single or dual 2" offset) for soybean response to sulfur.

Contact: Shaun Casteel, Agronomy

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Department of Agronomy (Continued)

Sulfur starters x Planting Date - PPAC

Purpose: Determine planting date effect (late April vs early June) on soybean response to sulfur.

Contact: Shaun Casteel, Agronomy

Sulfur x Foliar Protection (Field Scale Trial) - PPAC

Purpose: Evaluate AMS application at/near planting with and without follow up R4 fungicide + insect spray.

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 x NPK Nitrogen Use Efficiency - PPAC

Purpose: Evaluate AMS application effect at/near planting with potash.

Contact: Shaun Casteel, Agronomy

Sulfur x Planting Date - PPAC

Purpose: Evaluate AMS application effect on late and early planted soybeans.

Contact: Shaun Casteel, Agronomy

Department of Entomology

Armyworm Trapping

Purpose: To monitor the presence of armyworm

Contact: Larry Bledsoe, Entomology

Black Cutworm Pheromone Trapping

Purpose: To monitor the presence of black cutworm.

Contact: John Obermeyer/Laura Ingwell, Entomology

Western Bean Cutworm Trapping

Purpose: To monitor the presence of western bean cutworm.

Contact: John Obermeyer/Laura Ingwell, Entomology

Corn Ear Worm Trapping

Purpose: To monitor the presence of corn earworm. Contact:

John Obermeyer/Laura Ingwell, Entomology

Corn Trap Crop

Purpose: A trap crop for corn rootworm eggs in 2018 to provide experimental area in 2019. Contact: Christian Krupke, Entomology

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Department of Entomology, cont'd

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, Larry Bledsoe, Entomology

Efficacy of Commercial and Experimental Insecticides Used to Control Corn Insects

Purpose: Evaluate new products and generate data for extension recommendations.

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: Larry Bledsoe, Entomology

Department of Botany & Plant Pathology

14 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

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

Purpose: Demonstrate weed control in soybean herbicide tolerance systems Xtend, Enlist, Liberty, Round-Up, and non-GMO.

Contact: Julie Young, Botany & Plant Pathology

Comparison for Tar Spot in Corn

Purpose: Efficacy of foliar fungicides in corn for tar spot control.

Contact: Darcy Telenko

Comparison for Tar Spot in Corn (Industry multi. 2 trials)

Purpose: Efficacy of foliar fungicides in corn for tar spot control.

Contact: Darcy Telenko

Fungicide timing for Tar Spot control in Corn

Purpose: Compare efficacy of foliar fungicide application timing and model in corn for tar spot control.

Contact: Darcy Telenko

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Department of Botany & Plant Pathology, cont'd

Fungicide timing and efficacy for Tar Spot control in Corn (AgSeed)

Purpose: Compare efficacy of foliar fungicide application timing and model in corn for tar spot control.

Contact: Darcy Telenko

Tillage x hybrid x foliar fungicides for Tar Spot in Corn

Purpose: Compare efficacy of foliar fungicides x tillage x hybrid for tar spot control in corn.

Contact: Darcy Telenko

Compare Organic Products for Tar Spot control in Corn

Purpose: Compare efficacy of organic products for tar spot control.

Contact: Darcy Telenko

Corn Disease in Crop residue x hybrid effects

Purpose: Evaluate disease pressure in crop residue x hybrid effects.

Contact: Darcy Telenko

Comparison for Tar Spot in Corn (TARMI)

Purpose: Efficacy of foliar fungicides in corn inbreds for tar spot control.

Contact: Darcy Telenko

Fungicide Comparison for White Mold in Soybean

Purpose: Compare efficacy of foliar fungicides for white mold control in soybeans.

Contact: Darcy Telenko

Fungicide Comparison for White Mold in Soybean

Purpose: Evaluate organic disease management practices for white mold in soybeans.

Contact: Darcy Telenko

SDS management in Soybean

Purpose: Evaluate seed treatment for SDS management in soybeans.

Contact: Darcy Telenko

SDS management in Soybean

Purpose: Evaluate soybean variety for SDS management in soybeans.

Contact: Darcy Telenko

SDS management in Soybean

Purpose: Evaluate soybean variety x seed treatment for SDS management in soybeans.

Contact: Darcy Telenko

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Department of Botany & Plant Pathology, cont'd

Bio fungicide x Pre herbicide in Soybean

Purpose: Evaluate interaction between biofungicide and pre herbicide application for efficacy of biofungicide in soybeans.

