

**SOUTHWEST-PURDUE AGRICULTURAL CENTER
RESEARCH AND DEMONSTRATION PROJECTS
2019**

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Department of Agronomy

Purdue Crop Performance Trial

Purpose: Early group soybean trials.
Contacts: Phil DeVillez & Bill Foster

Purdue Crop Performance Trial

Purpose: Mid group soybean trials.
Contacts: Phil DeVillez & Bill Foster

Purdue Crop Performance Trial

Purpose: Late group soybean trials.
Contacts: Phil DeVillez & Bill Foster

Purdue Crop Performance Trials

Purpose: Non-GMO corn trial with watermelon hybrids.
Contacts: Phil DeVillez & Bill Foster

CASTNet Dry Deposition Measurements

Purpose: The measurement of gaseous and collection of gaseous and particulate pollutants in combination with meteorological conditions are made at this site in order to 1) characterize geographic patterns and temporal trends in chemical atmospheric dry deposition 2) support assessments of atmospherically – deposited nutrients.
Contact: Rich Grant

National Atmospheric Deposition Program/Mercury Deposition Network

Purpose: The collection of rain water from this site in order to: 1) characterize geographic patterns and temporal trends in wet chemical mercury deposition and 2) Support assessments of atmospherically-deposited mercury on the productivity of biological accumulators such as fish.

Contact: Rich Grant

National Atmospheric Deposition Program/National Trends Network

Purpose: The collection of rain water from this site is made in order to: 1) Characterize geographic patterns and temporal trends in chemicals as well as quantity and conductivity of atmospheric wet deposition and 2) support assessments of atmospherically – deposited nutrients influencing crop productivity.

Contact: Rich Grant

Department of Agronomy (Continued)

Ammonia Monitoring Network

Purpose: The collection of gaseous ammonia from the site is made in order to 1) characterize geographic patterns and temporal trends in background ammonia levels, 2) support assessments of atmospherically-deposited nitrogen on the ecosystem function.

Contact: Rich Grant

Purdue Automated Agricultural Weather Station (PAAWS)

Purpose: 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>

National Weather Service Station (NWS)

Purpose: Manual collection of daily weather observations from this site are sent to the NWS via a web-based application known as WxCoder.

Contact: Rich Grant & SWPAC Staff

U.S. Geological Survey

Purpose: Monitoring of atmospheric mercury dry deposition in litter fall.

Contact: Douglas Burns & SWPAC Staff

National Winter Canola Variety Trial

Purpose: Evaluate canola varieties to identify best adapted varieties for southwest Indiana.

Contacts: Charles Mansfield & Mike Stamm

Winter Canola Proprietary Germplasm Screen

Purpose: Evaluate winter canola entries for winter hardiness, stand ability, disease tolerance, and yield potential.

Contacts: Charles Mansfield & Brian Caldbeck

Canola Early Germplasm Screen with Plant Growth Regulator

Purpose: Evaluate the effect of various plant growth regulators on canola for winter hardiness, standability, disease tolerance, grain yield and quality.

Contacts: Charles Mansfield & Brian Caldbeck

Tolerance of Canola to Spartan Herbicide

Purpose: Evaluate the effect of Spartan herbicide applied at two different times and applied at two different rates on canola for winter hardiness, standability, disease tolerance, grain yield and quality.

Contacts: Charles Mansfield & Brian Caldbeck

Clearfield Canola Validation Screen

Purpose: Compare no herbicide with the 2X rate of Beyond herbicide on the growth and early development of Clearfield canola lines as compared to non-tolerant control lines of canola for purposes of verifying herbicide tolerance in the Clearfield lines.

Contacts: Charles Mansfield & Brian Caldbeck

Wheat Variety Trial

Purpose: Southwestern Indiana Independent Wheat Variety Trials exist to provide growers in this area unique information to their geographic area.

Contacts: Charles Mansfield, Hans Schmidt & Nick Held

Department of Agronomy (Continued)

Wheat Plant Growth Regulator Evaluation

Purpose: Evaluate the effect of two plant growth regulators on winter wheat for lodging, plant height, grain yield and quality.

Contacts: Charles Mansfield, Van Malter, Eastman Chemical Company

Evaluation of Hemp Varieties for Fiber Use

Purpose: Evaluate Sunstrand hemp variety for fiber production in southern Indiana at 3 nitrogen rates and 4 seeding rates.

Contacts: Chuck Mansfield, Ron Turco & Dennis Nowaskie

Evaluation of Hemp Varieties for Seed Use

Purpose: Evaluate five hemp varieties for seed production in southern Indiana.

Contacts: Chuck Mansfield, Ron Turco & Dennis Nowaskie

Hemp Herbicide Screen

Purpose: Evaluate crop tolerance of Sunstrand hemp variety to various herbicides.

Contacts: Chuck Mansfield, Ron Turco & Dennis Nowaskie

Evaluation of Plant Characteristics of Three Varieties of Hemp Clones

Purpose: Evaluate three CBD hemp female clone varieties for plant characteristics. Evaluate plant vigor, height and width, days to harvest maturity.

