

Integrated Pest Management

Program Highlights – 2021



Greetings

Hello everyone! This past year has been characterized as a return to near full normalcy and functioning of the IPM Program. We held more in-person educational events and took time to celebrate our victories regardless of size. One accolade the team received this past year was the CFAES and OSU Extension Distinguished Multi-disciplinary Extension Team Award. All IPM team members are very proud of this achievement recognizing our connection to several Departments and for conducting impactful programs.

On a broader front, this past spring we competed nationally for IPM funding and received most of what we requested from the USDA NIFA Crop Protection & Pest Management program. This funding will allow us to continue conducting broad based programs in Pollinator Health, Specialty Crops, Public Health, Agronomic Crops and support of the Plant Pest Diagnostic Clinic for the next three years. Despite losing some valuable long standing IPM Team members to attrition and retirement during the transition to the new grant, we added a few collaborators in soybean pathology and tick outreach to keep the program nimble and responsive to stakeholder needs and emerging issues.

I hope you take a few minutes to peruse just a handful of the many highlights assembled in each priority area over the past year. If you have any questions about our current program offerings, feel free to contact the individual collaborators or myself directly.

Respectfully,

James R. Jasinski

Professor, Department of Extension
IPM Program Coordinator
The Ohio State University



Select members of the IPM Team taken at CFAES awards ceremony, from left to right: Dean Cathann Kress, James Jasinski, Extension Director Jaqueline Wilkins, Aaron Wilson, Denise Ellsworth and Benjamin Philip.

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Plant by Numbers Garden Designs

Mary Gardiner, Denise Ellsworth – Department of Entomology

The goal of the Plant by Numbers project is to develop simple garden designs using mostly native plants for home gardeners and others interested in enhancing pollinator habitat. Bumble Bees and Specialist Bees are the themes of this year’s garden designs. Key plants were selected for their attractiveness and importance to these bee groups; specialist bees will only gather pollen from a narrow range of plants, such as aster or ironweed, while bumble bees forage on an assortment of flowers but have favorite plants.

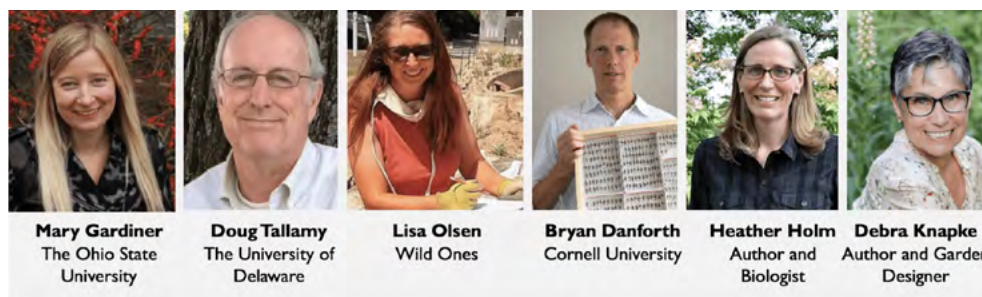
Garden designs for a 6’ x 10’ plot were created for each theme by an Ohio-based garden designer, with the goal of making habitat enhancement simple for the novice gardener. Signage and educational handouts will accompany each design. The Columbus area will be a Plant by Number focus, with multiple garden sites initiated by an OSU Entomology graduate student who will study bee visitation and document project outcomes. Because of supply-chain and labor issues, the production and distribution of plants to demonstration gardens planted and tended by community partners was postponed until 2023.



Tending Nature webinar series and on-line course

Denise Ellsworth, Mary Gardiner – Department of Entomology

Pollinator health webinars continue to provide an essential IPM educational outreach function well into the third year of the global Covid-19 pandemic. The 6-session Tending Nature speaker series brought thousands of pollinator enthusiasts together to focus on native plants and biodiversity in a virtual format. Participants learned from national entomology and ecology experts about plant and pollinator natural biology as well as practical habitat enhancements to support biodiversity and pollinator conservation efforts. This webinar series attracted 4,957 enrolled participants and 5,700 average views on YouTube after the live sessions. Of the 1,239 evaluation respondents, 94% learned new information about native plants and biodiversity, 89% intend to make changes in their landscape, and 77% will teach others what they’ve learned.



