SOUTHWEST-PURDUE AGRICULTURAL CENTER
RESEARCH AND DEMONSTRATION PROJECTS
2016

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Department of Agronomy

Soybean MG x Planting Date Study
Purpose: Planting dates and variety selections are critical components of maximizing soybean yields. Hot and dry periods during reproductive growth often limit the yield potential in southern Indiana, so some growers are choosing earlier maturity groups to plant earlier. This study will aim to determine the yield impacts of planting early versus full maturing soybeans at various planting dates.

Contacts: Shawn Casteel, Peter Kovacs, & Chuck Mansfield

Soy Sulfur Study
Purpose: A previous rescue study in soybeans led to a 6 bushel/acre gain with ammonium sulfate – this has sparked interest with producers. The application was at growth stage V4 and one day after glyphosate application. This study in 2016 will explore Sulphur rate response with and without glyphosate at growth stage V4

Contacts: Shaun Casteel & Peter Kovacs

Double Soy – Seed Rate x Row or MG Study
Purpose: This is a multi-state project aimed at increasing soybean yields by identifying management scenarios that consistently increase soybean yields in double crop systems, especially as it relates to seed rates

Contacts: Shaun Casteel & Peter Kovacs

Double Soy – Max Management Study
This is a multi-state project aimed at increasing soybean yields by identifying management scenarios that consistently increase soybean yields in double crop systems

Contacts: Shaun Casteel & Peter Kovacs

Purdue Crop Performance Trial
Purpose: Waxy Corn yield trial.

Contacts: Phil DeVillez & Bill Foster

Purdue Crop Performance Trial
Purpose: Glyphosate -Tolerant Soybean Trial evaluation of early, mid, and late season soybean varieties.

Contacts: Phil DeVillez & Bill Foster
Purdue Crop Performance Trials
Purpose: Bayer Company soybean demonstration trial.
Contacts: Phil DeVillez & Bill Foster

Wheat Variety Improvement Trial
Purpose: Evaluate wheat varieties to identify best adapted varieties for southwest Indiana.
Contacts: Mohsen Mohammadi & Andy Linvill

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

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
Contacts: Rich Grant & Ken Scheeringa

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 treads 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

U.S. Geological Survey
Purpose: Monitoring of atmospheric mercury dry deposition in litterfall
Contact: Donna Kenski & David Gay

Ammonia Monitoring Network
Purpose: The measurement of gaseous ammonia from the site is made in order to 1) asses the long-term trends in ambient NH3 concentrations and deposition, 2) better estimate total nitrogen inputs to ecosystems and 3) evaluate possible long-term climate effects due to the spatial and temporal trends of ammonia gas in the atmosphere
Contact: Rich Grant

National Winter Canola Variety Trial
Purpose: Evaluate canola varieties to identify best adapted varieties for southwest Indiana.
Contacts: Charles Mansfield & Mike Stamm
Effect of Row Width and Seeding Rate on Canola Production
Purpose: Evaluate the effect of 3 different row widths and 4 planting populations on growth and development, disease and insect problems, reproductive growth, and grain yield of Canola.
Contacts: Charles Mansfield & Brian Caldbeck

Canola Herbicide Screen Study
Purpose: Evaluate the effect of different pre-emergence and post emergence herbicides (and various product combinations and application rates) with different additives on growth and development, reproductive growth, and grain yield of Canola.
Contacts: Charles Mansfield & Brian Caldbeck

Canola Early Germplasm Screen
Purpose: Evaluate early maturing canola entries for winter hardiness, standability, disease tolerance, and yield potential
Contacts: Charles Mansfield & Brian Caldbeck

Clearfield Canola Herbicide 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

Canola Desiccant Timing Study
Purpose: Evaluate the effect of 6 different desiccant application timings on canola dry-down, grain shattering, and grain quality and yield.
Contacts: Chuck Mansfield & Brian Caldbeck

Winter Wheat Variety Improvement
Purpose: To develop new winter wheat cultivars.
Contact: Mohsen Mohammadi

Effect of Starter Zinc and Sulphur Fertilizer on yield of corn grown on a sandy soil
Purpose: Zinc and/or Sulphur deficiencies are possible on sandy low organic matter soils especially when pH is high. What is the potential yield increase of corn and how frequently will a yield increase occur.
Contact: Jim Camberato, Bob Nielsen & Cody Hornaday

Department of Botany & Plant Pathology

Downy Mildew Sentinel Plot
Purpose: To monitor the possible on-set of Downy Mildew in Indiana.
Contact: Dan Egel.
Anthracnose Plot
Purpose: Comparison of the timings of systemic fungicide applications effective against anthracnose
   Contact: Dan Egel

Holganix Watermelon Plot
Purpose: Effects of treatment at different times/rates on hybrid diploid watermelon with anthracnose
   Contact: Dan Egel

Holganix Bell Pepper Plot
Purpose: Effects of treatment at different times/rates on hybrid bell peppers with bacterial spot
   Contact: Dan Egel

Holganix Tomato Plot
Effects of treatment at different times/rates on processing tomatoes with early blight.
   Contact: Dan Egel

OREI Organic Tomato Plot
Practical approach to foliar pathogen control in organic tomato production through participatory breeding and integrated pest management
   Contact: Dan Egel

Grafted Tomatoes in High Tunnel
Purpose: Fungicide trial to determine if grafted tomato have a better resistance to leaf mold.
   Contact: Dan Egel & Wenjing Guan

Solarization in High Tunnel
Purpose: Experiment that examines solarization of the fusarium crown rot pathogen in high tunnel 2.
   Contact: Dan Egel

Cool Weather Crop in High Tunnel
Purpose: Variety trial of a cool weather crop (broccoli or spinach) in high tunnel 2
   Contact: Dan Egel & Wenjing Guan

