

# FY22 North Central IPM Center Working Groups

### **Row and Specialty Crops**

- Great Lakes Hop Erin Lizotte, Michigan State University
- Great Lakes Vegetable Ben Phillips, Michigan State University
- Alfalfa Pest Management Adam Sisson, Iowa State University
- Hemp IPM Elizabeth Long, Purdue University
- Pulse Crops Audrey Kalil, North Dakota State University
- Sunflower Pathology Sam Markell, North Dakota State University
- Great Lakes Urban Ag IPM Jacqueline Kowalski, The Ohio State University
- North Central Nursery IPM Kyle Daniel, Purdue University



FY22 North Central IPM Center Working Groups, Cont.

### **Pollinators and Beneficial insects**

- IPM4Bees Randall Cass, Iowa State
   University
- Managed Pollinator Protection Plans Ana Heck, Michigan State University
- Pollinator Education and Action for Youth –
   Maya Hayslett, Iowa State University
- Rights-of-Way as Habitat Caroline
   Hernandez, University of Illinois-Chicago



FY22 North Central IPM Center Working Groups, Cont.

### **Human and Animal Health**

- Public Tick IPM Leah McSherry, IPM Institute of North America
- School IPM Ryan Anderson, IPM Institute of North American, Inc
- Midwest Grows Green Lawns & Land Forum –
   Ryan Anderson, IPM Institute of North America



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## **Emerging Pests and Invasive Species Management**

- Building Continuity Across State Invasive Lists: Sharing Scientific Resources –
   Theresa Culley, University of Cincinnati
- Public Gardens as Sentinels Against Invasive Plants Kurt Dreisilker, The Morton Arboretum
- Pest Alert Network Erin Hodgson, Iowa State University
- War Against Weeds Podcast Sarah Lancaster, Kansas State University



# **FY22 Critical Issues Grants**

Conducting a nationally representative survey on Certified Crop Advisors' perspectives and practices related to pest resistance management.

-Katherine Dentzman, Iowa State University

Develop and distribute novel extension resources to increase knowledge of SLF identification and biology.

-Ashley Leach, The Ohio State University

Characterize the ecology of the invasive Asian longhorned tick (ALT) through active surveillance of the environment and wildlife hosts to evaluate infestation risk to livestock.

-Andreas Eleftheriou, The Ohio State University





# **Special Project**

### **Herbicide - Drift Risk Management**

Doug Doohan and Cassy Brown, The Ohio State University

Herbicide drift survey of 286 growers across the regions

Dicamba fact sheets for Specialty Crops

- Overview of Dicamba and 2,4-D Issues
- Frequently Asked Questions
- Preparing for Drift Damage
- Responding to Drift Damage
- More Resources
- Herbicide Drift Survey for specialty crops



For webinar on survey results, factsheets and more: https://ipm-drift.cfaes.ohio-state.edu/

# 10<sup>th</sup> International IPM Symposium

# The North Central IPM Center provided funding for students

- Supported 29 students
- Students attended the whole event
- Presented a poster (entered in the student awards competition)





# **Pest Alerts**

- Single page summary handouts on pest insects, diseases, weeds
- NCIPMC does in collaboration with other regional centers
- Newest pest alert is Coffee Leaf Rust
- Can be produced quickly when there is new invasive threat
- Can easily be linked to by NPDN, USDA websites



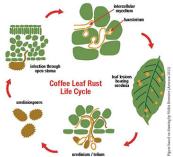
#### Coffee Leaf Rust

#### Hemileia vastatrix

Coffee leaf rust, Hemileia wastatrix, was first described in 1869, and by 1990 the disease had spread to all major coffee production areas in Africa, Southeat Asia, and Central and South America. In late October 2020, coffee leaf rust was discovered on the island of Maui and has since been confirmed on all the major coffee producing islands in the state of Hawaii, including Hawaii, Oahu, Lanai, Kauai, and Molekai:

#### Infection and Symptoms

The symptoms of the disease include large orange spots on the undersides of leaves, premature leaf fall and reductions in yield as high as 80%. Fungal sporse germinate on the underside of the leaves and penetrate through the stoma. Mycelia grow intercellularly and produce haustoria that penetrate into plant cells, absorb nutrients, and eventually kill the cells. As the fungus grows within the leaf, it



eventually forms uridia that contain new spores that erupt through other stomata, causing the characteristic yellow spots on the under surface of the leaves.