For Ohio volunteers and pollinator enthusiasts, the Pollinator Health team offered a 6-week online course to expand the learning objectives of the Tending Nature Speaker Series. 154 volunteers from Ohio participated in this online course focusing on native plants and biodiversity. Course elements included readings, discussions, seminars and individual habitat enhancement projects based on course content. Three planned in-person field days provide additional opportunities for learning and networking. The spring field day brought 62 participants to three Richland County sites to see native plant habitat in action at a public garden, a Master Gardener demonstration site, and the right-of-way habitat initiative on the OSU Mansfield Campus. Participants work in their local communities to teach others through classes and events.

Bringing Data to Life – Pest Activity Visualization

Jim Jasinski – Department of Extension
Ashley Leach – Department of Entomology

For decades, faculty in the Department of Entomology and Extension have partnered with the IPM Program to monitor for key insect pests in Agronomic and Specialty Crops. This information would then be relayed to growers in newsletter articles so that management decisions could be made when thresholds were exceeded. While our ability to broadcast and post this information has been shortened to within hours of it being collected by our network of nearly 25 cooperators, most of it was still being presented to growers and consultants in basic tables with dates, locations and insect counts; not always the easiest way to understand the population dynamics.

After years of investigating and experimenting with various types of graphing software, we have developed a system of data entry that automatically generates a graph for a specific pest based on county level data collected around the state, allowing for a visual and potentially easier way to understand the pest activity. Coupled with the graphs are some key informational pieces such as scouting tips, treatment thresholds, product selection and references to recent, more in depth articles on the pest. We think this is a great step forward to help growers efficiently follow pest dynamics and are actively working to complete and upgrade the reference sections for each pest monitored.

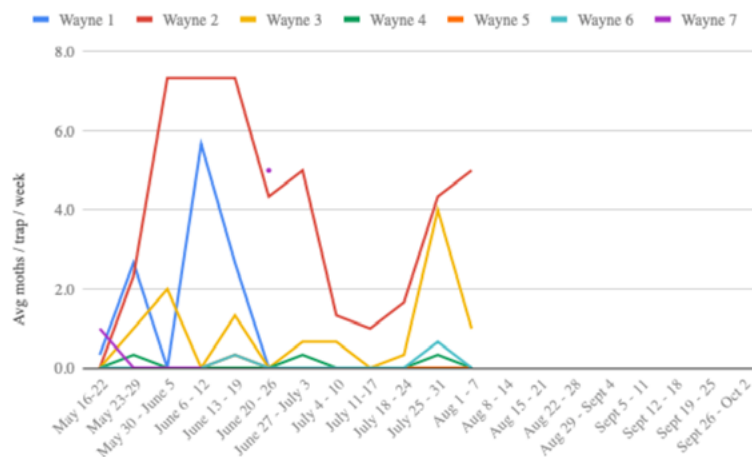
Pest Visualization

Fruit and Vegetable Pests (alphabetical)

Apple Maggot : **Beet Armyworm** : **Black Cutworm** : **Brown Marmorated SB** : **Codling Moth** : **Corn Earworm** : **European Corn Borer** : **Grape Berry Moth** : **Oriental Fruit Moth** : **Spotted Wing Drosophila** : **Squash Vine Borer** : **Variiegated Cutworm**

Codling Moth

Codling moth is a major pest of apples in the Midwest. Using trap data, we can establish a biofix (1st sustained catch of moth/trap) and inform when management should begin. Use a threshold of ~200 degree-days to determine when insecticide applications should begin to control codling moth in orchards. For more details about application timing, take a look at this recent [VegNet blog article](#).



First Ever Pumpkin and Sunflower Field Day

Jim Jasinski, Kate Hornyak – Department of Extension

Ashley Leach - Department of Entomology

The pumpkin field day has been a successful signature event of the IPM Program for over 20 years. Recognizing the diversity of farm-oriented enterprises surrounding pumpkin production and patches, growers have smartly diversified into making cider and donuts, having a petting zoo, offering hay wagon rides, setting up a corn maze, etc., to complete the fall farm experience for their customers. For several years one such blooming enterprise is the addition of sunflower fields for photography and cut flower sales. At the first ever pumpkin and sunflower field day, we will be discussing the basics of pest management when adding sunflowers to the farm, in addition to thoughts on agri-tourism, costs for photography and cut flowers, grower led discussion on sunflower patch management, hybrid selection and weed control.

