Hello Northeast Ohio Counties!

Waterhemp is continuing to be found throughout our region. Join us on August 27th at 6PM for a waterhemp clinic with Mark Loux in Greene Township. See inside the newsletter for more details.

Our hay making workshop – A Great Day for Hay – is coming up this Saturday, August 24th! Call to reserve your meal ticket for this free event today.

Stay safe!
A Great Day for Hay!

OSU Extension Trumbull County will be hosting a hay making workshop on August 24, 2019 at Von-Sun Farms, 6374 Youngstown-Kingsville Rd, Farmdale, OH 44417. We’ll be talking about all the steps in the process to make quality hay from growing, mowing, baling, wrapping, and storing the final product. The program will kick off at 11AM with Clif Little, OSU Extension Guernsey County, as he discusses what it means to make quality hay, not just okay hay. We’ll follow that with presentations, demonstrations, and discussions on weed control, equipment settings, and soil fertility. We'll wrap up the day with demonstrations from Kuhn’s MFG and their bale accumulators, and equipment demos from Bortnick Tractor.

The is a free event, but pre-registration is requested to reserve a meal ticket. To pre-register call the OSU Extension Trumbull County office at 330-638-6783. The Trumbull County Holstein Club will be sponsoring lunch, so be sure to come hungry! We will be outside in hay fields so please dress appropriately, and if it’s raining, we’ll move to the equipment shed so the event will go on rain or shine! If you have questions please email Lee Beers at beers.66@osu.edu.

Waterhemp Update – Four Confirmed Locations and Waterhemp Clinic on August 27th

By Lee Beers

Last week I discussed the three confirmed locations in Trumbull and Ashtabula counties, and now we can add a 4th. Les Ober and I recently confirmed waterhemp in a field in Portage county thanks to a tip from Centerra. Les is known as the “grim reaper”, and let’s just say that he has new material to keep him busy this programming year. The situation is not good regarding the size, distribution, and randomness of the populations. There is no smoking gun for how waterhemp made it into these locations, but the fields all have a history of problems with Canada goose. In at least two locations they were seen eating small corn seedlings last year in sections of the field that are now infested.
We are now one-week post application of Xtendimax in one location, and while initial results were promising, it appears that those waterhemp are coming back. While I am hopeful that it is not a resistance problem, it still remains a viable concern. Some plants were chest high at the time of application and were probably too large to be controlled. Options are limited this time of year, but timing will be critical for control going into next year. Please start scouting if you haven’t done so already, these plants grow incredibly fast.

We’ll keep scouting, but in the meantime please spread the word about our Waterhemp Clinic on Tuesday, August 27th at 6PM. Mark Loux, OSU Weed Scientist, will be joining us to discuss identification, management, and prevention of this weed. We will be meeting at the former Greene Elementary School on Route 87. If you are using Google Maps, or something similar use this address - 1699 Kinsman Rd NE, North Bloomfield, OH 44450. **Watch for signs and please do not park on the grass!** Please help spread the word!

You can find more information on waterhemp control here: [http://iwilltakeaction.com/weed/common-waterhemp](http://iwilltakeaction.com/weed/common-waterhemp)

**Corn Earworm in Field Corn; Watch for Molds**

By Kelley Tilmon, Pierce Paul, Andy Michel


*Editor’s Note – We have noticed higher than normal levels of corn earworm locally in NE Ohio.

There have been recent reports of high corn earworm populations in certain grain corn fields. Corn earworm is a pest with many hosts including corn, tomatoes and certain legumes. In Ohio it is typically considered a pest of sweet corn rather than field corn, but this past week substantial populations have been found in certain field corn sites. Corn earworm moths are most attracted to fields in the early green silk stage as a place to lay their eggs. These eggs hatch into the caterpillars that cause ear-feeding damage, open
the ear to molds, and attract birds. With a wide range of planting dates this year, different fields may be at greater risk at different times.

