THROCKMORTON PURDUE AGRICULTURAL CENTER RESEARCH AND DEMONSTRATION PROJECTS 2025

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Department of Agronomy

Corn Nitrogen – Biological Trial (Field Scale)
Purpose: Corn response to different nitrogen rates and comparing yield response to Xyway biological treatment.
Contact: Dan Quinn

Purdue MESONET Automated Agricultural Weather Station
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

Corn Planting Technology Comparison
Purpose: Comparing older planter technology vs. new planter technology using three hybrids.
Contact: Tom Beckman, Dan Quinn

Department of Botany and Plant Pathology

Soybean Root Traits
Purpose: Identify and prioritize soybean root traits that can be targeted by breeders to enhance sustainability of soybean production, while increasing yields.
Contact: Anjali Iyer-Pascuzzi & Denise Caldwell

SOY25-SENTINAL-TPAC
Monitoring of disease development in soybeans over the growing season.
Contact: Darcy Telenko

COR25-SENTINAL-TPAC
Monitoring of crop disease development in field corn over the growing season.
Contact: Darcy Telenko

Department of Botany and Plant Pathology (cont.)

25-MGS-Burndown-01
Purpose: Burndown with HAI-333 (non-crop).
Contact: Bryan Young

25-MGS-Burndown-02
Purpose: Rapidicil vs Standard (non-crop).
Contact: Bryan Young

25-MGS-Corn-01
Purpose: SC500 Tank Mixtures in Corn.
Contact: Bryan Young

25-MGS-Corn-02
Purpose: Herbicide efficacy for weed control with Sipcam materials in Corn.
Contact Bryan Young

25-MGS-Corn-03
Purpose: Burndown with HAI-882 in Corn.
Contact: Bryan Young

25-MGS-Corn-04
Purpose: Weed Control Programs in Corn (Showcase).
Contact: Tommy Butts, Bryan Young

25-MGS-Corn-05
Purpose: [CONFIDENTIAL]
Contact: Bryan Young

25-MGS-Corn-06
Purpose: Metribuzin in Corn.
Contact: Tommy Butts

25-MGS-Corn-07
Purpose: Xarvio efficacy trials.
Contact: Tommy Butts

25-MGS-Corn-08
Purpose: Pyridate + HPPD Herbicide Interaction in Field.
Contact: Grant Issacs, Bryan Young

25-MGS-Soy-01
Purpose: Evaluating Authority Supreme and Anthem Maxx for Residual Weed Control in Early Planted Soybeans.
Contact: Bryan Young

Department of Botany and Plant Pathology (cont.)

25-MGS-Soy-02
Purpose: Soybean Preplant Burndown Programs with Rapidicil.
Contact: Bryan Young

25-MGS-Soy-03
Purpose: Enversa and Kyber in Soybeans.
Contact: Bryan Young

25-MGS-Soy-04
Purpose: Diflufenican for Waterhemp Control.
Contact: Bryan Young

25-MGS-Soy-05
Purpose: Tolerance trial - no-till vs conventional.
Contact: Abi Norsworthy, Bryan Young

25-MGS-Soy-06
Purpose: SC500 Tank Mixtures in Soybeans.
Contact: Bryan Young

25-MGS-Soy-07
Purpose: Weed Control Programs in Soybean (Showcase).
Contact: Bryan Young

25-MGS-Soy-08
Purpose: Overlapping Residuals in Soybean.
Contact: Estevan Cason, Bill Johnson

25-MGS-Soy-09
Purpose: [REPLANT] Weed Control Programs in Soybean (Showcase).
Contact: Bryan Young

25-USB-IN
Purpose: The Value of Pigweed Management Strategies in the Planting Green Conservation System.
Contact: Bryan Young

25-TPAC-Corn-01
Purpose: Maverick Corn Herbicides PRE compared to industry standards.
Contact: Bryan Young

25-TPAC-Corn-02
Purpose: Surtain Early POST Programs.
Contact: Bryan Young

25-TPAC-Corn-03
Purpose: [CONFIDENTIAL]
Contact: Bryan Young

Department of Botany and Plant Pathology (cont.)

