Department of Agricultural & Biological Engineering

**Nutrients Characterization of Digester Effluents**

Purpose: Investigate and quantify nutrient runoff potential from land applications of digester effluent compared to that of non-digested manure through field runoff and water quality.

Contacts: Jiqin Ni & Indrajeet Chaubey

Department of Agronomy

**Restoration of Riparian Vegetation**

Purpose: Restore riparian habitat destroyed by construction of two-stage ditch in 2012.

Contacts: Laura Bowling, Jane Frankenberger, & Indrajeet Chaubey

**Two-stage Ditch and Bioreacter Project**

Purpose: Monitor water quality through the bioreacter/ditch conservation system and establish a perennial vegetation on the ditch benches.

Contacts: Laura Bowling, Jane Frankenberger, & Indrajeet Chaubey

**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 Potassium (K) fertilizer rates and evaluate theoretically improved soil K tests for the ability to predict soil K supply.

Contacts: Sylvie Brouder & Nicole DeArmond

**Sungrant Nitrogen Biomass Study**

Purpose: To determine the ability of annual biomass like maize and sorghum crops to produce the various nitrogen inputs and evaluate perennial biomass crops such as switchgrass, native prairie, and miscanthus on marginal lands.

Contacts: Sylvia Brouder, Nicole DeArmond, Ryan Dierking, & Jeff Volenac

**Commercial Product Evaluations in Soybean**

Purpose: Evaluate yield-enhancing soybean products promoted to growers in Indiana.

Contacts: Shaun Casteel & Andrew Westfall
Department of Agronomy (Continued)

**Soybean Seed Inoculant Evaluation**
Purpose: Evaluate soybean commercial inoculants of higher yields where fields have had soybeans in the rotation within the past five years.
Contact: Shaun Casteel & Andrew Westfall

**StollerUSA Stress Relief Study in Soybeans**
Purpose: Evaluate new stress reliever products for yield enhancement/protection in soybeans.
Contact: Shaun Casteel, Andrew Westfall

**Soybean vs. Corn Planting Dates**
Purpose: Determine when crop should be planted to maximize yield of the respective crop as it relates to the calendar and growing season.
Contacts: Shaun Casteel, Bob Nielsen, Andrew Westfall

**Soybean Seeding Rate Study**
Purpose: Determine soybean seeding rate recommendations across the state based on region or soil (if appropriate). Determine factors for the various soybean responses to plant populations.
Contact: Shaun Casteel & Andrew Westfall

**Long-Term Application of Gypsum on Different Tillage Systems**
Purpose: To determine the effects of nitrogen fertilization of the previous corn crop on growth and yield of current soybean crop.
Contacts: Javier Gonzalez & Janae Bos

**Bioenergy Grass Evaluation**
Purpose: Evaluate different cultivars of switchgrass, big bluestem, and indiangrass for yield and compositional attributes.
Contacts: Keith Johnson

Department of Biology

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

Department of Botany & Plant Pathology

**Use of Surfactants to Reduce Fungicide Inputs for the Control of Apple Diseases**
Purpose: Evaluate the role surfactants may play in reducing the rate and extending the interval of fungicide application.
Contact: Janna Beckerman
**Fall Cover Crop Study**
Purpose: Assess the effect on weeds of several cover crops either incorporated into the soil or cut and left on soil surface.
Contacts: Kevin Gibson & Carolina Zamorano

**Effect of Spatial Location on Competition Between Weeds and Tomato**
Purpose: Asses the effect of weed density and distance from crop on crop yields.
Contact: Kevin Gibson & Carolina Zamorano

**Weed Control Trial (XXX-XXX-XXX-41)**
Purpose: To determine efficacy and selectivity of experimental herbicide(s) when applied post emergence to soybean.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-42)**
Purpose: Weed control trial with Authority and Anthem herbicides in soybeans.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-43)**
Purpose: 2013 Soybean trial with Authority and Marvel herbicides in pre/post emergence programs.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-44)**
Purpose: Effect of weed competition on soybean yield.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-45)**
Purpose: Weed control program comparison – Valent herbicide vs. local standard products.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-46)**
Purpose: Long term evaluation of resistance evolution in soybeans.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-47)**
Purpose: Herbicide interactions with Acetachlor herbicide.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-48)**
Purpose: Soybean yield trial with specific herbicide program.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-49)**
Purpose: Herbicide program ration study.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-50)**
Purpose: Evaluation of experimental herbicide applied pre emergence to soybeans.
Contact: Bill Johnson & Mike White
Department of Botany & Plant Pathology (continued)