It is open to debate how well corn earworm can overwinter in most parts of Ohio, and the majority of our population probably immigrates each summer from more southern states. Weather fronts from the south can help carry influxes of moths our way. Compounding the problem, many of these southern moths are resistant to some of the Bt hybrids used against them in the past. Dr. Celeste Welty, OSU vegetable entomologist, maintains a trapping network for corn earworm in sweet corn which can be found here: https://docs.google.com/spreadsheets/d/10gh3rHahdxLKKxQapGyEPxWsjHYRmgsezOoFHNwtyEo/edit#gid=0

Corn earworms are damaging as caterpillars laid by moths in the silks near the developing ear tip, and are all but impossible to find by scouting. They vary quite a bit in color – with individuals that are dark brown, brown, tan, green, or even pinkish. Typically only one caterpillar is found per ear but in heavy infestations more may be found. They enter corn ears at the tips where the majority of feeding occurs. This also opens the corn ear up to the potential development of ear rots. Unlike western bean cutworm caterpillars, corn earworm caterpillars do not spend any time out on the plant surface before migrating to the ears – they are protected in the ear structure from the beginning and so insecticide application does little good against the caterpillars. When corn earworm moths are immigrating, sweet corn growers rely on frequent sprays to kill adult moths, which is not economical in field corn.

The Bt protein Vip3A (in Viptera) is still deemed effective against corn earworm. For a current infestation in field corn, because chemical control is ineffective, the scouting emphasis should be on assessing mold and disease levels in infested corn.

Feeding sites or exit holes when the caterpillar matures and leaves the ear leave holes in the corn husk, which provide a potential entry wound for pathogens like Fusarium and Gibberella. Some of these organisms can then be a further source for mycotoxins, including Fumonisins and deoxynivalenol, also known as vomitoxin. In some cases, damaged kernels will likely be colonized by opportunistic molds, meaning that the mold-causing fungi are just there because they gain easy access to the grain. However, in other cases, damaged ears may be colonized by fungi such as Fusarium, Gibberella and Aspergillus that produce harmful mycotoxins. Some molds that are associated with mycotoxins are easy to detect based on the color of the damaged areas. For instance reddish or pinkish molds are often cause by Gibberella zeae, a fungus know to be associated with several toxins, including vomitoxin. On the other hand, greenish molds may be
caused by Aspergillus, which is known to be associated with aflatoxins, but not all green molds are caused by Aspergillus. The same can be said for whitish mold growth, some, but not all are caused by mycotoxin-producing fungi.

So, since it is not always easy to tell which mold is associated with which fungus or which fungus produces mycotoxins, the safe thing to do is to avoid feeding moldy grain to livestock. Mycotoxins are harmful to animals – some animals are more sensitive to vomitoxin while others are more sensitive to Fumonisins, but it is quite possible for multiple toxins to be present in those damaged ears. If you have damaged ears and moldy grain, get it tested for mycotoxins before feeding to livestock, and if you absolutely have to use moldy grain, make sure it does not make up more than the recommended limit for the toxin detected and the animal being fed. These links provides more information on ear molds and mycotoxin contamination and identification:

https://agcrops.osu.edu/newsletter/corn-newsletter/2018-28/ear-rots-corn-telling-them-apart
https://ohioline.osu.edu/factsheet/plpath-cer-04

**OPTIMIZING FERTILIZER SOURCE AND RATE TO AVOID ROOT DEATH**

By Kaine Korzekwa


Fertilizer is used worldwide in farming. It’s used to give plants a boost, increasing yield and ultimately farmers’ profits.

But, as the old adage goes: the dose makes the poison. Similar effects are seen in over-the-counter medicines. People need to take the right dose, at the right intervals, for medicine to be safe and effective. Fertilizer works the same way.

In particular, the rate and source of the fertilizer can make the difference, especially in a method called banding. It’s a method where the fertilizer is placed in a band in the soil below the seed. While banding has many advantages, it can also cause damage to the plant roots if used incorrectly.

*Canola is a crop from which seeds are commonly harvested to create canola oil and meal. Canola is in the family of Brassica plants. Credit: Meghnath Pokharel*
“While banding below and to the side is the recommended practice, banding directly below the seed continues to be a common practice used in dryland systems,” says Isaac Madsen. “It can reduce the number of passes across the field required in a growing season. Banding also allows you to put on all or most of your fertilizer at one time. This generally causes less disturbance in a minimum or no-till system.” Madsen is a postdoctoral research associate at Washington State University.

Researchers like Madsen are trying to find the ideal rate and source that will help the plants without damaging the roots. Madsen and his team studied canola in particular. New imaging and analysis techniques allowed them to see canola roots interacting with fertilizer in a way never previously done.

“In this study, we imaged canola roots growing into a fertilizer band and measured the damage to the canola tap root,” Madsen explains. “Using scanner-based rhizoboxes (glass boxes filled with soil), we were able to collect a series of root images over time. This allowed us to look at the effect of fertilizer rate and source on the seedling root systems.”

