Harvest is slowly chugging along in NE Ohio. As I was traveling around Ashtabula and Trumbull Counties the past several days I saw several combines running getting both soybeans and corn harvested. Despite a flurry of activity in areas, I would say as a whole we are about 10% harvested in total acres. Late maturing varieties, moisture levels, and more importantly weather have slowed down harvest.

Throughout the state low test weight, and ear diseases in corn seems to be an issue. I have heard the same from several farmers in the area, although to a lesser extent. Stay safe out there!

Lee Beers
Extension Educator
Ag & Natural Resources
Livestock Mortality Composting Program Scheduled for December 14 in Canfield, OH

While it’s likely not the most popular dinner table topic, a plan for dealing with mortality is something that needs addressed if you raise livestock. Composting is a viable option for various types of farms, and actually allows producers to recycle on-farm nutrients. While livestock mortality composting is similar in goal to backyard composting, it follows a different methodology and requires a more specific approach. These differences, along with facility design, area selection, operation and management will be covered in class. In Ohio, certification is required to compost livestock mortalities legally.

OSU Extension Mahoning County will be hosting Rory Lewandowski on December 14, 208 from 12P.M. to 2P.M. at the Extension office in Canfield, OH to lead the discussion. Upon completion of the program, all participants will be certified in livestock mortality composting. Cost for this program is $25/person, and registration includes lunch, LMC Book, handouts, and other materials. To register see flyer at the end of the newsletter. For more information call 330-533-5538.

Seed Quality Issues in Soybean

By Anne Dorrance
Source: https://agcrops.osu.edu/newsletter/corn-newsletter

Let’s face it – we’ve had historic rains in parts of Ohio during 2018 and we are now observing many late season issues that come with this. Seed quality is one of them and the symptoms or warning signs that there could be issues are on the stems. The stems in some fields are heavily colonized with a mix of disease pathogens that cause Anthracnose, Cercospora, and pod and stem blight (Figure 1). The bottom line is that all of these diseases can be better managed with higher levels of resistance but ultimately during 2018 – we had a perfect
storm, lower levels of resistance combined with higher than normal rainfall conditions and add in the presence of a new insect pest, stink bugs. Below I’ve outlined the general conditions of the crop and for each disease, the distinguishing characteristics.

1. Discolored, moldy seeds along with shriveled seeds are very evident in some fields (Figure 2). Some reports indicate that it is worse around the edges but not in all cases. Sometimes the pods look fine until they are cracked open and others the outside of the pod is a definite give away.

2. Fungi in the genus Cercospora can cause two different diseases, frogeye leaf spot which also affects and stems and seed is caused by Cercospora sojina; and purple seed stain is caused by a complex of species, the most common has been C. kikuchii. The symptoms of frogeye leaf spot during the season were well documented this year, but on stems and pods they are not well described. In our experience, the gray to black smudges on seed and yield the conidia of this pathogen. For C. kikuchii, the first symptoms can appear on the petioles during the reproductive phases. These appear as purplish to reddish streaks which turn darker after leaflets drop but the petioles can remain on the stems. On seed, dark reddish purple blotches will appear.

3. Diaporthe pod and stem blight including Phomopsis were very apparent this year. Some of the stems I collected this season were just pure fruiting structures. This is a complex disease, in that there are several closely related fungi that can infect soybeans throughout
the growing season. These sometimes appear as black dots in a row on the stem, but some species are more randomly placed over the surface of the stem or pods (Figure 3). They are flask like structures that hold the overwintering spores. We have documented several different species causing substantial losses in Ohio over the past 3 years.

4. Anthracnose – this has been very rare in Ohio but this year I did find it on petioles early on some susceptible varieties. This is another one that looks like a black dot, but this fungus, Colletotrichum truncatum and related fungi have hairs (setae) that are around the fruiting structures. A moist chamber and a microscope can help sort out the differences. Pods can have lesions that are large brown and irregularly shaped.