**Weed Control Trial (XXX-XXX-XXX-51)**
Purpose: Soybean weed control in conventional tillage system.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-52)**
Purpose: Control of glyphosate resistant palmer amaranth, waterhemp, and ragweed speicies.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-59)**
Purpose: Evaluation of specific weed management programs in herbicide-tolerant soybeans.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-60)**
Purpose: Herbicide programs with specific herbicide products in Enlist E2 soybeans.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-66)**
Purpose: Experimental herbicide efficacy in medium soil type.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-67)**
Purpose: Herbicide efficacy with Enlist E3 soybeans also with post herbicide program.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-68)**
Purpose: Soybean tolerance to specific herbicide(s) at growth stage V6.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-69)**
Purpose: Soybean tolerance to specific herbicide(s) at growth stage R2.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-81)**
Purpose: Residual weed control provided by growth regulator herbicide when used in combination with other residual herbicides.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-82)**
Purpose: Herbicide product comparison to 2,4-D herbicide on bare soil.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-01)**
Purpose: Herbicide weed control programs in corn with COI trials.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-02)**
Purpose: Specific herbicide trial for weed control and corn tolerance.
Contacts: Bill Johnson & Mike White
Department of Botany & Plant Pathology (continued)

**Weed Control Trial (XXX-XXX-XXX-03)**
Purpose: Weed control programs with Instigate herbicide.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-04)**
Purpose: Determine the efficacy & selectivity of an experimental herbicide in tank mix combinations with other herbicides when applied pre and post emergence to corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-05)**
Purpose: To evaluate experimental herbicide on the bio-efficacy of small and large-seeded broadleaf weeds in corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-06)**
Purpose: Experimental herbicide tank-mixed with glyphosate for crop safety and weed control in Roundup Ready corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-07)**
Purpose: 2012 herbicide follow-up study in corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-08)**
Purpose: Herbicide application timing (i.e. time of day) study in corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-09)**
Purpose: Herbicide application timing (i.e. time of day) study in corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-10)**
Purpose: Effects of Corvus, Balance Flexx, Capreno, Laudis, and Liberty herbicides on field corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-11)**
Purpose: Weed control efficacy and crop tolerance of Dicamba + CSA and Corvus herbicides in field corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-12)**
Purpose: Pre and post emergence herbicide programs for corn.
Contact: Bill Johnson & Mike White

**Weed Control Trial (XXX-XXX-XXX-13)**
Purpose: Pre emergence herbicide programs for corn.
Contacts: Bill Johnson & Mike White
Weed Control Trial (XXX-XXX-XXX-14)
Purpose: Planned two-pass herbicide programs for weed control in corn.
Contact: Bill Johnson & Mike White

Weed Control Trial (XXX-XXX-XXX-15)
Purpose: Sequential herbicide application and one-pass program trial.
Contact: Bill Johnson & Mike White

Weed Control Trial (XXX-XXX-XXX-16)
Purpose: Evaluate herbicide interaction with soil-applied organophosphate insecticide in corn.
Contact: Bill Johnson & Mike White

Weed Control Trial (XXX-XXX-XXX-31)
Purpose: Herbicidal efficacy and selectivity when Harrow is applied pre-plant to corn.
Contact: Bill Johnson & Mike White

Weed Control Trial (XXX-XXX-XXX-32)
Purpose: Early pre-plant burndown trial with Valor herbicide in field corn.
Contact: Bill Johnson & Mike White

Weed Control Trial (XXX-XXX-XXX-71)
Purpose: Herbicidal efficacy and selectivity with specific ALS inhibitor herbicide applied pre-plant to soybean ground.
Contact: Bill Johnson & Mike White

Duration of Vegetative and Reproductive Development of Common Waterhemp
Purpose: Evaluate the difference between glyphosate susceptible and resistant waterhemp control with four different planting dates (early May, mid-June, mid-July, and September).
Contact: Bill Johnson & Joey Heneghan

Replacement Series between Glyphosate Resistant and Susceptible Common Waterhemp
Purpose: Evaluate competitive nature of glyphosate sensitive and resistant common waterhemp when grown in close proximity with each other.
Contact: Bill Johnson & Joey Heneghan

