

# Northeast Purdue Ag Center

## List of Research and Demonstration Projects for 2024

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### Department of Agronomy

#### **Long-Term Impact of Cover Crops on Cash Crop Nutrient Uptake, Yield and N Application Rate and Products**

Purpose: To elucidate barriers in cover crop inclusion, deepen our understanding of cover crop to affect the availability of manure and inorganic N to cash crops in multiple cropping systems.  
Contact: Shalamar Armstrong

#### **SARE - Ecology of Organic Cropping Systems**

Evaluate various organic cropping systems and their effect on weed, insect, and pathogen pressure on corn, soybeans, and other small grains

Contacts: Christian Krupke and Ashley Adair, Extension

#### **Corn Yield Response to Fungicide Applications**

Evaluate corn response to fungicide applications using spray drone technology and ground rig equipment.

Contacts: Darcy Telenko, Agronomy

#### **Soybean Yield Response to Fungicide Applications**

Evaluate soybean response to fungicide applications using spray drone technology and ground rig equipment.

Contacts: Darcy Telenko, Agronomy

#### **Soybean Yield Response to Application of Biological Utrisha N and Nitrogen-Fixing Microbial Envita**

Evaluate soybean response to applications of biologicals and nitrogen-fixing microbial.

Contact: Shaun Casteel, Agronomy

## Department of Agronomy (Continued)

### **Corn Yield Response to Application of Proven 400S, Biological Utrisha N and Nitrogen-Fixing Microbial Envita**

Evaluate corn response to applications of biologicals and nitrogen-fixing microbial.

Contact: Dan Quinn, Agronomy

### **Soybean Inoculation after Continuous Corn**

Poor nodulation in soybeans causes drastic yield losses. Continuous corn for more than four years should have soybean seed treated with inoculant. Project will test inoculant rate 1x, 2x and method factored across sulfur application (yes/no) over the course of two soybean cycles to evaluate yield response.

Contact: Shaun Casteel, Agronomy

### **Soybean Yield Response to Various Management Practices**

Evaluate soybean response to intensified management practices such as Smart KB, XYWAY applied 2x2 at planting, in season fungicide and insecticide application.

Contact: Northeast Purdue Ag Center

### **Corn Tar Spot Severity Using Different Modes of Action**

Evaluate corn response to tar spot through different modes of action aimed at reducing the severity of tar spot in corn. (Corn hybrid disease trait score, XYWAY application at planting with 2x2, VT/R1 fungicide application)

Contact: Northeast Purdue Ag Center

### **Potassium Budgets in Indiana Corn and Soybean Production**

Evaluate the agronomic efficiency of currently potassium (K) fertilizer rates and evaluate theoretically improved soil potassium tests for ability to predict soil K supply.

Contact: Dan Quinn, Shaun Casteel, Agronomy

## Department of Entomology

### **Armyworm Trapping**

Monitor armyworm insect pest levels across Indiana.

Contact: John Obermeyer, Entomology

### **Black Cutworm Pheromone Trapping**

Monitor black cutworm insect pest levels across Indiana.

Contact: John Obermeyer, Entomology

### **Western Bean Cutworm Trapping**

Monitor the presence of western bean cutworm across Indiana

Contacts: John Obermeyer & Laura Ingwell, Entomology

### **Corn Ear Worm Trapping**

Monitor the presence of corn ear worm across Indiana

Contacts: John Obermeyer & Laura Ingwell, Entomology

### **Indiana Cooperative Ag Pest Survey (CAPS) for Invasive Pests**

Purpose: Monitor exotic insect pest levels of corn, soybeans and oak.

Contact: John Obermeyer, Entomology

## Collaborations

### **Soybean Aphid Suction Trap Network**

A network of traps across the country to monitor soybean aphid's levels throughout the year.

Contact: Dave Voegtlin, National Soybean Research Center

### **Purdue Automated Agricultural Weather Station (PAAWS)**

Automated collection of weather data from this site is sent to the Indiana State Climate Office at Purdue University - data can be observed at: <http://climate.agry.purdue.edu>

Contact: Beth Hall and Stephen Boyer, Agronomy and NEPAC

### **Waterhemp Sampling in Managed Fields**

Take leaf samples from waterhemp plants throughout the growing season.

Contacts: Dr. Julia M. Kreiner University of Chicago

### **Diagnostic Training Center (DTC)**

Small plot demonstrations conducted by NEPAC staff to be used as talking points during workshops and field day events

Contacts: Chris Lake and Carl Emley, NEPAC