For the pumpkin half of the field day, both OSU and industry speakers presented topics including pollinator protection in cucurbits when trying to manage other pests like beetles and squash bugs, a review of plant nutrition and fertility to achieve yield goal targets including the use foliar fertilizers in pumpkins, review of powdery mildew scouting, identification and fungicide selection followed by a quick tour of the pumpkin and squash hybrid trial. During the two-hour event growers are given the opportunity to mix with other growers from around the state as well as talk with specialists and invited speakers.



Crop Walks and Growers Meetings in the Plain Community

Frank Becker – Department of Extension

Wayne County and surrounding counties are home to a large number of Amish farmers, many of whom grow fruits and vegetables, either for selling at farm markets, or at the area produce auctions. With approximately 1,500 active growers registered at either the Farmers Produce Auction in Mt. Hope, Ohio or the County Line Produce Auction in West Salem, Ohio, there is a large number of area specialty crop farmers who need to have access to information to help them make informed crop management decisions. Access to information such as insect and disease updates is often absent in Plain communities due to the fact that they do not use technology such as electric or computers. This provides significant challenges when attempting to inform and educate growers about new diseases or insects that may be threatening their crops.

Crop walks and grower's meetings provide an ideal opportunity to have structured and intentional educational presentations and discussions. It is important to utilize these opportunities to educate growers on important topics such as resistance management, crop rotation, scouting, disease and pest identification and best management practices. One of the largest challenges faced by the Plain growers is knowing how to correctly identify a disease or insect pest, largely due to the lack of access to visual aids that would assist in correct identification. Accordingly, the Wayne County IPM Program has begun printing and dispersing short guides on current disease and pest pressures that are identified as being present at the time of the respective crop walk or grower meeting.

These programs are gone over page by page to ensure understanding and promote questions and conversation. The contents include images of pests and diseases, cultural control recommendations, best management practices, resistance management and chemical recommendations.



Pepper Weevil Management Program

Olivia Lang, Luis Canas, Nuris Acosta – Department of Entomology

The Canas Lab has been working closely with produce farmers in northwest Ohio to develop an effective Integrated Pest Management (IPM) program to control pepper weevil, a pest that has made its way to Ohio. This pest lays their eggs in peppers and then the larvae feed on the inside of the fruit, thus going unnoticed until produce reaches its final destination: the consumer.

Funding from both the IPM Program (NIFA 2021-70006-35562) and Ohio Department of Agriculture Specialty Block Grant (AGR-SCG-18) were included to develop IPM initiative including biological, cultural, mechanical, and chemical strategies to successfully manage pepper weevils in Ohio. To monitor for this pest, sticky cards are placed around pepper fields and “cull fields” (where unsold fruit is disposed) and are baited with pheromones. These traps are checked weekly by students in the Canas Lab. A sample of small pepper fruits are collected from each field to check for larvae as well. Cultural control with collaborating farmers includes the removal of weeds, such as nightshade, and dropped fruits to eliminate alternate hosts for the weevils. The removal of dropped fruits in cull fields is critical for the successful management of this pest. Chemical control is introduced into management strategies when the threshold of one adult pepper weevil per 0.25%-1% of buds is reached. The key factor to the success of the IPM program, however, has been cull field management. Breaking apart culled peppers through mechanical control methods, such as disking, disrupts the life cycle of the pepper weevil and therefore decreases the chance of survival and prevents its establishment in the field. Moreover, some growers have been freezing the unsold fruit before it is dropped into the cull field. Over the past couple of years, the program has been a success as there have been no major outbreaks of pepper weevil in Ohio. This IPM program has been an exceptional collaboration between OSU and farmers, with both sides greatly benefiting from this partnership.