25-TPAC-Corn-04
Purpose: BAS894 vs Competitors in Corn
Contact: Bryan Young

25-TPAC-Corn-05
Purpose: Short stature corn multistate project.
Contact: Bryan Young

25-TPAC-Corn-06
Purpose: Encapsulated Saflufenacil vs non-encapsulated Saflufenacil and competitive products trials.
Contact: Jada Davis, Bryan Young

25-TPAC-Corn-07
Purpose: Encapsulated Saflufenacil programs in corn.
Contact: Jada Davis, Bryan Young

25-TPAC-Corn-08
Purpose: Phytotoxixcity of Corn from Pyridate + HPPD Tank Mix (Trial 1).
Contact: Grant Issacs, Bryan Young

25-TPAC-Corn-09
Purpose: Phytotoxixcity of Corn from Pyridate + HPPD Tank Mix (Trial 2)
Contact: Grant Issacs, Bryan Young

25-TPAC-Corn-10
Purpose: Crop safety with postemergence Surtain combinations.
Contact: Jada Davis, Bryan Young

25-TPAC-Corn-11
Purpose: Weed Control Programs in Corn.
Contact: Bryan Young

25-TPAC-Corn-12
Purpose: Showcase Resicore Rev and Kyro.
Contact: Bryan Young

25-TPAC-Corn-13
Purpose: Herbicide Corn Injury Detection & UAV Imagery Resolution Requirements.
Contact; Emmanual Cooper, Tommy Butts

25-TPAC-Corn-14
Purpose: Encapsulated Saflufenacil vs non-encapsulated Saflufenacil and competitive products trials.
Contact: Jada Davis, Bryan Young

25-TPAC-Corn-15
Purpose: Encapsulated Saflufenacil programs in corn (replant).
Contact: Jada Davis, Bryan Young

Department of Botany and Plant Pathology (cont.)

25-TPAC-Drift-01
Purpose: BioGrip EC Formulation.
Contact: Tommy Butts

25-TPAC-Soy-01
Purpose: Overlapping Residual in early planted Soybean.
Contact: Estevan Cason, Bill Johnson

25-TPAC-Soy-02
Purpose: [CONFIDENTIAL].
Contact: Bryan Young

25-TPAC-Soy-03
Purpose: Zidua PRO vs Competitors.
Contact: Tommy Butts

25-TPAC-Soy-04
Purpose: Early Planted Soybean trials.
Contact: Estevan Cason, Bill Johnson

25-TPAC-Soy-05
Purpose: Herbicide Soybean Injury Detection & UAV Imagery Resolution Requirements.
Contact: Emmanual Cooper, Tommy Butts

25-TPAC-Soy-06
Purpose: To Respray or Not to Respray trials.
Contact: Emmanual Cooper, Tommy Butts

25-TPAC-Soy-07
Purpose: Soybean tolerance to glufosinate by application timing.
Contact: Bryan Young

25-TPAC-Soy-08
Purpose: Soybean tolerance to glufosinate hot mixes.
Contact: Bryan Young

Department of Entomology

Monitoring Codling Moth and Oriental Fruit Moth in Apples
Purpose: Monitor codling moth and oriental fruit moth in 2 blocks of apples at Meigs
Contact: Elizabeth Long

Department of Entomology (cont.)

Monitoring Spotted-wing drosophila (SWD) in brambles
Purpose: Monitor the seasonal activity of SWD in/around the brambles at Meigs.
Contact: Elizabeth Long

Bee and Butterfly Forage Garden
Purpose: In an effort to supply a dedicated area of pesticide free, diverse, and season-long forage for a range of pollinating insects used in research and extension, an area of Meigs is being "rehabilitated" to remove poison ivy, brambles, and other low-value (for pollinators) species and replace with a mix of annual and perennial wildflowers and forbs that are native to the area.
Contact: Christian Krupke

Companion Planting in High Tunnels
Purpose: Determine what kind, and how much plant diversity, can be beneficial in a high tunnel tomato system of natural enemy recruitment and retainment to reduce pest pressure.
Contact: Laura Ingwell

Insect Pest Pheromone Trapping and Reporting
Purpose: Monitor with haystack traps for army worm (April to mid-June) and corn earworm (mid-June to September). PAC personnel will check trap daily and report captures.
Contact: Laura Ingwell

High Tunnel SCRI
Purpose: Classify the communities of pollinating insects that occur in high tunnel growing systems and compare this community to that of field growing systems. Evaluate changes in the composition of pollinator communities in different growing contexts, specifically in monoculture vs polyculture production.
Contact: Laura Ingwell & Robert Grosdidier

Sweet Corn Insecticide Efficacy Trial
Purpose: Examining five different planting dates, all with the same cultivar to evaluate the efficacy of 4 different insecticide spray schedules. Planting dates will extend from as early as we can get into the fields through late June.
Contact: Laura Ingwell

Flonicamid efficacy against harlequin bug on broccoli
Purpose: Preform an efficacy trial to expand the label of flonicamid to harlequin bug management in brassica crops
Contact: Laura Ingwell

Flonicamid efficacy against squash bugs on squash
Purpose: Preform an efficacy trial to expand the label of flonicamid to squash bug management in cucurbit crops
Contact: Laura Ingwell

Department of Entomology (cont.)

