

Progress thru Sharing Progress thru Sharing

**iPiPE**

INTEGRATED PEST INFORMATION PLATFORM  
FOR EXTENSION AND EDUCATION

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## Progress Through Sharing:

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### Michigan Pollinator Project Surveys Planted Habitats

Jacquelyn Albert, working with Dr. Rufus Isaacs and research technician Steve Van Timmerman at Michigan State University, as part of the 2018 Pollinator Habitat Survey, sampled pollinator habitats established by Michigan growers for three insect categories: pollinators, natural enemies and crop pests. She also tested the iPiPE data entry system by using it to catalogue her findings. Many growers are

concerned that planting pollinator habitats may create habitat for crop pests as well. Therefore, understanding how these habitats are utilized by beneficial insects as well as pests is important to an IPM approach.

Albert examined six Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA)-compliant pollinator habitats in southwest Michigan located within two miles of agricultural areas, all of which were at least five years old with diverse and established wildflower populations. After sampling for pollinators, pests and beneficials, she found that increased floral abundance was correlated with an increase in the number of pollinators but not with the numbers of pests or natural enemies.

Discussing her research, Albert reflected, “the most interesting thing I observed was the relationship between relative floral abundance and total pollinators observed. I think this clearly demonstrates that when pollinator habitats are successful at producing flowers, they are also successful at supporting pollinators. It was also very encouraging to see that the increase in floral abundance within these habitats was not correlated with an increase in target pest species.”

Albert pinpointed understanding the costs and benefits of pollinator habitats as an area for future research. She also said that the pollinator habitat survey only sampled a few target pest species that were easily identifiable in the field, and that “a great next step would be to research how these habitats influence crop-specific pest populations in adjacent farm land,” since this research focused on the pollinator plantings.



One of the six site locations surveyed in Van Buren and Allegan counties in Michigan

Image credit: Jacquelyn Albert

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## Pollinators, Pests Cataloged in North Dakota Habitat Survey

A team of North Central Region IPM Center researchers in North Dakota also participated in the 2018 Pollinator Habitat Survey in conjunction with iPiPE. The research team compared how pollinators use a pollinator-attractive crop like sunflowers versus a non-attractive crop like soybeans. Both are common agricultural crops in North Dakota. Three fields of each were surveyed during flowering for pollinators like bees, syrphid flies and bee flies as well as major insect pests such as red sunflower seed weevil and soybean aphids on a weekly basis. Sets of specialized bowls were used to collect the insect specimens.

Researchers Dr. Janet J. Knodel, professor and Extension entomologist, Dr. Veronica Calles Torrez, post-doctoral scientist and Dr. Patrick Beauzay, state IPM coordinator with North Dakota State University collected 4,395 specimens including 1,356 flies and 3,039 bees. Twice as many bees were found in soybean fields as the sunflower fields, the latter containing a comparable number of bees per site. Fly numbers were higher in one soybean field than in the three others. However, there were roughly the same number of flies across the three sunflower sites. More flies were observed in the soybean sites than sunflower. The highest diversity indices and evenness (based on Simpson's diversity Index and the Shannon-Wiener diversity index) were observed in sunflowers planted close to a riparian woodland area. The lowest diversity indices and evenness for bees were both found at one soybean site. Summarizing their results, the researchers reported that "overall, syrphid flies and especially bees can be relatively abundant and diverse in soybean and sunflower fields, a monoculture crop environment." The study found that soybean and sunflower fields near riverside woodland areas, as well as standard open farmlands are utilized by pests and pollinators in North Dakota.

Data from this study provides North Dakota growers and Extension a clearer picture of the different pollinators that utilize soybean and sunflower fields. The study also reinforces the importance of avoiding insecticide applications (or at least very careful use of insecticides) during flowering to avoid damaging pollinator populations. The researchers "encourage sunflower and soybean growers to use IPM strategies to support and promote pollinator habitats."



A bee bowl transect used to sample for pollinators and insect pests  
Image credit: Janet Knodel

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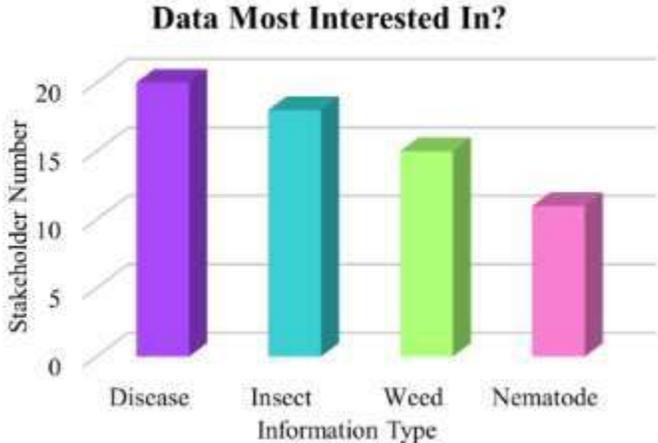
## Measuring Florida Stakeholder Engagement

Building a culture of information sharing is central to iPIPE's mission. That is why interns Grace Cook, Alexi Dong and Florida Potato Crop-Pest Program Coordinator and associate professor of plant pathology Dr. Nick Dufault administered a survey at a 2018 Extension meeting that measured the willingness of 22 stakeholders to share various kinds of crop and pest data across 12 subject areas: weeds, nematodes, insects, disease, crop type, farm location, market price received, personal weather data, management used, planting dates, crop yield and drone imagery.

Most respondents were Extension (11) and industry (5). Almost all respondents indicated they were willing to share information, but just over 40% said it was dependent on the type of data and the context. Over 60% of respondents were interested in disease, insect and weed data, and over 70% were willing to share

data on disease, crop type, personal weather and planting date. Respondents ranked yield savings, crop price and reduced cost as the incentives they were the most interested in, with government support programs and certifications scoring the lowest.

The survey illustrates that stakeholders are willing to share some types of information, and the data people are most willing to share isn't always the same as the information they are most interested in. One limitation of the survey was the small number of grower respondents. In the future, an electronic survey will be distributed across the state to increase the sample size.



Two graphs from the researcher's iPMx5 presentation, displaying the types of information the stakeholders were most interested in and what they were willing to share.

Image credit: Grace Cook, Alexi Dong and Nicholas Dufault

The iPIPE participant page has a new address, <http://share.ipipe.org/>

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