Seed-Herbicide Technology Trial
Purpose: Effects of growth regulator herbicide technology dependency in a corn and soybean rotation on weed populations.
Contact: Travis Legleiter & Bill Johnson

Duration of Vegetative and Reproductive Development of Palmer Amaranth
Purpose: Evaluate planting dates and geographic locations for Palmer amaranth population.
Contact: Bill Johnson & Doug Spaunhorst

Weed Contest Trial
Purpose: Evaluate herbicide symptomology with ten pre emergence and fifteen post emergence herbicides sprayed on various crops where agronomically competitive weeds were planted.
Contact: Bill Johnson & Doug Spaunhorst
Department of Botany & Plant Pathology (continued)

Understanding Soybean Cyst Nematode - Sudden Death Syndrome Interaction in Indiana
Purpose: Compare effects of SDS-resistant varieties under low SCN pressure in soybean.
Contacts: Kiersten Wise & Jeffrey Ravellette

United Soybean Board - Charcoal Rot Study
Purpose: Assess the impact of Charcoal Rot on yield and determine epidemiology with soybeans in Northern United States.
Contact: Kiersten Wise, Jeffrey Ravellette

Efficacy of Seed Treatments for SDS in Soybean
Purpose: Determine the efficacy of seed treatments on disease control and yield.
Contact: Kiersten Wise & Jeffrey Ravellette

Efficacy of Seed Treatments in Soybean
Purpose: Determine the efficacy of seed treatments on disease control and yield.
Contact: Kiersten Wise & Jeffrey Ravellette

Impact of Glyphosate on SDS
Purpose: Examine weed management programs and impact on disease development.
Contact: Kiersten Wise & Jeffrey Ravellette

United Soybean Board-Charcoal Rot Study
Purpose: Evaluate resistance to charcoal rot disease in high-yielding commercial soybean varieties.
Contact: Kiersten Wise & Jeffrey Ravellette

Foliar Fungicide-Best Management Practice Soybean Trial
Purpose: Determine the efficacy of foliar fungicide/insecticide applications on disease control and yield in soybean.
Contact: Kiersten Wise & Jeffrey Ravellette

Evaluation of Fungicides against Gibberella Ear Rot in Corn
Purpose: Determine integrated management options for disease control in corn.
Contact: Kiersten Wise & Jeffrey Ravellette

Department of Entomology

Cooperative Agricultural Pest Survey (CAPS)-TRAPS
Purpose: Provide CAPS-supported Trap site.
Contact: Larry Bledsoe
How Habitat and Food Resources affect Seed Predator Colonization and Feeding Behavior
Purpose: Evaluate feeding responses of ground beetles to varying environmental resources.
Contact: Carmen Blubaugh & Ian Kaplan

Can Ground Beetles Limit Weeds in Organic Vegetable Systems?
Purpose: Determine if weed populations are seed-limited in a cover-crop agro ecosystem.
Contact: Carmen Blubaugh & Ian Kaplan

“Running from Cover” Study
Purpose: Evaluate the role of intraguild predation between weed and seed biological control agents.
Contact: Carmen Blubaugh & Ian Kaplan

Neonicotinoid Presence in Cantaloupe Pollen
Purpose: Evaluate various neonicotinoids with different application methods to determine the concentration of pesticide residue in cantaloupe flower pollen.
Contact: Rick Foster & Kira Albright

Okra Observation Plot
Purpose: To monitor and document insects and diseases of okra crop without use of pesticides.
Contact: Rick Foster & Kira Albright

Actigard for Management of Striped Cucumber Beetles and Bacterial Wilt on Muskmelons
Purpose: Actigard will be investigated for its effect on beetles and disease.
Contact: Rick Foster, Kira Albright, Fawzia

Sweet Corn Insecticide Trial
Purpose: Compare various insecticides for control of insects in sweet corn.
Contact: Rick Foster & Kira Albright

Squash Insecticide Trial
Purpose: Compare various insecticides for control of insects on squash.
Contact: Rick Foster & Kira Albright

Collection Site for Striped Cucumber Beetles
Purpose: Two varieties of squash which provides source for collecting striped cucumber beetles for use of in other field studies.
Contact: Rick Foster & Kira Albright

Comparison of Thresholds for Corn Earworm on Sweet Corn
Purpose: Evaluate damage and determine number of sprays needed based on moth thresholds.
Contact: Rick Foster & Kira Albright

Solanaceous Host-plants for Hornworms
Purpose: Cultivate several wild (weed) and crop species to serve as host for hornworms for colonies and experiments.
Contact: Rick Foster & Kira Albright
Department of Entomology (continued)