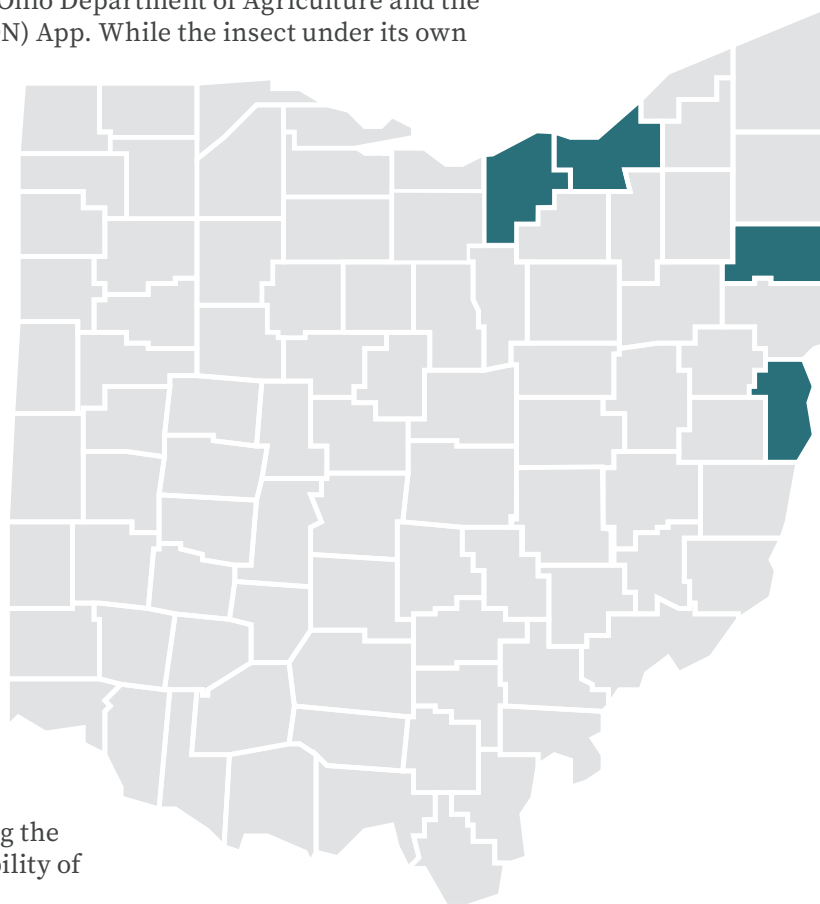


Spotted Lanternfly Detection and Monitoring Program

Amy Stone – Department of Extension

The Spotted Lanternfly (SLF) (*Lycorma delicatula*) continues to be detected in urban and natural areas throughout Ohio. Since its first detection in Jefferson County in the fall of 2020, this invasive insect has been found in Cuyahoga (fall of 2021), Lorain (winter of 2022) and Mahoning Counties (summer of 2022). Reports have been made by green industry professionals including arborists, producers and the general public. These reports have been made through the Ohio Department of Agriculture and the Great Lakes Early Detection Network (GLEDN) App. While the insect under its own efforts will not spread great distances, it is considered a “hitchhiker” and can be found along or near transportation paths including highways and railways. This information is useful as Ohio producers identify these modes as a possible arrival on or near their farms and businesses.

Once infestations have been discovered and confirmed, delimiting survey efforts are employed to determine the insect’s spread, and insecticidal treatments have been made by ODA to reduce the populations and further spread. Treatments have been applied in Ohio to manage all stages of the insect, including the egg mass, nymphs and adults. Signage and banners have been used to educate and empower Ohioans about SLF. Identification cards have been given at educational programs; stocked and distributed at displays at fairs, field days and events; and shared with retail businesses including wineries, breweries, nurseries and garden centers, to increase overall awareness, and ultimately expanding the understanding of this pest threat and the ability of people to report what they see.



Ticks and Tick-Vectored Disease Outreach

Tim McDermott – Department of Extension

Sarah Short – Department of Entomology

Ticks and tick-vectored disease are a major public health threat for humans, companion animals, and livestock in Ohio. We have gone from one medically important tick twenty years ago to five today, including two new ticks in 2020. Ticks can vector viral, bacterial, and protozoal pathogens as well as have been implicated in an allergic syndrome where the affected can become allergic to non-primate mammalian muscle including beef, pork, lamb, and venison. Public health outreach on tick-vectored disease is needed to raise awareness on how we can keep ourselves and our families tick-safe. Outreach materials for different audiences were created in multiple formats including webinars, recorded class events, continuing education, fact sheet publication, and videos for social media. The fact sheet "Asian Longhorned Ticks in Ohio", VME-1035, was published in late winter of 2022 to address the need for outreach on this new-to-Ohio invasive tick and within its first few months of publication was viewed 1,184 times. Nineteen classes with 2,150 attendees were held online and/or in-person to audiences including Master Gardener Volunteers, naturalists, beekeepers, pesticide applicators, research personnel, OSU students, foresters, and Cattlemen's organization members in 13 Ohio counties.