Recruiting/retaining pollinators on high-tunnel tomatoes to optimize yield
Purpose: Determine 1. If pollination services are necessary to optimize fruit production in high-tunnel tomatoes, 2. If stocking tomato high tunnels with managed *Bombus* colonies increases pollination services, 3. If planting supplemental floral resources leads to higher retention or recruitment of pollinators in tunnels, 4. if there is a significant economic benefit to implementing steps 2 and 3. Help optimize tomato production in high tunnels.
Contact: Laura Ingwell

Insect-Derived Amendment Application
Purpose: Improve soil physical characteristics, microbial community, and obtain higher yields through use of insect-derived amendment sources in the production of specialty crops
Contact: Laura Ingwell

No-Till Sweet Corn Trial
Purpose: Monitor stink bug pests at the early stages of no-till sweet corn plantings. Evaluate three planting dates and four insecticide treatments
Contact: Laura Ingwell

Regenerative Agriculture Horticulture Trial
Purpose: To lay the groundwork for a long-term project measuring the impacts of regenerative (resilient) practices on specialty crops production, we will be growing sauce tomatoes. The field will be divided in half. One section will be dedicated to conventional practices (tillage, seed treatments, calendar-based pesticide applications) while the other half will be managed using regenerative practices (cover cropping, reduced or no tillage, pest scouting and threshold-based applications of pesticides).
Contact: Laura Ingwell

Resiliant Agriculture Horticulture Trial
Purpose: Pest/Beneficial insect survey in specialty crops.
Contact: Laura Ingwell

Resiliant Agriculture Horticulture Trial
Purpose: Pathogen surveys in specialty crops.
Contact: Wenjing Guan

Resilient Agriculture Horticulture Trial
Purpose: Quantification of soil microbiome.
Contact: Roland Wilhelm

Resilient Agriculture Horticulture Trial
Purpose: Georeferencing fields to map all data collected above onto high resolution.
Contact: Sidd Paul

Department of Entomology (cont.)

Synergy of EPNs with Cultural Management Practices for Low-input Control of Flea beetles in Brassica Crops

Purpose: Aim to develop a technique for controlling flea beetles in high tunnel brassica crops using a combination of EPNs and trap crops.

Contact: Ian Kaplan & Julia Wooby

Bees and the bottom line: uncovering the effects of insecticides on crop pollination and yield

Purpose: Evaluate the indirect effect of insecticides on field-scale crop yield by reducing the need for pollenizers. This project proposes that with visitation from healthy pollinators in fields without pesticides it is possible to reduce the amount of pollenizer plants required to achieve field-scale productivity in the seedless watermelon system.

Contact: Ian Kaplan, Amy Bagby

USDA Ant Study

Purpose: Ant trials and sampling in continuous corn no-till system.

Contact: Christian Krupke, Sophia Motl

Resilient Agriculture Row Crop Trial

Purpose: Pest and beneficial insect surveys in corn and soybean systems.

Contact: Christian Krupke

Resilient Agriculture Row Crop Trial

Purpose: Deep and shallow soil cores for analysis of OM, nutrient and C content.

Contact: Yichao Rui

Resilient Agriculture Row Crop Trial

Purpose: Pathogen surveys in corn and soybean cropping system.

Contact: Darcy Telenko

Resilient Agriculture Row Crop Trial

Purpose: Quantification of soil microbiome.

Contact: Roland Wilhelm

Resilient Agriculture Row Crop Trial

Purpose: Georeferencing fields to map all data collected above onto high resolution.

Contact: Sidd Paul

Department of Forestry and Natural Resources

Spatially Explicit Densities of Indiana Wildlife
Purpose: Testing and optimizing methodology for the detection of nocturnal and diurnal wildlife. Flying the UAS at various locations (including PACs) around the state and collect thermal (night-time) and RGB (daytime) imagery and video to use for counting the number of deer, coyote and turkey visible. This count data will be used to develop spatially explicit density models for the state of Indiana.
Contact: Tina Jackson

Department of Horticulture & Landscape Architecture

Hort 318- Field Production of Horticultural Crops
Purpose: An eggplant demonstration will be planted for class experiential learning opportunities. Ten varieties of different types will be planted and evaluated. Students will harvest, determine yield estimates, and look at IPM aspects of eggplant production.
Contact: Petrus Langenhoven & Kyle Daniel

