Department of Agronomy

**Indigenous Soil Potassium (K) Supply, Fertilizer K Use-Efficiency and K Budgets in Indiana Corn and Soybean Production**
Purpose: Evaluate the agronomic efficiency of currently recommended K fertilizer rates; evaluate theoretically improved soil K tests for the ability to predict soil K supply.
Contacts: Sylvie Brouder, Niki De Amond

**Sun Grant Nitrogen Biomass Study**
Purpose: To determine the ability of annual biomass like maize and sorghum crops to produce the various inputs and evaluate perennial biomass crops such as switchgrass, native prairie and miscanthus on marginal land.
Contacts: Sylvie Brouder, Jeff Volenec, Ryan Dierking, Niki De Amond

**Soybean Seeding Rate Study**
Purpose: Soybean seeding rate recommendations have been based on attaining 100,000 – 125,000 plants per acre by harvest. However, we have half of the on-farm research trials that demonstrate no yield differences from as low as 45,000 – 225,000 plants per acre. We aim to fine-tune our soybean seeding rate recommendations across the state based on region or soil (if appropriate) and to determine the underlying factors for the various soybean responses (positive and none) to plant populations.
Contacts: Shaun Casteel, Andrew Westfall

**High Yield Management Rotation Effects in Soybean and Corn Study**
Purpose: The baseline for best management practices include variety/hybrid selection, planting date, fertility, pest management, and many more. Crop rotation is another source of improved yields in soybean and corn. We look to establish soybean-corn rotation blocks for intense studies in following years.
Contacts: Shaun Casteel, Andrew Westfall
Department of Agronomy (Continued)

**Evaluation of Flowering Time in Switchgrass Mapping Populations**
Purpose: Assess flowering time and biomass yield of switchgrass mapping populations and identify mechanisms controlling flowering time.
Contacts: Yiewl Jiang, Zijian Sun, Jiang Lab

**Bioenergy Warm-season Grass Evaluation**
Purpose: Switchgrass, big bluestem and Indiangrass are possible candidates for use as a renewable energy source. Germplasm from various sources will be evaluated for yield and quality attributes.
Contacts: Keith Johnson

**Long-term Nitrogen (N) Rate Trial for Corn**
Purpose: Evaluation of corn yield response to N rates and sidedress application times.
Contacts: Robert Nielsen, Jim Camberato

Department of Biology & Entomology

**Surveying Indiana Soybean for Soybean Vein Necrosis Virus (SVNaV) and New Management Practices**
Purpose: Gain more knowledge about SVNaV epidemiology in Indiana to quantify the level of threat and evaluate new management practices for Indiana soybean growers.
Contacts: Punya Nachappa, Christian Krupke

Department of Botany & Plant Pathology

**TPAC/BTNY/JBeckerman/Implementation of New IPM Strategies for Summer Disease Control in Apples**
Purpose: Evaluation of injection method and product for disease and insect control in apples.
Contacts: Janna Beckerman, Chelsi Abbott

**Fungicide Delivery by Injection for Control of Apple Scab**
Purpose: TBD
Contacts: Janna Beckerman

**Vegetative and Reproductive Development of Waterhemp/2015**
Purpose: TBD
Contacts: Joey Heneghan, Bill Johnson
Department of Botany & Plant Pathology (continued)

**Observing Emergence Timing of Common Waterhemp**
Purpose: Observe common waterhemp in no-till, one tillage, and two tillage situations. Emerged plants will be removed weekly so that counts can be repeated every week.
Contacts: Joey Heneghan, Bill Johnson

**Fall and Spring Residual Treatments for Waterhemp Control**
Purpose: Various residual herbicides will be evaluated on their performance in controlling waterhemp in both fall and spring applied situations.
Contacts: Joey Heneghan, Bill Johnson

**TPAC/BNTY/Alyer-Pascuzzi/Tomato Seed Bulking**
Purpose: Growing 5-10 tomato lines for bulk seed harvest.
Contacts: Anjali Iyer-Pascuzzi, Elizabeth Eckhardt, Rucha Karve

**TPAC/BNTY/Alyer-Pascuzzi/Tomato Seed Bulking**
Purpose: Growing 5 rows for F2 population.
Contacts: Anjali Iyer-Pascuzzi, Elizabeth Eckhardt, Rucha Karve

**TPAC/BNTY/Johnson/15S-THP-CTC-01 Trial**
Purpose: Evaluate efficacy of NAI-1492 + ET applied PRE.
Contacts: Bill Johnson, Joe Ikley