Contacts: Chuck Mansfield, Ron Turco & Dennis Nowaskie

Winter Wheat Yield Trials

Purpose: To generate data that can be used in variety selection process.

Contact: Mohsen Mohammadi

Sulfur Effects on Soybean Yields

Purpose: Evaluate yield response of sulfur applications to soybeans.

Contact: Shaun Casteel & Amanda Modglin

Sulfur Effects on Corn Yield

Purpose: Determine the effects of sulfur on corn yield.

Contact: Bob Nielsen & Jim Camberato

Department of Botany & Plant Pathology

Downy Mildew Sentinel Plot

Purpose: To monitor the possible on-set of Downy Mildew in Indiana.

Contact: Dan Egel.

Evaluate Stroller Products in Pumpkin Production

Purpose: Evaluate Stroller products in pumpkins.

Contact: Dan Egel

Bacterial Diseases Tomato Trial

Purpose: Field experiment that compares products and their effects on bacterial diseases of processing tomatoes.

Contact: Dan Egel

Department of Botany & Plant Pathology (continued)

Fusarium Greenhouse Study

Purpose: Managing fusarium wilt of greenhouse watermelon transplants.
Contact: Dan Egel

Organic Tomato Plot

Purpose: Study organic control options for foliar tomato diseases.
Contact: Dan Egel

Fungicide Comparison in Wheat

Purpose: Efficacy of foliar fungicides on FHB in wheat.
Contacts: Darcy Telenko & Jeffrey Ravellette

Soybean Sentinel Plots

Purpose: Observe crop diseases throughout the growing session.
Contacts: Darcy Telenko & Jeffrey Ravellette

Fungicide Comparison in Soybeans

Purpose: Efficacy of foliar fungicides on soybean diseases.
Contacts: Darcy Telenko & Jeffrey Ravellette

Fungicide Comparison in Double Crop Soybeans

Purpose: Efficacy of foliar fungicides on soybean diseases.
Contacts: Darcy Telenko & Jeffrey Ravellette

Corn Sentinel Plots

Purpose: Observe crop diseases throughout the growing season.
Contacts: Darcy Telenko & Jeffrey Ravellette

Fungicide Comparison in Corn

Purpose: Efficacy of foliar fungicides on corn diseases.
Contacts: Darcy Telenko & Jeffrey Ravellette

Fungicide Comparison in Corn - Industry

Purpose: Efficacy of foliar fungicides on corn diseases.
Contacts: Darcy Telenko & Jeffrey Ravellette

Fungicide Comparison in Corn - BASF

Purpose: Efficacy of foliar fungicides on corn diseases.
Contacts: Darcy Telenko & Jeffrey Ravellette

Department of Entomology

Earworm Pheromone Trapping

Purpose: To monitor the presence of earworm moths.
Contact: Laura Ingwell

Indiana Cooperative Agricultural Pest Survey (CAPS) for Exotic Insect Pests of Soybean & Corn

Purpose: Establish traps sites and sample areas needed to monitor for exotic insect species.
Contact: Larry Bledsoe

Department of Entomology (continued)

Armyworm Pheromone Trapping

Purpose: To monitor the presence of armyworm moths.

Contact: John Obermeyer

Navigating the Trade-off Between Pest Management and Pollinator Conservation in Cucurbits

Purpose: Effect within & surrounding field impacts of neonicotinoid insecticides on honey bees.

Contact: Laura Ingwell, Ian Kaplan & Jacob Pecenka

Ecosystem Services Assessment in Watermelon and Corn Ecosystems

Purpose: Assess the insect community within watermelon and corn production systems and determine the exosystemic services that predatory insects are having on pest populations.

Contact: Steve Yaninek, Amanda Skidmore & Ivan Grijalva

Investigating the Role of Symbiotic Microbes in the Transmission of Insect-vectoring Plant Pathogens

Purpose: Investigates whether bacterial communities associated with aphids can influence transmission of Barley yellow dwarf virus.

Contact: Laramy Enders, Laura Ingwell & Brandi Schemerhorn

Purdue Extension

Southwest Indiana Crop Diagnostic Training Clinic

Purpose: To demonstrate and teach timely agronomic information to crop consultants and growers.

Contact: Valerie Clingerman, Bob Nielsen, Chuck Mansfield

UAV use in Melon Production

Purpose: To see if there are visual effects of watermelon with cereal rye strips fb wheat

Contact: Valerie Clingerman

Day on the Farm for 3rd Graders

Purpose: To allow Knox County 3rd graders an opportunity to plant a watermelon and visit a farm.

Contact: Valerie Clingerman & Mitch Wagoner

Pumpkin Days for 1st Graders

Purpose: To allow Knox County 1st graders an opportunity to see a pumpkin field and pick their own pumpkins

Contact: Valerie Clingerman & Mitch Wagoner

Identification of Food Safety Best Practice for Indiana Cantaloupe Production

Purpose: Best practice for use of biological amendments of animal origin in cantaloupe production.