Contact: Darcy Telenko

Bio fungicide x Post herbicide in Soybean

Purpose: Evaluate interaction between biofungicide and post herbicide application for efficacy of biofungicide in soybeans.

Contact: Darcy Telenko

Bio fungicide x Foliar Fungicide in Soybean

Purpose: Evaluate interaction between biofungicide and foliar fungicide application for efficacy of biofungicide in soybeans.

Contact: Darcy Telenko

Foliar fungicide in Soybean (industry1)

Purpose: Compare efficacy of foliar fungicides in soybeans.

Contact: Darcy Telenko

Foliar fungicide in Soybean (industry2)

Purpose: Compare efficacy of foliar fungicides in soybeans.

Contact: Darcy Telenko

Preparation for 2021 white mold research in Soybean

Purpose: Establish field plot area in sunflower production to promote white mold pathogen.

Contact: Darcy Telenko

Plant disease phenotyping studies and decision support systems for Tar spot and Gray leaf spot

Purpose: The goals are 1) to develop tools for yield prediction, and early warning systems using weather and related disease parameters to support farmers' decisions.

Mary S. Rice Farm.

Contact: Christian Cruz

Plant disease phenotyping studies and decision support systems for Tar spot and Gray leaf spot

Purpose: The goals are 1) to develop tools for yield prediction, and early warning systems using weather and related disease parameters to support farmers' decisions.

Pinney Purdue Ag Center.

Contact: Christian Cruz

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**Department of Horticulture & Landscape
Architecture**

No-till Pumpkin into winter rye

Purpose: Demonstrate no-till pumpkin production in winter rye cover crop terminated by rolling and herbicide application in comparison to conventional tillage.

Contact: Elizabeth Maynard, Horticulture

No-till Sweet Corn into winter rye

Purpose: Demonstrate no-till sweet corn production in winter rye cover crop terminated by rolling and herbicide application in comparison to conventional tillage.

Contact: Elizabeth Maynard, Horticulture

Improving Two Spotted Spider Mite Management Under High Tunnel Production

Purpose: Evaluate cucumber varieties for tolerance and control practices for two spotted spider mites in high tunnel production.

Contact: Laura Ingwell and Elizabeth Maynard, Horticulture

Reflex herbicide screen in summer squash

Determine influence of 5 Reflex herbicide rates on crop response, yield, and quality.

Contact: Steve Meyers, Horticulture

Reflex herbicide screen in pumpkin

Determine influence of 5 Reflex herbicide rates on crop response, yield, and quality.

Contact: Steve Meyers, Horticulture

Organic Sweet Potato in Cover Crop

Determine how cover crops on Spring beds influence weed management and sweet potato crop yield.

Contact: Steve Meyers, Horticulture

Understanding the integration of production, food safety, and profitability in small to medium size operations.

Contribute to knowledge of cultural practices, crop quality, production capacity, soil health, and food safety expectations.

Contact: Petrus Langenhoven, Horticulture

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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; Jim McKenna USDA-Forest Service, Northern Research Station; 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: Jim McKenna USDA-Forest Service - Northern Research Station; 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; Jim McKenna USDA-Forest Service - Northern Research Station

2011 MOG Butternut Study

Purpose: Compare hybrid and pure Butternut in relation to Black Walnut and Red Oak.

Contact: Jim McKenna USDA-Forest Service - Northern Research Station; 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: Jim McKenna USDA-Forest Service - Northern Research; Station, 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

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mechanisms that structure Indiana forests.

Contact: Dr. Brady Hardiman

Department of Forestry & Natural Resources, cont'd

Understanding Habitat Needs of Northern Long eared Bats in Northern Indiana Landscapes

Purpose: Predictive maps of landscape level habitat needs of Northern Long Eared Bats in Northern Indiana developed based upon historic records and observations collected during fieldwork completed during the summers of 2017 and 2018.

Contact: Dr. Patrick Zollner, Cheyenne Gerdes - Department of Forestry & Natural Resources.

Natural Resources Demonstration Area Initiation

Purpose: Establish a demonstration area at PPAC for the purpose of 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

Purpose: Evaluating United States Department of Agriculture-Agricultural Research Service (USDA-ARS) Northern Soybean Tests cultivars grouped by maturity for comparison.

Contact: Guohong Cai, USDA-ARS

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.

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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>.

Contact: Beth Hall, Agronomy