**TPAC/BNTY/Johnson/15S-THP-CTC-02 Trial**
Purpose: Weed control programs in corn – Northern University Field Demonstration.
Contacts: Bill Johnson, Joe Ikley

**TPAC/BNTY/Johnson/15S-THP-CTC-03 Trial**
Purpose: Northern University Demonstration – DiFlexx, Laudis Flexx.
Contacts: Bill Johnson, Joe Ikley

**TPAC/BNTY/Johnson/15S-THP-CTC-04 Trial**
Purpose: Market development - Corn.
Contacts: Bill Johnson, Joe Ikley

**TPAC/BNTY/Johnson/15S-THP-CTC-05 Trial**
Purpose: Armezon and Status crop safety.
Contacts: Bill Johnson, Joe Ikley

**TPAC/BNTY/Johnson/15S-THP-CTC-06 Trial**
Purpose: Armezon status combinations.
Contacts: Bill Johnson, Joe Ikley
TPAC/BNTY/Johnson/15S-THP-CTC-07 Trial
Purpose: Armezon PRO field performance – rate evaluation.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-08 Trial
Purpose: Enhanced pre-emergence weed control in corn.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-09 Trial
Purpose: Cheetah broad ration determination.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-11 Trial
Purpose: Enlist weed control programs PRE fb V4 post and residual in COI trails.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-18 Trial
Purpose: Control of volunteer Enlist corn with Select Max herbicide.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-27 Trial
Purpose: Showcase impact programs.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-28 Trial
Purpose: Showcase impact programs.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-29 Trial
Purpose: Experimental product with herbicides.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-35 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-36 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTC-41 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley
TPAC/BNTY/Johnson/15S-THP-CTF-22 Trial
Purpose: Conventional tillage Dicamba programs in RR2x Soybeans.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTF-31 Trial
Purpose: Experimental product with Herbicides.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTF-32 Trial
Purpose: Arylex tank mix.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTP-10 Trial
Purpose: Post-emergence weed control in popcorn with Revulin Q.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-12 Trial
Purpose: Fierce First vs Authority First herbicides.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-13 Trial
Purpose: Fierce – soybean market support.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-14 Trial
Purpose: Liberty/Soy/Efficacy/Residual.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-15 Trial
Purpose: Residual efficacy and selectivity of experimental herbicide when applied post-emergence to soybeans.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-16 Trial
Purpose: Effect of Ransom Herbicide applied pre-emergence in soybean.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-17 Trial
Purpose: Fierce – soybean market support.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-19 Trial
Purpose: Fierce Plus Dicamba burndown.
Contacts: Bill Johnson, Joe Ikley
TPAC/BNTY/Johnson/15S-THP-CTS-20 Trial
Purpose: Engenia herbicide in conventional tillage.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-21 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-23 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-24 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-25 Trial
Purpose: DHT efficacy/Enlist programs.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-26 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-30 Trial
Purpose: Non-AMS water conditioner rate screening with Glufosinate herbicide
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-33 Trial
Purpose: Anylex tank mix.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-34 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-37 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-38 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley
TPAC/BNTY/Johnson/15S-THP-CTS-39 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-40 Trial
Purpose: DHT efficacy/Enlist programs.
Contacts: Bill Johnson, Joe Ikley

TPAC/BNTY/Johnson/15S-THP-CTS-42 Trial
Purpose: CONFIDENTIAL.
Contacts: Bill Johnson, Joe Ikley

Effects of Growth Regulator Herbicide Technology Dependency in Corn/Soybean
Contacts: Travis Legleiter, Bill Johnson

Corn Herbicide Carryover on Cover Crops (14S_CoverCrop_2)
Contacts: Travis Legleiter

Soybean Herbicide Carryover on Cover Crops (14S_Covercrop_1)
Contacts: Travis Legleiter

Cover Crop Termination (13F_Covercrop_1)
Purpose: Termination of annual ryegrass cover crop with spring burndown applications.
Contacts: Travis Legleiter

TPAC/BNTY/KWISE/Soybean In-furrow Trial
Purpose: Determine the efficacy of in-furrow fungicide applications on disease control and yield in soybeans.
Contacts: Kiersten Wise, Jeffrey Ravellette

TPAC/BNTY/KWise/Charcoal Rot–Variety Screen
Purpose: Evaluate resistance to charcoal rot in high-yielding commercial varieties.
Contacts: Kiersten Wise, Jeffrey Ravellette

TPAC/BNTY/KWise/Charcoal Rot–Epidemiology
Purpose: Assess the impact of Charcoal Rot on yield and determine epidemiology in northern U.S.
Contacts: Kiersten Wise, Jeffrey Ravellette