5. Opportunists – based on some plating we have done over the past week, there are many secondary fungi that have been able to colonize these seeds. It will take us a few weeks to identify everything to verify that are opportunists and not pathogens, but let’s just say it is pretty ugly even for a mycologist.

All of these fungi can affect seed health. Fields that have a high incidence should not be used for seed, but should be fine for feed but best in low quantity. To my knowledge there are no animal toxins associated with these fungi like we see for head scab. For fields with low incidence, many seeds will be asymptomatic so when a fall germination test is done, the percentage of moldy seed maybe high. Some of the seed may have some mycelium on the outside layers but have not reached the young soybean. Over the winter, under dry conditions, the mycelium (fungus) on these outside seed tissues will die and then those seed will appear normal in a germination test. The point here is to keep the seed dry to prevent any further colonization of the seed.

These fungi ALL overwinter on crop residue which then serve as inoculum for the 2019 soybean crop. This is especially important for the no-till continuous soybean fields. There are a few management strategies that can be done for 2019.

a) Don’t plant the same variety back in the same field – Rotate varieties and look for those with better resistance scores than your current one.
b) Do something to help break down the residue, it doesn’t need to be a lot, but some light tillage to bury some of the residue will go a long way.

c) Rotate to wheat, barley, or corn. These are non-hosts for this group of pathogens and planting something else in that field will go a long way to reducing inoculum for when soybeans are put back in that field.

**Soybean Aphids and Barley Yellow Dwarf**

By Pierce Paul, Kelley Tilmon, Andy Michel


With the recent warm temperatures, we have been receiving a few questions on the risk of aphids in wheat and the transmission of barley yellow dwarf virus (BYDV). How should growers prepare and gauge the risk of both aphid infestation and BYDV transmission?

First, aphid infestations that cause economic damage are rare in Ohio either in the autumn or spring. There are several species of aphids that infest wheat, and most cannot overwinter in Ohio (they migrate from the southern US). However, aphids can, under certain conditions, build in numbers and damage wheat by feeding on the plant during seedling stages. A suggested treatment threshold for aphid management in wheat is 50 aphids per linear foot of row. Given the warm temperatures, we recommend that growers scout wheat fields to see if any aphids are present.

Second, since economic feeding damage is rare, the larger concern is BYDV transmission. For aphids to successfully transmit the virus, they normally need between 12 and 30 hours of feeding to acquire the virus, and then 4 or more hours of feeding to transmit it. However, aphids are capable of acquiring the virus after feeding on infected plants for only 30 minutes and, once they acquire the virus, they can transmit it to healthy plants for the rest of their life. The typical symptoms of this disease are erect leaves with yellowish to reddish-purple tips. Yield reduction due to BYDV is generally greater when infections occur in the fall than in the spring. BYDV tends to be most severe in fields planted before the fly-free date in which aphid populations can reach high levels. However, some fields planted after the fly-free date may still have high levels of BYDV, most likely because of warm temperatures that kept aphids active for a longer time period. Recommended management tactic for BYDV are as follows: 1) plant varieties less susceptible to BYDV; 2) delay planting until after the Hessian fly safe date to avoid early fall infections; 3) balanced fertility; and 4) controlling volunteer wheat, barley, and oats.
Spraying insecticide to control aphids in an attempt to manage BYDV is open to discussion, and not a recommended tactic. The main reason is that only a few aphids are needed for successful BYDV transmission. Any aphids present prior to spraying may have already transmitted BYDV, while other aphids may continue to arrive in the field after spraying. When spraying insecticides to control aphids early, growers should know that the residual effect of the insecticide may not last long enough to protect against later aphid population buildup nor virus transmission. Though insecticides applied after infection will reduce the aphid population, it will not prevent the disease from developing once the plants have been infected. Keep in mind that insecticidal seed treatments might prevent establishment of early arriving aphid populations, but they have to feed to get a toxic dose. In feeding, the aphid may transmit BYDV and, once infections occur, there is very little that can be done.