Collaborators included Purdue University, Michigan State University, the United States Department of Agriculture, the Ohio Department of Agriculture, and the Ohio Department of Health. Created outreach materials used by the OSU Pesticide Safety and Education Program trained 1,248 commercial pesticide applicators. A video created in partnership with an OSU Department of Entomology faculty colleague, Dr. Sarah Short, on Safe Tick Removal has been viewed over 3,700 times on social media including Facebook, Twitter, and YouTube.



Tackling Bed Bug Issues

Benjamin Philip – Department of Entomology

One of the biggest barriers to a bed bug treatment is the cost, therefore a common question received from the public is “what can I do on my own?”. When homeowners and tenants attempt to use chemical measures available to the general public, or worse yet, chemicals restricted to professional applicators, they may potentially harm themselves or others and can further exacerbate their bed bug problem. While it is best to leave chemical treatments to pest management professionals, there are certainly other aspects of an IPM plan that can be handled safely and effectively by homeowners and tenants. To properly educate the public to these activities, a video titled “Five ways to reduce bed bug populations” (youtu.be/zBl7eL0ey_Q) was produced. These tips included modifying a household vacuum, decluttering rooms, mattress covers, clothes dryers and freezers. The benefit of employing these strategies is twofold; these are independent activities so the homeowner and tenants can do any combination they are capable of performing, and these are generally low-cost or free. For example, using a loosely packed clothes dryer at high heat can kill all life stages of bed bugs. This is a very efficient and economical way of killing bed bugs on linens, clothing and curtains, and will physically reduce the number of bed bugs so that further treatments are more likely successful.

In addition to the creation of the “Five ways to reduce bed bug populations” video, Dr. Philip continued providing presentations and engagement with the public, including seminars to many diverse groups, such as the Rotary and Kiwanis Clubs, Ohio Environmental Health Association, Columbus City Schools elementary and middle schools, and the Pesticide Applicators attending the Pesticide Safety Education Recertification Conferences. Furthermore, bed bug educational materials were distributed at several Entomology Department outreach events, including at the COSI Big Science Celebration.



Diagnostic Clinic Activity

Rachel Capouya – Department of Plant Pathology

In the 2021 Growing season, the C. Wayne Ellett Plant and Pest Diagnostic Clinic processed 489 physical samples, along with 31 digital samples. Most samples came from Ohio, but the clinic did receive samples from Indiana, Kentucky, and Michigan. The majority of samples were submitted by commercial tree and landscape professionals (123) and homeowners (100), with a large number coming from commercial growers and retail entities (78) and extension (29). Of the plant samples processed, most were woody ornamentals, both evergreen (183) and deciduous (159). The clinic also processed 34 perennials, 11 annuals, and 13 turfgrass samples. An additional 41 insect identifications and 7 mushroom identifications were completed for clients. The clinic continued to perform at the forefront of diagnostic techniques through the use of Polymerase Chain Reaction (PCR) testing and DNA sequencing for detection of Oak Wilt, Phytoplasmas, and other fungal identification. The combination of modern, molecular methods with classic laboratory cultural and microscopy techniques, along with rapid serological methods allowed for comprehensive testing capabilities with an efficient turnaround time for clients. Integrated Pest Management strategies were a central focus of the management recommendations provided to clients in their diagnostic reports, with a particular focus on cultural control methods that could be correctly implemented by both commercial and non-commercial clients alike.

Outreach programming presented to stakeholders included an introduction to the clinic's diagnostic process and best practices for sample submission for Master Gardeners, along with an in-depth lesson about the common landscape disease of spruce trees, *Rhizosphaera* Needlecast, which delved into IPM-based control methods.



Climate Change and Pest Management

Aaron B. Wilson – Department of Extension

Understanding how climate and weather extremes are currently changing and projections for the future are important for integrated pest management (IPM) across the region. Research completed this year culminated in a manuscript in the journal *Weather and Climate Extremes* titled: *Climate extremes and their impacts on agriculture across the Eastern Corn Belt Region of the U.S.* Important to IPM are the results showing significant trends in temperature minimums, including fewer cold nights and more warm nights (2–4% change per decade). These changes have shown to cause negative impacts on crops including northward expansion of insect ranges and increased incidence of overwintering pests and diseases. Results and impacts were shared with several groups across Ohio this year to help producers plan for current and future impacts on pests in the region, including engagements with Extension programs, Farm Science Review, Master Gardeners, Non-profits and trade associations.