#### **Effects on Yield**

Coffee leaf rust appears to affect coffee yield in several ways and over multiple years. Non-structural carbohydrates, such as soluble sugars and starch, in plants are crucial for fruit set and are related to photosynthetic rates because it defoliates the tree. The premature leaf drop causes the plant to use stored non-structural carbohydrates to replace the leaves to increase photosynthetic rate. But with less carbohydrate reserves, the plant may be unable to meet the carbohydrate reserves, the plant may be unable to meet the carbohydrate requirements of the current crop leading to quality issues and over-bearing stress on the plant. The symptoms of improper maturation of orfothe berries includes yellow ripening and light and empty beans. In addition, carbohydrate may be withdrawn from young vegetative tissue resulting in the dieback of young shoots that will be the source of the subsequent crop. Progressive decline in yield and plant vigor occurs with continued rust infections over multiple years.

#### **Coffee Leaf Rust Movement**

Both people and wind are responsible for the global movement of coffee leaf rust. Humans have contributed to coffee leaf rust spread by growing susceptible Arabica cultivars globally. Closely planted susceptible coffee trees increase the likelihood of a local rust epidemic, and as farms enter the epidemic stage, they contribute more to the overall atmospheric load of rust spores and increase the likelihood of long-range dispersal. Spores can travel long-distances driven by wind (Bowden et al. 1971, Becker and Kranz 1977, Ferrieria and Botel 1991), where the likelihood of great is inversely proportional to distance because spore viability declines rapidly with time (Nutman & Roberts 1965). Commerce, trade, and tourism may contribute to coffee leaf rust spore movement, but these routes appear to be less important.



United States National Insti Department of of Food and Agriculture Agriculture





Website ncipmc.org



Newsletter The Central Issue Pests and Progress

#### **North Central IPM Center Updates**

#### Webinar Recording: Creating a Regional Trapping Network for Corn **Rootworm Adults**

The August "Pests and Progress" webinar featured Ashley Dean, Education Extension Specialist from Iowa State University. Dean shared, "Creating a Regional Trapping Network for Corn Rootworm Adults."

Corn rootworm affects corn yields so it has a direct effect on profits on farms where corn is grown. One goal of the Corn Rootworm Adult Monitoring Network is to increase scouting for

#### Why did we start this network?

o Corn rootworm is a persistent pest o WCR has overcome all Bt traits in some







# Communications

## NCIPMC Personnel – 2022-2026

Laura Iles, Co-Director, Iowa State University

Daren Mueller, Co-Director, Iowa State University

Lynnae Jess, Working Group Liaison, Michigan State University

Jacque Pohl, Communications, Iowa State University

Kelsey Mueller, Research Administrator, Iowa State University

To Be Determined, DEI Coordinator, Iowa State University

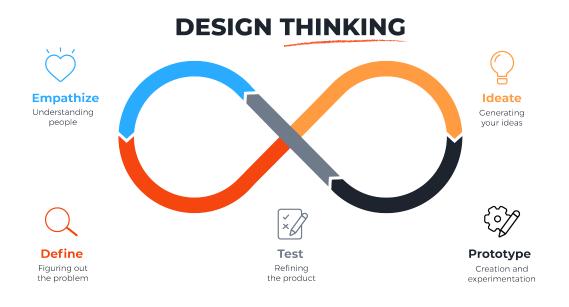


# Goal: Increase IPM community diversity, equity and inclusion

- DEI Coordinator develop vision of and plan for DEI activities for the NCIPMC
- DEIA plan required by grant applicants
   Describe how proposed project directly or indirectly serves members of the underserved communities
- Collaboration with all the regional centers and regional partners such as SARE

# Goal: Support and promote IPM in our region

Design Thinking with Ryan Clifford, University of Kansas





# Design thinking...next 4 years

NCIPMC, state IPM Coordinators, Working Group Leads will partner with University of Kansas to develop messaging specific to their needs



NCERA-222 Design Thinking workshop