There are situations where it is acceptable to spray for aphids, and where insecticide application might pay. These include: 1) wheat under drought stress with aphids present; 2) growing a variety known to be susceptible to BYD with aphids present; 3) wheat being grown for seed; 4) wheat that is highly intensively managed with a 100+ bu/A potential yield; and 5) wheat planted before the fly-free date. However, for most growers, cost-effective control of BYDV may not be possible by aphid spraying.

**Rabbit Hemorrhagic Disease Found in Ohio**
Source: Ohio Department of Agriculture

On September 19, rabbit hemorrhagic disease virus 2 (RHD2) was detected in a domestic rabbit in Medina County. This is the first confirmed case of RHD2 in the United States. It’s important to remember RHD2 does not pose a threat to humans or other animals, but is highly fatal in rabbits.

The rabbits at this location were housed in horse stalls and ran free in those stalls. They have been on site for several years and there has been no movement of rabbits on or off the premises recently. The Ohio Department of Agriculture (ODA) will work with state and federal partners to conduct surveillance of wild rabbits near the location.
RHD is a viral disease that causes sudden death in rabbits. It can be spread through contact with infected rabbits, as well as by materials having contact with infected animals. Again, this disease does not affect people or other animals. There are two main types of RHD - RHD1 and RHD2. This is the first detection of RHD2 in the United States. Currently there are no vaccines for use in the U.S. so the best way to protect rabbits is by enhanced biosecurity practices.

The time from infection to first signs of RHD2 disease may be up to nine days. Affected rabbits may develop a fever and die within 12 to 36 hours. Infected rabbits may appear dull and be reluctant to eat; have congested membranes around the eyes; show nervous signs, incoordination or excitement; and paddling. Breathing may be difficult and a blood-stained, frothy nasal discharge may be seen at death. Rabbits shed RHD2 in the urine or feces for as long as four weeks after infection. RHD virus can be spread on contaminated food, bedding, fur and water. Transmission of the RHD virus over short distances can occur by the contaminated clothing of people, biting insects, birds, rodents, wild animals, fur or vehicles.

Although RHD2 does not pose a threat to humans, other animals or the food supply, it must be reported to state or federal authorities immediately upon diagnosis or suspicion of the disease. If you suspect cases of the disease, have questions or need more information, please contact ODA Division of Animal Health at (614) 728-6220.

**When yesterday's agriculture feeds today's water pollution**

By University of Montreal


A study led by researchers at Université de Montréal quantifies for the first time the maximum amount of nutrients - specifically, phosphorus - that can accumulate in a watershed before additional pollution is discharged into downriver ecosystems.

That average threshold amount is 2.1 tonnes per square kilometre of land, the researchers estimate in their study published today in *Nature Geoscience*. "Beyond this, further phosphorus inputs to watersheds cause a significant acceleration of (phosphorus) loss in runoff."

This amount is shockingly low, the researchers say; given current nutrient application rates in most agricultural watersheds around the world, tipping points in some cases could be reached in less than a decade.

The study was led by Jean-Olivier Goyette, a doctoral student in biology at UdeM, and supervised by UdeM aquatic ecosystem ecologist Roxane Maranger in collaboration with sustainability scientist Elena Bennett at McGill University.
Phosphorus, an element in fertilizer, is essential to the growth of plant food. But the mineral is also harmful when overused. When it gets into surface water, it can lead to excessive plant growth in lakes and rivers and proliferation of toxic algae, harmful to human and animal health.

**23 watersheds studied**

Focusing on 23 watersheds feeding the St. Lawrence River in Quebec, the researchers reconstructed historic land-use practices in order to calculate how much phosphorus has accumulated on the land over the past century.

The two main sources of phosphorus to watersheds, the land adjacent to tributaries, come from agriculture (fertilizers and animal manure) and from the human population (through food needs and sewage).

Using Quebec government data, the researchers matched the estimated accumulation with phosphorus concentrations measured in the water for the last 26 years. Since the watersheds they studied had different histories - some had been used intensively for agriculture for decades whereas others were forested and pristine - this method allowed the researchers to establish a gradient of different phosphorus accumulations among sites. In so doing, they were able to see at what point the watershed "tipped" or reached a threshold and began to leak considerably more phosphorus into the water.