As Extension Liaison with the USDA Midwest Climate Hub, engagement and monitoring efforts on climate and pest management continued across the Midwest. These activities include the Midwest Agricultural Climate Team, which meets monthly during the growing season to share weather and climate impacted conditions to improve regional response, and the development of state-based Climate Change Ag summaries (Ohio summary is underway). An important example of this regional communication is illustrated by the Fall Army Worm (FAW) outbreak in mid-August through mid-October 2021, when alfalfa and grass forage producers across the Midwest encountered heavy feeding pressure by this recurring pest. The combination of a warm wet spring, conducive wind patterns, and a very warm autumn led to multiple generations of FAW. This event encouraged the development of a proposal to the USDA-NIFA Alfalfa Seed and Alfalfa Forage System Program, combining expertise from entomologists, agronomists and climatology to research the impact of FAW on alfalfa and forage and improve monitoring and extension information available for stakeholders.



3D Printing Improves Pest and Pathogen Identification, Scouting and Management

Andy Michel, Kelley Tilmon, Suranga Basnagala, Olivia Lang – Department of Entomology
Horacio Lopez-Nicora, Pierce Paul – Department of Plant Pathology

To make correct pest and disease management decisions, growers must be able to identify the pest or disease, perform proper scouting protocols, and relate this information to economic thresholds. Extension specialists need better, hands-on tools to help growers gain confidence and experience in scouting. To that end, we have developed several scouting tools that incorporate 3D printing technologies.

One objective is to use 3D models that mimic infestation or disease symptoms in the field. During extension events, these models can be glued to plants and stakeholders can then practice and improve identification, scouting and quantification skills. At the Wheat/Small Grains Field Day, we glued models of cereal leaf beetle to wheat plants and asked participants to find, take a picture with their mobile device and upload to a Qualtrics survey. Based on the survey, all 20 participants were able to find at least 1 cereal leaf beetle larvae, with many participants finding multiple larvae—all either strongly agreed or agreed that the activity

helped improved scouting. We are developing additional 3D models that represent egg masses, stink bugs, and signs and symptoms of plant diseases to use in additional extension events. A second objective is to complement traditional extension information like fact sheets and quick cards with 3D printed material. Growers often overestimate soybean defoliation, but lack good information and visuals on accurate percent defoliation. We created a 3D printed tool that represents 3 different levels of defoliation—growers can take this tool in the field as a guide to improve their ability to estimate defoliation. We are developing similar models for soybean and corn diseases.



Expanding a Pheromone Trapping Network for Moth Pests

Andy Michel, Kelley Tilmon, Amy Raudenbush, Suranga Basnagala – Department of Entomology

In the past few years, Ohio corn growers have experienced increased pest pressure from several caterpillar pests that cause damage to corn and alfalfa. Despite most corn growers using transgenic crops to control caterpillars, many of these species have evolved resistance including Western Bean Cutworm (*Striacosta albicosta*), and corn earworm (*Helicoverpa zea*)—indeed we have detected resistance in Ohio cornfields. Another species, European corn borer (*Ostrinia nubilalis*), has evolved resistance to transgenic corn, but, to this point, has only been found in eastern Canada. In 2021, Ohio (along with much of the southeast and Midwest USA), a very rare outbreak of fall armyworm (*Spodoptera frugiperda*) caused devastating losses in alfalfa, forage and turf. Many agronomic crop producers have little experience in identifying or scouting for the caterpillars and their moths since they were either controlled by transgenics or occurred in such rare frequency. Yet resistance is expanding, and weather patterns are shifting which facilitate future outbreaks.

One of the best IPM tactics for caterpillar and moth species is monitoring for moth activity using traps baited with species specific pheromone lures. In 2022, we expanded our moth trapping network to include 5 species (true armyworm, European corn borer, Western bean cutworm, corn earworm and fall armyworm) and across the state of Ohio. Each week we report the numbers of moths caught in the OSU Agronomy Team newsletter. In 2022, we saw high numbers of Western bean cutworms, and encouraged scouting of cornfields. This information is extremely valuable to help growers know when to scout their fields, and to help predict any potential outbreaks.