TPAC/BTNY/KWISE/Charcoal Rot Seed Treatment Trial
Purpose: Determine the efficacy of seed treatments on charcoal rot in soybeans.
Contacts: Kiersten Wise, Jeffrey Ravellette
Translocation of Clothianidin Seed Treatments on Maize Seed and the Influence of Varying Rates of Application
Purpose: Investigation on how clothianidin moves into the corn plant from seed treatments.
Contacts: Adam Alford, Larry Bledsoe, Christian Krupke

TPAC/ENTY/LBledsoe/Cooperative Ag Pest Survey (CAPS) for Exotic Insect Pests of Soybeans and Corn
Purpose: Trap array for exotic insect pests of soybean and corn.
Contacts: Larry Bledsoe

TPAC/ENTY/RFoster/Muskemelon Study
Purpose: Plots planted on days 0, 7, and 14. Three plots will be covered with row covers. Beetles will be added to one plot for each planting date on day 14 to determine the most important time for infection with bacterial wilt.
Contacts: Rick Foster, Mohammadi

TPAC/ENTY/RFoster/Muskemelon Study
Purpose: Plots will be planted on days 0, 7, and 14. Three plots will be covered with row covers. Beetles will be added to one plot for each planting date on day 14.
Contacts: Rick Foster, Mohammadi

TPAC/ENTY/RFoster/Muskemelon Study
Purpose: Study practices to manage striped cucumber beetles and bacterial wilt within neonicotinoids causing minimal harm to honey bees.
Contacts: Rick Foster

TPAC/ENTY/RFoster/Muskmelon Study
Purpose: Study organic practices for management of striped cucumber beetles and bacterial wilt on muskmelons.
Contacts: Rick Foster

TPAC/ENTY/RFoster/Raspberry Study
Purpose: Test insecticides available to homeowner for control of spotted wing drosophila on raspberries.
Contact: Rick Foster, Bruce Bordelon

Tomato Observation Plot
Purpose: Obtain photos of insect and diseases that may attack tomatoes grown without pesticides.
Contacts: Rick Foster, Kira Albright
TPAC/ENTY/RFoster/Sweet Corn Insecticide Trial
Contacts: Rick Foster

TPAC/ENTY/RFoster/Corn Earworm Sweet Corn Study
Purpose: Plots sprayed based on thresholds of 1 or 10 moths per night and evaluated for damage and number of sprays needed.
Contacts: Rick Foster

TPAC/ENTY/RFoster/Spray Timing Sweet Corn Study
Purpose: Test the theory that initial sprays for control of Corn Earworm should begin at 20% silk rather than 70% silk.
Contacts: Rick Foster

TPAC/ENTY/RFoster/Cucumber Beetle Study
Purpose: Collecting striped cucumber beetles for use in other studies, from two varieties of squash.
Contacts: Rick Foster, Mohammadi

Insect Bio Control in High Tunnels
Purpose: Predaceous and Parasitic insects will be released in high tunnels. We will be testing different mechanisms to retain them in tunnels.
Contacts: Laura Ingwell, Ian Kaplan

Hornworm Preference for Solanaceous Crops and Weeds
Purpose: Evaluate the preferences of hornworm caterpillars and their parasitic wasp for different solanaceous crop and weed species in common garden.
Contacts: Ian Kaplan, Michael Garvey

Plant Volatile Effects on Tomato Pest Resistance
Purpose: Tomato seeding’s will be transplanted and exposed to several volatile chemicals that induce resistance against caterpillars and aphids.
Contacts: Ian Kaplan, Elizabeth Rowen

Tomato Tolerance to Insect Damage
Purpose: Test the ability of different tomato cultivars/species to tolerate experimental defoliation to stimulate insect pest damage.
Contacts: Ian Kaplan, Juli Carrillo

Corn Rootworm Trap Crop
Purpose: A late-planted trap crop in 2015 to provide an enhanced test area in the 2016 growing season.
Contacts: Christian Krupke, Larry Bledsoe
Department of Entomology (continued)

Efficacy of Commercial and Experimental Insecticides Used to Control Corn Insects
Purpose: Evaluate new products and generate data for Extension recommendations.
Contacts: Christian Krupke, Larry Bledsoe

Evaluate Efficacy of Various Rates of Poncho Insecticide on Rootworm and Yield
Purpose: Evaluate efficacy of various rates of Poncho on rootworm.

