

SOUTHWEST-PURDUE AGRICULTURAL CENTER RESEARCH AND DEMONSTRATION PROJECTS 2020

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Department of Agronomy

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

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>

Contact: Beth Hall

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

Department of Agronomy (Continued)

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

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

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 Nitrogen Rate and Seeding Rate on Industrial Hemp for Fiber Use

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

Contacts: Chuck Mansfield, Marguerite Bolt & Dennis Nowaskie

Evaluation of Industrial Hemp for Fiber Herbicide Screen

Purpose: Evaluate crop tolerance of hemp to various herbicides applied post plant, pre-emergence, and others applied post emergence.

Contacts: Chuck Mansfield, Sarah Caffery & Dennis Nowaskie

Evaluation of Industrial Hemp for Fiber and Grain

Purpose: Evaluate suitability of various industrial hemp varieties for the lower Midwest and mid-South region.

Contacts: Chuck Mansfield, Marguerite Bolt & Dennis Nowaskie

Winter Wheat Breeding Trials

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

Contact: Mohsen Mohammadi & Tracy Richards

Department of Agronomy (Continued)

Sulfur Effects on Soybean Yields

Purpose: Evaluate yield response of sulfur applications to soybeans.

Contact: Shaun Casteel & Amanda Modglin

Corn Responses to Applied Sulfur Fertilizers

Purpose: Corn responses to applied sulfur fertilizers.

Contact: Bob Nielsen

Department of Botany & Plant Pathology

Downy Mildew Sentinel Plot

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

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

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

SOY20-29 Double Crop

Purpose: Evaluation of row spacing and fungicide on double-cropped soybean.

Contacts: Darcy Telenko & Jeffrey Ravellette

Fungicide Comparison in Wheat

Purpose: Efficacy of foliar fungicides on FHB in wheat.

Contacts: Darcy Telenko & Jeffrey Ravellette

WHT20-04 SCAB

Purpose: Efficacy of foliar fungicides on FHB 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 - Industry

Purpose: Efficacy of foliar fungicides on soybean diseases.

Contacts: Darcy Telenko & Jeffrey Ravellette

Department of Botany & Plant Pathology (continued)

Corn Sentinel Plots

Purpose: Observe crop diseases throughout the growing season.

Contacts: Darcy Telenko & Jeffrey Ravellette

Fungicide Comparison in Corn - Industry

Purpose: Efficacy of foliar fungicides on corn diseases.

Contacts: Darcy Telenko & Jeffrey Ravellette

Organic Hemp Production

Purpose: Asses the effect of hemp (seed and fiber) planted before corn, soybean, and wheat under conventional and no-till conditions with fall cover crops.

Contacts: Kevin Gibson & Andres Fonnegra

Department of Entomology

Miticide Efficacy Trial in Watermelon

Purpose: To provide information on the efficacy of miticides so that the least amount of applications can be made to get this pest under control.

Contact: Laura Ingwell & John Obermeyer

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

Armyworm Pheromone Trapping

Purpose: To monitor the presence of armyworm moths.

Contact: John Obermeyer

Black Cutworm Pheromone Trapping

Purpose: To monitor the presence of armyworm moths.

Contact: John Obermeyer

Western Bean Cutworm Pheromone Trapping

Purpose: To monitor the presence of armyworm moths.

Contact: John Obermeyer

Corn Earworm Trapping Network

Purpose: To monitor the presence of corn earworm moths.

Contact: Laura Ingwell

Department of Entomology (continued)

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: Ian Kaplan & Jacob Pecenka

Investigating the Role of Symbiotic Microbes in the Transmission of Insect-vectorred 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

Pumpkin Days for 1st Graders

Purpose: To allow Knox County 1st graders an opportunity to see a pumpkin field and pick their own pumpkins – virtual, Extension Educators will deliver pumpkins to schools

Contact: Valerie Clingerman & Mitch Wagoner

Department of Forestry & Natural Resources

Systems Biology Discovery of the Molecular Mechanisms of Populus Adaptation and Resilience

Purpose: The overall goal of the proposal is to understand how Populus responds to environmental sources of abiotic stress that determine its growth and biomass productivity.

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

Muskmelon Variety Trial

Purpose: Evaluate yield and fruit quality of muskmelon varieties.

Contact: Wenjing Guan

Department of Horticulture & Landscape Architecture (continued)

Plant Spacing of Grafted Watermelons

Purpose: Evaluate performance of grafted watermelons with different planting spacing.

Contact: Wenjing Guan

Department of Horticulture & Landscape Architecture (continued)

Grafted Watermelons- Early Planting and Low Tunnel

Purpose: Evaluate performance of early planting of grafted watermelons and the use of low tunnel systems.

Contact: Wenjing Guan

Evaluate Strawberries Grown in a High Tunnel

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

Contact: Wenjing Guan

Double Crop High Tunnel Strawberries – Cucumber, Melon, & Summer Squash Evaluation

Purpose: The project will evaluate selected specialty melon, cucumber and summer squash varieties grown in a high tunnel following strawberry production.

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

Extend Strawberry Harvest Season in Southern Indiana – Spring Planting

Purpose: This project will evaluate strawberry cultivars planted in the spring with the use of low tunnel system.

Contact: Wenjing Guan

Double Cropping Field Strawberries – Winter Squash

Purpose: This project will evaluate potential of growing winter squash following field strawberries.

Contact: Wenjing Guan

Extend Strawberry Harvest Season in Southern Indiana – Fall Planting

Purpose: This project will evaluate strawberry cultivars planted in the fall with the use of low tunnel system.

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

Reflex Screen for Pumpkin

Purpose: Obtain tolerance data to support registration. Applied after bed formation, before plastic. Applied after seeding, but before emergence.

Contact: Stephen Meyers

Reflex Screen for Winter Squash

Purpose: Obtain tolerance data to support registration. Applied after bed formation, before plastic. Applied after seeding, but before emergence.

Contact: Stephen Meyers

Reflex Screen for Watermelon

Purpose: Obtain tolerance data to support registration. Applied after bed formation, before plastic. Applied after seeding, but before emergence.

Contact: Stephen Meyers

Morning glory Interference in Watermelon

Purpose: The purpose of this study is to determine the influence of six season-long morning-glory densities on plasticulture watermelon yield and quality.

Contact: Stephen Meyers