"Think of the land as a sponge," Maranger said. "After a while, sponges that absorb too much water will leak. In the case of phosphorus, the landscape absorbs it year after year after year, and after a while, its retention capacity is reduced. At that point historical phosphorus inputs contribute more to what reaches our water."

Until now, no-one had been able to put a number to the amount of accumulated phosphorus at the watershed scale that's needed to reach a tipping point in terms of accelerating the amount of the mineral flowing into the aquatic ecosystem.

'Really important contribution’

"This is a very important finding," Bennett said. "It takes our farm-scale knowledge of fertilizers and pollution and scales it up to understand how whole watersheds respond within a historical context."

Agriculture on a mass scale began in Quebec only in the 1950s, but some of the province's more historical agricultural watersheds had already passed the tipping point by the 1920s, the study found.

Even if phosphorus inputs ceased immediately, eliminating the accumulated phosphorus in saturated Quebec watersheds would take between 100 and 2,000 years, the researchers estimate.
In some countries, including China, Canada, and the US, phosphorus is so heavily used now that the saturation point is reached in as little as five years.

"Nutrient management strategies developed using novel creative approaches ... are urgently required for the long-term sustainability of water resources," the researchers urge in their study.

*Recycle and reuse*

"One possible mitigating measure would be to do what is already being done in some European countries: instead of adding more and more to help plants grow, phosphorus already stored in soils can be accessed using new practices and approaches," Goyette said.

"Furthermore, phosphorus can be recycled and reused as fertilizer rather than accessing more of the raw mined material."

The dilemma is this: humans need to eat but need to have clean water, yet growing food requires phosphorus that pollutes the water when too much leaves the watershed and pollutes adjacent aquatic ecosystems.

"Are some of our more extreme (agricultural) watersheds impossible to repair?" Maranger asked. "I can't answer that. It's a societal issue and there are solutions. We should never despair, but it's a wicked problem."

**Annie's Project Course- Empowering Women in Agriculture**

By: Jacqueline Kowalski & Robin Christensen, Extension Educators


OSU Extension in Summit and Portage Counties are teaming up to offer *Annie’s Project* from October 9th–November 13th, 2018. Annie’s project is a six-week program designed to address risk management education for farm women. Its objective is to educate women entrepreneurs so that they are more prepared to make farm management decisions. While a large number of farm women own and operate farms, others play a major role in the decision-making process of farm operations for farm families. Annie’s Project provides in-depth sessions on topics that are important for decision-making of the family farm. The program topics covered include human resources, legal risks, financial risks, marketing risks, and production costs and risks. Sessions are designed to be very interactive between the presenters and the participants. Information presented is tailored to meet the needs of participants in their own geographical areas.

Annie was a woman who grew up in a small rural community with the life-long goal of being involved in production agriculture. She spent her lifetime learning how to be an involved
business partner with her husband, and together they reached their goals and achieved success. Annie’s daughter, Ruth Hambleton, a former Extension Educator for the University of Illinois, founded Annie’s Project in 2000 in honor of her mother. Annie’s Project is designed to take Annie’s life experiences and share them with other women in agriculture who are living and working in this complex, dynamic business environment. Additional details on Annie’s life can be found https://www.anniesproject.org/

The 6-week training will begin on Tuesday October 9th at 6:00pm, with dinner starting at 5:30pm. Registration is due October 5th, 2018. Classes will rotate between the Summit and Portage County Extension offices in Stow and Ravenna. The course fee is $100.

Please contact Robin Christensen with questions or for an application at 330-296-6432 or e-mail at Christensen.227@osu.edu

**Become certified! Certified Crop Adviser (CCA) exam registration now open**

The Certified Crop Adviser (CCA) and Certified Professional Agronomist (CPAg) programs of the American Society of Agronomy are the benchmarks of professionalism. When you become certified, you join more than 13,000 of your peers in the largest, most recognized agriculturally-oriented certification program in North America. This program’s professional standards are widely respected by industry, academia, and government and are referenced in statutes. Get the recognition, opportunities, and respect you deserve. Exam registration is now open for the February 1, 2019 exam.