Tar Spot, a New Corn Disease in Ohio

Pierce Paul – Department of Plant Pathology

Tar Spot, a new disease of corn caused by the fungus *Phyllachora maydis*, was reported for the first time in Ohio at the end of the 2018 growing season. At that time, it was found mostly in counties close to the Indiana border, as the disease continued to spread from the middle of country where it was first confirmed in 2015. Confirmed reports of Tar Spot include northwestern, central and south-central parts of the state. Some regions of the state are showing much higher levels of disease severity suggesting Tar Spot is becoming established in some areas of the state due to the fungus overwintering in crop residue from one growing season to another. This is very consistent with the pattern observed in parts of Indiana and Illinois where the disease was first reported.

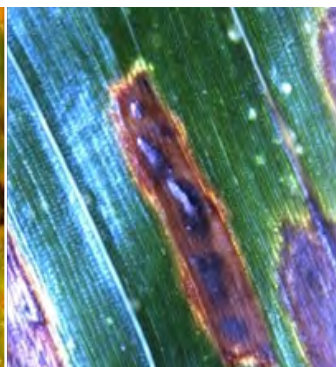
Tar spot is relatively easy to diagnose based on visual symptoms and is characterized by the presence of raised, black, tar-like spots called stromata predominantly on leaf blades (A). Two other diseases that produce raised, blackish spots on leaves are southern rust (B) and common rust (C). Here are a few tips to help you tell the difference between tar spot, rust telia, and insect frass. Tar spot stromata do not rupture the leaf or have a split on the top. In addition, they cannot be easily broken or rubbed away with your fingers like rust or insect frass. Rust telia usually break or rupture the upper surface of the leaf tissue (D), and if rubbed, the spores are released, leaving your finger with a dark-rusty to blackish tinge. We will continue to monitor for Tar Spot across the state and develop management strategies as we learn more about this pathogen.



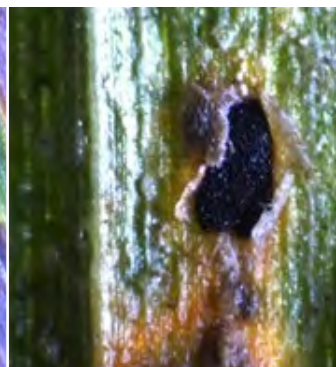
Tar Spot Stromata



Southern Rust Telia



Common Rust Telia



Close-up of Ruptured Rust Telia

Follow us on Twitter: @OSU_IPM

Jjaki @OSU_IPM · Aug 18
Andy Michel is showing the process of 3D printing various insect or leaf models for scouting. Very cool. #cfaes #gveg



Jjaki @OSU_IPM · Aug 13
OSU IPM Program is participating and supporting this initial dive into sunflower as a rotational crop, double crop, and retail crop in Ohio. #cfaes #gveg

Mitch Roth @ohiomycate · Aug 12
Curious about double cropping sunflowers? So are we @OrtazComCrops @OSU_IPM @FultonCoAg and Twitterless Horacio. Stay tuned! 🍻



Jjaki @OSU_IPM · Aug 5
Hate to say it but bed bugs are still a reality for some folks in Ohio and around the country. Here are 5 tips on how to reduce bed bug infestations youtu.be/1B7FuGeyQ via @YouTube



Jjaki @OSU_IPM · Aug 5
If you grow field or sweet corn in sandy soils in NW Ohio, IN or MI, then this video is for you! Asiatic Garden Beetle identification and management tips #CFAES youtu.be/AbP4Aruu6A via @YouTube



Jjaki @OSU_IPM · Aug 3
They're back! BMSB adults and nymphs now being detected in the OSU monitoring network.



Jjaki @OSU_IPM · Jul 18
Yea our double crop sunflowers are beginning to emerge! #gveg #cfaes



Jjaki @OSU_IPM · Jul 24
If you have no idea what Downy Mildew looks like on cucumber, take a look at this image...note small black "dots" in middle of tan lesions.

Sally A Miller @OhioVeggieDoc · Jul 20
Cucumber downy mildew continues to spread in northern OH - the latest report this morning in Seneca County. Fully digital diagnosis was possible in minutes from the excellent smartphone images provided by CCA @MartyKofbauer go.osu.edu/CN9U.



Jjaki Retweeted
VegNet News @VegNetNews · Jul 20
Downy Mildew Reported on Fresh Market Cucumbers in Seneca County, OH



Jjaki Retweeted
Sally A Miller @OhioVeggieDoc · Jul 13
Summer interns are vital to our research and service programs. ORIP intern Vanish Khatri, diagnosed cucumber downy mildew today in Wayne County, OH, the second OH report in as many days.