The reason the root damage is of such concern in canola is because it has a long tap root. These larger roots are especially affected by fertilizer. If the tap root is damaged, the plant can't properly take up nutrients and water. The team's end goal was to determine what is called a dose-response curve. This will help farmers better apply their fertilizer and know if it will harm their crops' roots or not. They used the data they collected from the root images to develop these curves for the different fertilizer sources.

“A dose-response curve helps determine the amount or dose of a substance that will result in a specific response,” Madsen says. “In this instance we modeled tap root survival, depth, and distance from fertilizer band.” They used three sources of nitrogen fertilizer in their study: urea, ammonium sulfate, and urea ammonium nitrate. Each one reacts differently in the soil, and the researchers thought they would cause different amounts of damage to the roots.
Madsen says their results show that banding urea ammonium nitrate rather than urea, along with keeping the rates low, is the best option for canola. He adds that this research is important for canola growers in the Pacific Northwest area. It helps establish guidelines for them to apply nitrogen fertilizers.

“I think banding is, indeed, frequently the best practice,” says Madsen. “But we need to be careful with our rates and sources. Banding of fertilizers will not cause problems as long as the rates used are low enough and the sources used are safe enough. My research goal is to develop rate and source guidelines that growers can use to minimize damage and maximize fertility.”

Madsen says the imaging techniques used in this study were unique and very useful. Getting a glimpse at the roots can be valuable. It allows something usually hidden beneath the soil and important for plant health to be studied in real time.

“I really like taking pictures and making videos of roots,” Madsen adds. “There is something immensely satisfying about making videos of phenomena which have not been imaged before.”

Read more about this research in Agronomy Journal. This research was funded by the National Institute of Food and Agriculture (NIFA), an agency of the U.S. Department of Agriculture (USDA), as well as the Washington State Legislature-Oilseeds Cropping Systems Project.

**Farm Science Review Agronomy College is September 10th**

For agronomists, Certified Crop Advisers, custom applicators and farmers. Tuesday, Sept. 10 • 9 a.m. - 4 p.m. at the Molly Caren Agricultural Center LONDON, OHIO - home of the Farm Science Review. See the flyer for details on how to get to the site of the program. Check in begins at 8:30 A.M.

Northeast Ohio Agriculture

OHIO STATE UNIVERSITY EXTENSION
Ashtabula and Trumbull Counties
The full-day event features time with OSU Extension staff in the field in the agronomy plots on the east side of the grounds. Breakout session topics will address the challenges of the 2019 growing season and the opportunities moving into 2020 and beyond. Featured speakers include Fred Whitford of Purdue University; Pierce Paul, Tony Dobbels, Kelley Tilmon, Anne Dorrance and Alex Lindsey of The Ohio State University.

This is the 4th year for this event in cooperation between the OSU Agronomic Crops Team and the Custom Application committee of the Ohio AgriBusiness Association. This year we will emphasize scouting in several talks - why and how to scout, crop growth stages, insect & disease identification, and getting to a recommendation. Price is $120 per participant. Please register online at oaba.net/events. Questions? Contact Janice Welsheimer at 614-326-7520 ext. 3 or jwelsheimer@oaba.net, or Harold Watters at 937-604-2415 or watters.35@osu.edu.
Extended Forecast from NOAA, Weather.gov

Cortland, OH

Jefferson, OH
Upcoming Events:

Making Quality Hay Workshop  
August 24, 2019
Waterhemp and Weed Control Clinic

August 27, 2019 – 6:00P.M.

Waterhemp has been discovered in several fields throughout NE Ohio. Join us on August 27 at the former Greene Elementary School on Route 87 at 6PM for a clinic where we will discuss identifying, managing, and preventing waterhemp from becoming established in our area. Mark Loux, OSU Weed Scientist, will be on hand to discuss management strategies that have worked (and those that didn’t) in other parts of Ohio. This is a free event and will occur rain or shine. For more information please call 330-638-6783 or email beers.66@osu.edu.

Greene Elementary School
1699 Kinsman Rd
NE, North Bloomfield, OH 44450
trumbull.osu.edu
330-638-6783
Difficult growing seasons in 2018 and 2019 have led to a shortage of quality forages throughout most of the Midwest. This workshop will help you tune your equipment, and prepare your fields to make quality forages even in short weather windows. We’ll be talking about dry hay, baleage, and silage, for a complete schedule please view the back of this flyer. Lunch is sponsored by the Trumbull County Holstein Club, and thank you to our sponsors for making this event free! Lunch will be provided, but reservations are required by August 20, 2019 to reserve your lunch ticket.