**Timing of Infection of Muskmelons with Bacterial Wilt**
Purpose: Plots (two plot areas) will be covered by row covers and striped cucumber beetles introduced at zero, seven, and fourteen days after planting determine the most important time for infection with bacterial wilt.
Contact: Ian Kaplan

**Corn Rootworm (CRW) Production Experiment - Tents**
Purpose: Evaluate any transgenic effect on CRW adult production.
Contact: Christian Krupke & Larry Bledsoe

**Evaluate “Refuge in Bag” Seed Technology**
Purpose: Efficacy of refuge in bag technology against corn rootworm and corn ear worm.
Contact: Christian Krupke & Larry Bledsoe

**Corn Rootworm Trap Crop Area**
Purpose: Late-planted trap crop in 2013 to provide an enhanced test area in 2014.
Contact: Christian Krupke & Larry Bledsoe

**Evaluate Efficacy of Thiamethoxam on Soybean Pests**
Purpose: Evaluate efficacy of thiamethoxam on soybean pests.
Contact: Christian Krupke & Larry Bledsoe

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

**Evaluate Efficacy of Various Rates of Poncho on Rootworm and Yield**
Purpose: Evaluate efficacy of various rates of Poncho insecticide on rootworm.
Contact: Christian Krupke & Larry Bledsoe

Department of Forestry & Natural Resources

**Purdue Arboretum**
Purpose: Plant ten gallon pot-in-pot production with additional rows to be installed in the future.
Contact: Kyle Daniel

Department of Horticulture & Landscape Architecture

**High Tunnel Bedding Plant and Cut Flower Production**
Purpose: To determine if bedding plants can be produced in unheated high tunnels and if LED lighting promotes stem elongation of specialty cut flowers grown in high tunnels.
Contact: Roberto Lopez, Josh Gerovac, & Garrett Owen

**Sweet Potato Production Systems**
Purpose: Evaluate impact of mulch treatment on sweet potato.
Contact: Lori Hoagland
Tomato Breeding Initiative
Purpose: Select seed from segregating tomato populations.
Contact: Lori Hoagland

Annual & Perennial Wheat Variety Trial
Purpose: International project to determine impact of environmental conditions on perennial crop phenotype.
Contact: Lori Hoagland

Crop Systems Trial
Purpose: Various genotype x environment experiments and breeding trials within.
Contact: Lori Hoagland

Effective Nitrogen Management
Purpose: Evaluate repeated applications of fertilizer on soil quality and net available nutrients – effects may differ between high tunnel and open field production.
Contact: Lori Hoagland & Matt Rudosill

Evaluation of Disease Resistant Apples
Purpose: Identify advanced selections and maintain scion collection in apples.
Contact: Jules Janick & Anna Whipkey

Chestnut Underplanting Study – Termination and Cleanup
Purpose: Evaluate efficacy of trenching and weeding treatments with chestnut planting.
Contact: Mike Saunders

Herbicide Evaluations in Sweet Corn
Purpose: Evaluate several new herbicides for weed efficacy, crop safety and yield in sweet corn.
Contact: Stephen Weller & Wanda Hunter

Preemergent Weed Control in Amaranthus Leafy Vegetables
Purpose: Develop improved weed management practices, is part of USAID project.
Contact: Stephen Weller & Wanda Hunter

Post emergent Weed Control in Amaranthus Leafy Vegetables
Purpose: Develop improved weed management practices in vegetable production - is part of USAID project.
Contact: Stephen Weller & Wanda Hunter

Preemergent Weed Control in Nightshade Leafy Vegetables
Purpose: Develop improved weed management practices with leafy vegetables - is part of USAID project.
Contact: Stephen Weller & Wanda Hunter
Post emergent Weed Control in Nightshade Leafy Vegetables
Purpose: Develop improved weed management practices, is part of USAID project.
Contact: Stephen Weller & Wanda Hunter

USDA-ARS-NSERL-Agronomy

GraceNET Sampling Among Differing Tillage Treatments
Purpose: Identify tillage treatment effects on AG greenhouse gas emissions and harvest yields correlated with regional U.S. data.
Contacts: Doug Smith & Katelin Fisher

Phosphorous (P) Stratification and Runoff
Purpose: Identify Strategies to minimize P stratification and P runoff.
Contacts: Dough Smith & Katelin Fisher