SFS 391/ FS 491- Boilermaker Sauces and Pickles
Purpose: A scotch bonnet pepper variety trial will be planted for class experiential learning opportunities. 25 variest will be evaluated. Disease pressure and variety performance will be monitored. The produce will be used to make test recipes for the boilermaker black and gold hot sauces. Micronutrient and capsaicin content will be evaluated. Genotypes will be characterized.
Contact: Petrus Langenhoven

Self-cooling Water Harvesting Cellulose Mulch for Sustainable Agriculture
Purpose: Aim to develop a cellulose-based mulch with atmospheric water harvesting and optothermal management, addressing the pressing issue of water scarcity. Compare the cellulose-based mulch with common commercial white and black plastic mulches.
Contact: Petrus Langenhoven & Tian Li

Hort 317/ Hort 318
Purpose: Plant material will be grown to use in Hort 317 and Hort 318
Contact: Kyle Daniel

Herbicides Effectiveness in Driveways
Purpose: Evaluate different herbicides on gravel driveways
Contact: Aaron Patton, Brandon McNally

Effects of Early Post/Layby herbicides on Pumpkin
Purpose: Establish crop tolerance to herbicides at 14 and 28 days after planting in support of registrations.
Contact: Stephen Meyers, Helen Nocito

Department of Horticulture & Landscape Architecture (cont.)

Termination and Fertilizer
Purpose: Determine suitability of combinations of cover crop termination, burndown, and fertility on cover crop termination, weed control, and pumpkin crop response.
Contact: Stephen Meyers, Helen Nocito

Zidua Carryover Trial
Purpose: To document crop safety of Zidua herbicide applied in the previous cropping season.
Contact: Stephen Meyers

Potato-Silage Tarp and Herbicides
Purpose: Investigate the use of silage tarps for early season weed control along with cultivation and herbicides for longer season control.
Contact: Stephen Meyers

Investigating the reintegration of organic food crops and animal production on above- and below-ground diversity, soil health, farm resilience, and food safety
Purpose: Study the potential of Integrated Cropping Systems (ICS) in organic farming to improve resilience, biodiversity, and soil health while reducing input costs.
Contact: Moriah Bilenky, Joe Tilstra

Addressing Knowledge Gaps in Animal Traction for Vegetable Production
Purpose: The innovation of this proposal is the revival of an old practice as a climate smart solution to powering small farms.
Contact: Moriah Bilenky

Sheep: Investigating the Re-integration of Organic Food Crops and Animal Production on Above and Below Ground Diversity, Soil Health, Farm Resilience, and Food Safety.
Purpose: Examine the impact of ICS on soil health, microbiome, and presence of food pathogens on vegetable farms and in turn the effects of ICS on animal and crop yield and quality and economic feasibility.
Contact: Moriah Bilenky & Jose Alvarez

Chicken: Investigating the re-integration of organic food crops and animal production on above and below ground diversity, soil health, farm resilience, and food safety.
Purpose: Examine the impact of ICS on soil health, microbiome, and presence of food pathogens on vegetable farms and in turn the effects of ICS on animal and crop yield and quality and economic feasibility.
Contact: Moriah Bilenky & Jose Alvarez

Evaluating Relay Cropping in Vegetable Crops
Purpose: Evaluate vegetable-small grain integration for enterprise diversification and seed seedbank reduction.
Contact: Moriah Bilenky, Joe Tilstra

Wine Grape Research
Purpose: Cold hardy variety trial and a few bulk rows for miscellaneous studies (crown gall, frost mitigation, laser bird control, etc.)
Contact: Miranda Purcell

Department of Horticulture & Landscape Architecture (cont.)

VSD Monitoring on Trees
Purpose: Monitor VSD on infected redbud, tulip, and sweetgum trees
Contact: John Bonkowski

USDA-ARS and Collaborations

Long Term Phosphorous Stratification Study
Purpose: Purpose of project is to quantify the effects phosphorous products and crop rotation on yield and soil quality in corn and soybean.
Contact: Javier Gonzalez, Brenda Hoffman

Legacy Phosphorous Study
Purpose: Evaluation of soil phosphorous levels under different application rates.
Contact: Javier Gonzalez, Brenda Hoffman

Long Term Erosion Study
Purpose: Quantify the effects of tillage systems and crop rotations on corn and soybean yields and soil quality.
Contact: Javier Gonzalez, Brenda Hoffman