To register for the Quality Forage Workshop on August 24, 2019 please complete the form below and mail to OSU Extension Trumbull County, 520 West Main St, Cortland, OH 44410. You can also register by phone by calling 330-638-6783. For more information please email Lee Beers at beers.66@osu.edu.

Name:______________________________
Address:________________________________________________
City and State:________________________________________ Zip Code:_____________________
Phone:_________________________ Email:_____________________
Number of Attendees:____________________

Von-Sun Farms
6374 Youngstown-Kingsville Rd
Farmdale, OH 44417
trumbull.osu.edu
330-638-6783

“A Great Day For Hay”
NE Ohio Quality Forage Workshop
August 24, 2019 - 11:00A.M. – 3:00P.M.
From steadfast survival and reproduction to pollination and even charming tales of maternal care, insects and spiders keep our gardens buzzing with adventure. Join bug and botanical portrait photographer Danae Wolfe on a journey through your garden to discover the stories of insects and spiders. Uncover the fascinating tales of the curious creatures among our plants and explore how to capture incredible images of bugs on any budget.

Danae Wolfe is a digital engagement and educational technology specialist with Ohio State University Extension. She has over 10 years’ experience designing and facilitating learning opportunities that span natural resources, horticulture, digital engagement, leadership, and her personal passion of photography. She was invited to speak at TEDxColumbus 2018 on the power of photography in fostering appreciation and conservation of insects and spiders. Her current work focuses on improving digital engagement strategies and fostering innovation throughout Extension.

Complete the below information and send with payment to OSU Extension Trumbull County, 520 West Main Street, Cortland, OH 44410. Please make checks payable to OSU Extension.

Name: ____________________________________________
Phone: ___________________________ Email: ___________________________
Number Attending: __________ X $20/person = ______________ Total Enclosed $ _______
The original 10 acres of Kridler Gardens started as a botanical garden in 1965, when owner Barrie Kridler moved back to Homeworth after a 20-year residence in Texas. Sixty-five additional acres were added to the Homeworth operation in 1990.

Thousands of tree, shrubs and perennials have been incorporated into the grounds in order to showcase their landscape value. Thirteen greenhouses complete the operation including: 500 varieties of hosta, rare trees, shrubs, perennials and garden-related items.

Itoh Peonies (i.e. Intersectional Peonies) are an intentional mix of two amazing plants. Borrowing hardiness of traditional garden peonies, Itoh upright growing style, deeply-cut foliage, and prolific blooms of beloved tree peonies compliment their tailored shape. Itoh’s produce enormous flowers from many buds. There are often 50 blooms per plant in one season. Come learn how these Peonies can compliment your garden.

Complete the below information and send with payment to OSU Extension Trumbull County, 520 West Main Street, Cortland, OH 44410. Please make checks payable to OSU Extension.

Name: _____________________________________________________________
Phone: ___________________________ Email: _____________________________
Number Attending: __________ X $20/person = ___________________________ Total Enclosed $__________
Ohio's Tree Farm of the Year Tour

Snowy Oak Tree Farm

September 21st, 2019 - 9:30 AM to 3 PM

Paul and Joanne Mechling welcome family, friends, fellow tree farmers, conservationists, and the general public to their 365 acre Certified Tree Farm. Come explore 8 miles of trails, view forest management, examine 12 acres of wetlands, walk through warm season grasses and pollinator habitat, and learn how to plant wildlife food plots. Professional foresters will conduct interpretive tours of the property.

Location: St. Route 167 East, Pierpont Township, Ashtabula County, Ohio
Parking is at the Pierpont Township Fire Hall, 6006 Marcy Rd Pierpont, OH 44082. Shuttle service will be provided to the farm. See map on back.

Presentations/Displays/Exhibitors:

◊ Red oak regeneration
◊ Drone demonstration
◊ Over 140,000 trees planted, representing 21 species
◊ Walking tour with Dr. James Bissell of the Cleveland Museum of Natural History
◊ Maple tubing/sap production
◊ Kids activities
◊ Wetland construction/ WRP
◊ Various conservation organization displays
◊ Bridge construction
◊ Invasive plant control

This event will take place rain or shine! Hiking footwear required!
Fairly level terrain. Food and beverages available for purchase.

GPS Location (parking): 41.752243, -80.567792
Additional information: 614-309-6096
RSVP’s appreciated: ohiotreefarm2019@gmail.com
Make a weekend of it!

Come visit Ashtabula County—Ohio’s best perch, walleye and steelhead fishing. Explore our 23 wineries, 19 covered bridges and 4 scenic rivers. Check out more at www.VisitAshtabulaCounty.com for lodging and reservations.