Jjaki @OSU_IPM · Mar 13
Not sure if we'll see these in Ohio any time soon but if you do contact someone at Ohio State University Entomology or Extension. #cfaes - Huge spiders to colonize US East Coast, but maybe it's a good thing phys.org/news/2022-03-h via @physorg




Jjaki @OSU_IPM · Jun 4
Got Cut? Yep. Black cutworms just couldn't resist snacking on a few of my succulent pumpkin transplants. #cfaes #gveg



Jjaki @OSU_IPM · Jun 23
Replanting some sunflower demo strip plots. Second time should be the charm! #gveg #cfaes



Jjaki @OSU_IPM · May 23
Looks like cabbage worm doesn't mind the cooler temperatures. #cfaes



Jjaki @OSU_IPM · May 31
Just finished seeding n transplanting 4 pumpkin studies. All day adventure! Now I pray the mice don't eat the seed and I can spray it before it rains tomorrow! #cfaes #gveg.



Jjaki @OSU_IPM · May 16
Looking for Spotted Lanternfly in Ohio? Take a look at these Spotted Lanternfly Scouting Tips #cfaes youtu.be/jcURUzyCGE via @YouTube



Jjaki @OSU_IPM · Feb 7
Don't miss this opportunity to get updated on recent trends in Corn and Soybean production and pest management.

OCJ & Ohio Ag Net @ocj_chhagnet · Feb 6
By Laura Lindsey, Ohio State University Extension

Due to popular demand, the AgCrops Team will host the 2nd annual virtual Corn College and Soybean School on February 15, 2022 from 9:00 AM - 4:00 PM featuring your OSU Extension state specialists.

ocj.com/?p=109497



Jjaki Retweeted
MSU Entomology @MSUEntomology · Mar 11
Things are looking up for the bees! 🐝

Hannah Burrack @BurrackBugs · Mar 10
Big things are happening at the @MSUEntomology Pollinator Performance Center this spring! The bees are back and construction starts on the honey house this month. @MeghanMibrath and crew bring such great energy to this huge project. Reach out if you'd like to get involved!



Jjaki @OSU_IPM · Oct 20, 2021
Finally finished crunching the 2021 Pumpkin & Squash hybrid trial data...take a peek. #OIVEG #CFAES osu.edu/vegnetnews/2022



Jjaki Retweeted
farmandairy @farmandairy · Nov 19, 2021
Varroa mites threaten Ohio's honey bees, but some feral bees defend themselves by chewing off their legs and into their abdomens. That is one adaptation beekeepers Dwight Wells and Zale Maxwell are looking for in the Ohio Queen Bee Improvement Project.

farmandairy.com
Beekeepers seek out resilient feral honey... Beekeepers Dwight Wells and Zale Maxwell started the Ohio Queen Bee...



Jjaki @OSU_IPM · Sep 22, 2021
Despite #if being cancelled today due to weather #gfoot made a brief appearance on the IFarm screen. Full length film to be released soon. #gveg #cfaes



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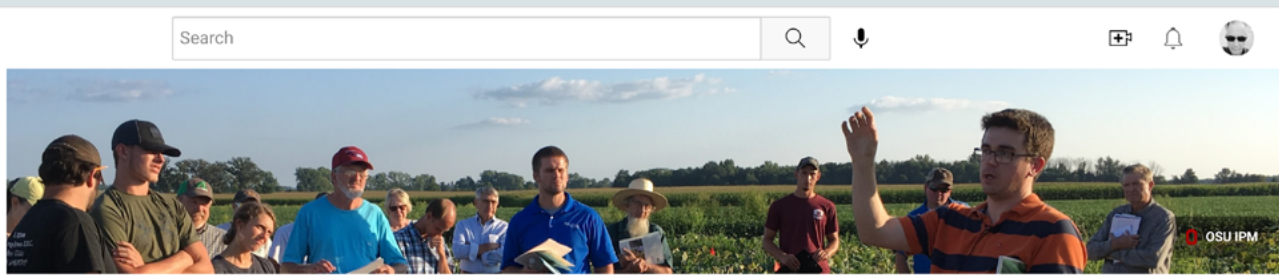
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