AgriPhage Tomato Plot
Purpose: Field experiments to compare the alternative bacterial spot management treatments with standard copper treatments
   Contact: Dan Egel

Risk-based Management Trial in Wheat
Purpose: Evaluation of foliar fungicides in wheat.
   Contacts: Kiersten Wise & Jeffrey Ravellette
Double Crop SDS/SCN Soybean Trail
Purpose: Determine the efficacy of seed treatments and variety against Sudden Death Syndrome (SDS) and Soybean Cyst Nematode (SCN).
Contacts: Kiersten Wise & Jeffrey Ravellette

Department of Entomology

Susceptibility of Melon Varieties to Striped Cucumber Beetles and Bacterial Wilt
Purpose: Melons will be planted and populations of striped cucumber beetles, incidence of bacterial wilt, and yield components will be measured.
Contact: Rick Foster

Best Management Practices for Striped Cucumber Beetles and Bacterial Wilt on Muskmelons
Purpose: Practices will be studied to manage striped cucumber beetles and bacterial wilt with neonicotinoids causing minimal harm to honey bees.
Contact: Rick Foster

Indiana Cooperative Agricultural Pest Survey (CAPS) for Invasive Pests
Purpose: Establish traps sites and sample areas needed to monitor for invasive insect species.
Contact: Larry Bledsoe

Heliothine Research Survey
Purpose: Will use DNA samples from Heliothine moths collected weekly throughout the US to determine the phenology and distribution of a group of viruses known to infect those moths. The information will be used to determine how those viruses may be used for IPM strategies
Contact: Paul Baker, University of Kentucky

Armyworm Pheromone Trapping
Purpose: To monitor the presence of armyworm moths.
Contact: John Obermeyer, Entomology

Corn Earworm Pheromone Trapping
Purpose: To monitor the presence of corn earworms moths.
Contact: John Obermeyer, Entomology

Purdue Extension

Southwest Indiana Crop Diagnostic Training Clinic
Purpose: To demonstrate and teach timely agronomic information to crop consultants and growers about new soybean technologies for control with cyst nematodes.
Contact: Valerie Clingerman & Jamal Faghihi
Southwest Indiana Crop Diagnostic Training Clinic
Purpose: To demonstrate and teach crop consultants and growers about corn issues including: incorrect planting depth, down pressure, row cleaner settings, cold weather effects, and incorrect Nitrogen fertilizer application.
  Contact: Valerie Clingerman & Bob Nielsen

Southwest Indiana Crop Diagnostic Training Clinic
Purpose: To demonstrate and teach crop consultants and growers about compaction and cover crops.
  Contact: Valerie Clingerman, Chuck Mansfield & Kenny Eck

Southwest Indiana Crop Diagnostic Training Clinic
Purpose: To demonstrate and teach crop consultants and growers about managing weeds using new dicamba herbicide technologies. Primarily looking at using burndowns and the effect of spraying large versus small weeds.
  Contact: Valerie Clingerman & Bill Johnson

Southwest Indiana Crop Diagnostic Training Clinic
Purpose: To demonstrate and teach crop consultants and growers about soybean planting date and maturity groups
  Contact: Valerie Clingerman & Shaun Casteel

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

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

2016 Purdue Extension, Soybean Variety Trials
Purpose: Analyze yield performance of soybean varieties.
  Contact: Jon Neufelder

Department of Forestry & Natural Resources

Assessing Poplar Species Suitability and Productivity in Indiana
Purpose: Testing of Poplar trees for Biofuel production from cellulosic feedstock.
  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

**Seeded Watermelon Variety Trial**
Purpose: Evaluate yield and fruit quality of seeded watermelon varieties.
Contact: Wenjing Guan

**Evaluate Effects of Chateau on Weed Control of Watermelon**
Purpose: Evaluate Chateau for the purpose of acquiring a label for use on watermelon.
Contact: Wenjing Guan

**Personal Size Watermelon Variety Trial**
Purpose: Evaluate yield and fruit quality of personal size watermelon varieties.
Contact: Wenjing Guan

**Test AgNutrition Products on Cantaloupe**
Purpose: Evaluate AgNutrition fertilizer products on cantaloupe.
Contact: Wenjing Guan

**Test AgNutrition Products on Watermelon**
Purpose: Evaluate AgNutrition fertilizer products on watermelon.
Contact: Wenjing Guan

**Test AgNutrition Products on Tomatoes**
Purpose: Evaluate AgNutrition fertilizer products on tomatoes.
Contact: Wenjing Guan

**Control Fusarium Wilt of Seedless Watermelons through Grafting**
Purpose: Evaluate grafted watermelon plants to non-grafted plants for resistance to fusarium wilt, and for yield and plant growth characteristics.
Contact: Wenjing Guan

**Strawberry Variety Evaluation in High Tunnels**
Purpose: Evaluate strawberry varieties grown in high tunnel environment.
Contact: Wenjing Guan

**Grafting Cucumbers for Season Extension and Yield Improvement**
Purpose: Evaluate grafted cucumbers for yield and plant growth characteristics.
Contact: Wenjing Guan

**Cantaloupe Variety Trial**
Evaluate yield and fruit quality of cantaloupe varieties.
Contact: Wenjing Guan

**Table Grape Research**
Purpose: Evaluation of table grape varieties.
Contact: Bruce Bordelon & Paul Howard
Wine Grape Research
Purpose: Evaluation of wine grape varieties in southwest Indiana.
    Contact: Bruce Bordelon & Paul Howard

Chestnut Study
Purpose: Evaluate Chestnut tree growth and nut production.
    Contact: Bruce Bordelon