Contact: Scott Monroe & Amanda Deering

Purdue Extension (continued)

Good Agricultural Practices for Postharvest Handling of Leafy Green Using a Bubbler System

Purpose: This project involve growing leafy greens, inoculating them with biological soil amendment of animal origin and following harvest, using them to estimate the efficacy of various sanitizers in a bubbler system.

Contact: Scott Monroe & Amanda Deering

Department of Forestry & Natural Resources

Testing Organic Herbicides

Purpose: Testing various enzymes, including some present in the gut of termites, for their ability to kill woody plants after injection.

Contact: Rick Meilan

Department of Horticulture & Landscape Architecture

Seedless Watermelon Variety Trial

Purpose: Evaluate yield and fruit quality of seedless watermelon varieties.

Contact: Wenjing Guan

Personal Size Watermelon Variety Trial

Purpose: Evaluate yield and fruit quality of personal size watermelon varieties.

Contact: Wenjing Guan

Evaluate Yield and Quality of Specialty Melons Grown in a High Tunnel

Purpose: This trial will evaluate yield and quality of specialty melons grown in a high tunnel.

Contact: Wenjing Guan

Evaluate IR Soil Heating Mat in Extending Crop Season of Tomato, Pepper and Cucumber

Purpose: This project will evaluate IR soil heating mat in extending crop season of tomato, pepper and cucumber. Transplant death, crop injury and early yield will be evaluated. We will also recode lectic use of using this technology.

Contact: Wenjing Guan

Evaluate Effects of MycoApply EndoMaxx on Processing Tomato Yield and Quality

Purpose: MycoApply EndoMax is a plant biostimulate containing endomycorrhizal fungi. The project will evaluate its use in processing tomato production. Treatment will include transplant drench and soil applied through transplant water.

Contact: Wenjing Guan

Evaluate Effects of TerraStar Disk Technology on Processing Tomato Yield and Quality

Purpose: TerraStar is a new disk technology. It is applied to soil right after transplant. This project will evaluate processing tomato yield and quality.

Contact: Wenjing Guan

Evaluate efficacy and crop safety of Authority Elite on Processing Tomato

Purpose: Authority Elite is a preemergence herbicide. This project will evaluate potential crop injury and weed control efficacy of using Authority Elite.

Contact: Wenjing Guan

Department of Horticulture & Landscape Architecture (continued)

Evaluate Organic Potting Soil on Transplant Production

Purpose: Evaluate organic potting soil and organic fertilizers on watermelon and tomato transplant production. Most of the project will be conducted in a greenhouse. A small amount of tomatoes will be transplanted in the field next to the high tunnel.

Contact: Wenjing Guan

Evaluate Yield and Plant Growth of Grafted Cucumbers with Different Rootstocks

Purpose: The goal of this project is to enhance cucumber cold tolerance through grafting. Different rootstocks will be evaluated. Plant yield potential, cold hardiness, and cucumber quality will be evaluated.

Contact: Wenjing Guan

Evaluate Seedcorn Maggot and Wireworm Damages to Grafted and Un-grafted Cucumber

Purpose: This trial will evaluate seedcorn maggot and wireworm damages to grafted and un-grafted cucumbers.

Contact: Wenjing Guan

Evaluate Cold Tolerance of Cucumber Cultivars

Purpose: This trial will evaluate cold tolerance of cucumber cultivars.

Contact: Wenjing Guan

Evaluate Performance of Cantaloupe and Specialty Melons

Purpose: Evaluate yield and fruit quality of cantaloupe and specialty melon varieties in Indiana.

Contact: Wenjing Guan

Plant Spacing of Grafted Watermelons

Purpose: Optimize plant spacing of grafted watermelons.

Contact: Wenjing Guan

Evaluate Strawberries Grown in a High Tunnel

Purpose: The project will evaluate strawberries grown in a high tunnel.

Contact: Wenjing Guan

Extend Strawberry Harvest Season in Southern Indiana – March Planting

Purpose: To promote strawberry production and extend strawberry harvest season in southern Indiana. The March planting project is to evaluate crop yield and harvest duration of day-neutral strawberries.

Contact: Wenjing Guan

Extend Strawberry Harvest Season in Southern Indiana – Summer Planting

Purpose: To promote strawberry production and extend strawberry harvest season in southern Indiana. The summer planting project is to evaluate crop yield and harvest duration of June-bearer strawberries planted in the summer with bare roots. Use of low tunnels system in strawberry production will be evaluated in the project.

Contact: Wenjing Guan

Department of Horticulture & Landscape Architecture (continued)

Extend Strawberry Harvest Season in Southern Indiana – Fall Planting

Purpose: To promote strawberry production and extend strawberry harvest season in southern Indiana. The fall planting project is to evaluate crop yield and harvest duration of June-bearing strawberries planted in fall with plug plants. This project will be conducted in both open-field and high tunnel.

Contact: Wenjing Guan

Wine Grape Research

Purpose: Evaluation of wine grape varieties in southwest Indiana.

Contact: Bruce Bordelon

Table Grape Research

Purpose: Evaluation of table grape varieties in southwest Indiana.

Contact: Bruce Bordelon

Chestnut Study

Purpose: Evaluate Chestnut tree growth and nut production.

Contact: Bruce Bordelon