CRW Production Experiment Tents
Purpose: Evaluate GMO effect on CRW adult production
Contacts: Christian Krupke, Larry Bledsoe

Department of Forestry and Natural Resources

TPAC/FNR/JMcKeena/Walnut Oak Improvement
Purpose: Ongoing progeny testing lasting 15 years (2015 is 8th year).
Contact: Jim McKenna

Department of Horticulture and Landscape Architecture

TPAC/HORT/BBordelon/Wine Grape Evaluation
Purpose: Evaluation of training system trials, crown-gall free planting, etc.
Contacts: Bruce Bordelon, Paul Howard

TPAC/HORT/BBordelon/Small Fruit Study
Purpose: Variety of small fruits selections to use for teaching in horticultural classes.
Contacts: Bruce Bordelon, Paul Howard

TPAC/HORT/BBordelon/Paw Paw Tree Study
Purpose: Trial to collect data to be shared regionally.
Contacts: Bruce Bordelon, Paul Howard

TPAC/HORT/KDaniel/Ornamental Trials
Purpose: Evaluation of Woody Plants.
Contacts: Kyle Daniel

TPAC/HORT/KDaniel/Maple Tree Fertilizer Study
Purpose: Comparison of foliar applied and slow release fertilizer on maples in the landscape.
Contacts: Kyle Daniel
TPAC/HORT/PHirst/Cherry Tree Study
Purpose: Training Systems trial of sweet cherries.
Contacts: Peter Hirst

TPAC/HORT/PHirst/Honeycrisp Apple Tree Study
Purpose: Evaluate and understand flowering physiology in Honeycrisp apples.
Contacts: Peter Hirst

TPAC/HORT/PHirst/Evercrisp Apple Tree Study
Purpose: Evaluate and define management systems for Evercrisp apples.
Contacts: Peter Hirst

TPAC/HORT/PHirst/Apple Cultivar Collection
Purpose: Multi-purpose collection of 20 newer apple cultivars.
Contacts: Peter Hirst

TPAC/HORT/PHirst/Apple Tree Canopy Study
Purpose: Three dimensional modeling of apple canopies.
Contacts: Peter Hirst

TPAC/HORT/PHirst/Magnum Gala Apple Tree Evaluation
Purpose: Genotype evaluation
Contacts: Peter Hirst

TPAC/HORT/PHirst/Gala Apple Tree Study
Purpose: Comparison of different Gala strains.
Contacts: Peter Hirst

TPAC/HORT/PHirst/GalaB.9 in H1/2015 Study
Purpose: Multi-purpose planting of Gala trees.
Contacts: Peter Hirst

TPAC/HORT/PHirst/Mixed Apple Cultivar Planting
Purpose: Multi-purpose planting of 4 apple cultivars.
Contacts: Peter Hirst

TPAC/HORT/PHirst/2010NC-140 Rootstock Evaluation
Purpose: Evaluate selected new apple rootstocks.
Contacts: Peter Hirst

TPAC/HORT/PHirst/2014NC-140 Rootstock Evaluation
Purpose: Evaluate selected new apple rootstocks.
Contact Peter Hirst
Documenting Trees Structure Growth for Developing Automated Tree Pruner Software  
Contacts: Peter Hirst, Biying Shi

TPAC/HORT/LHoagland/Crop Systems Trial  
Purpose: On-going genotype x environment trials  
Contacts: Lori Hoagland, Natasha Cerruti

Purpose: Repeat from last year, going to apply herbicides if possible.

TPAC/HORT/LHoagland/OrganicTomato Breeding  
Purpose: Small plots – continuation of 2014 study  
Contacts: Lori Hoagland, Natasha Cerruti

TPAC/HORT/LHoagland/Hops Variety Trial  
Purpose: Evaluate hops varieties in west central Indiana.  
Contacts: Lori Hoagland, Natasha Cerruti

TPAC/HORT/JJanick/AppleTrees Evaluation  
Purpose: Identify advanced selections and maintain apple scion collection.  
Contact: Jules Janick, Anna Whipkey

TPAC/HORT/RLopez/High Tunnel Studies  
Purpose: Comparing growth and development of Annual Bedding Crops grown in a high tunnel with root-zone heating.  
Contacts: Roberto Lopez, Madeline Olberg, Garrett Owen

Purdue Arboretum Indiana Native Plant Study  
Purpose: Promote ethical and sustainable use of native plants in Indiana landscape.  
Contacts: Paul Sicillano, Kirby Kalbaugh, Andrea Brennan

TPAC/USDA/Chuang/Fertilizer Runoff Study  
Purpose: Identify management systems that minimize Phosphorus (P) stratification and runoff.  
Contact: Chi-Hua Huang, Katelin Fisherpp