**2018 Ashtabula County Beef Banquet Tickets**

OSU Extension and the Ashtabula County Cattlemen’s Association will be holding the 29th Ashtabula County Beef Banquet on Saturday, October 27 at the Lenox Community Center beginning at 7:00 p.m. Banquet activities will include a prime rib dinner; business meeting; election of two members to the Ashtabula County Cattlemen’s board of directors; entertainment; door prizes; and fine fellowship.

Tickets for the banquet can be purchased from the Directors of the Cattlemen’s Association. Directors are: Bart Kanicki, Pierpont Township; David Nye, Hartsgrove Township; Zach Ward, Austinburg Township; Dr. Bryan Elliott, Cherry Valley Township and Garret Love, Linesville, PA. Tickets are $25 per person. Call the Ashtabula County Extension office at 440-576-9008 for
more information. Pre-reservations should be made by October 19, 2018. A program flyer can be found at: [http://go.osu.edu/ne-events](http://go.osu.edu/ne-events)

**Upcoming Events**

**Ashtabula County Master Gardener Recognition Banquet**
October 15, 2018

**Ashtabula County Beef Banquet**
October 27, 2018

**Trumbull County Farmer Lunch**
December 4, 2018

**Ashtabula County Dairy Banquet**
March 26, 2019

**Pesticide Applicator Training Dates**
Lake County “Early Bird” – November 8, 2018
Trumbull County – January 16, 2019
Geauga County – February 1, 2019
Ashtabula County – February 28, 2019
Geauga County “Last Chance” – March 28, 2019
Lee Beers
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It’s not the most talked about topic on the farm, but yet it is one of the more important things to think about if you own livestock. Livestock mortality is part of raising livestock, so you need to have a plan in place when the need arises. Composting is a common practice, but there’s some things you should know before you try it. Join us to learn more and become certified in Livestock Mortality Composting.

REGISTRATION INFORMATION. Registration includes Lunch, LMC Book, materials and handouts. Please mail to 490 S. Broad St. Canfield, OH 44406, fax (330-533-2424), or drop off the registration to the OSU Extension Office in Canfield. The program is filled on a “first come, first served basis.”

Name: ____________________________
Address: __________________________
Email: ____________________________  Phone: __________________________
Number Attending ($25): ______________

LOCATION: Mahoning County Extension, 490 S. Broad St., Canfield, OH 44406
CONTACT: 330-533-5538
COST: $25 per person
*Lunch is provided

The Ohio State University
College of Food, Agricultural, and Environmental Sciences

mahoning.osu.edu

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For an accessible format of this publication, visit cfaes.osu.edu/accessibility.
Thank you to our sponsors and Local Annie’s Project Collaborators!

Registration

Name________________________
Address______________________
City__________________________
State_______ Zip Code__________
County _______________________ 
Phone_______________________
Email________________________

Cost: $100 per participant. All materials and dinners are included.

Registration: Pre-registration is required by October 5th, 2018. Make checks payable to OSU Extension, and mail to Portage County Extension office, 705 Oakwood St., Suite 103, Ravenna, OH 44266. If you have any questions, please call 330-296-6432.

Registration limited to 25 women.

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About Annie’s Project

Mission:
Our mission is to empower farm and ranch women to be better business partners through networks and by managing and organizing critical information.

What women have said about Annie’s Project?

“I changed my mind about how to approach communication with my in-laws as business partners.”

“I have gained tools to help improve management of our farm and insight on how to communicate the resources to other members of the farm.”

“I appreciated getting to meet others with a shared interest.”

“I encourage any woman to attend one of these great programs!”

2018 Class Schedule

Classes will be held at various locations throughout Portage and Summit Counties.

Tuesday Oct. 9th, 6:00 pm
• Human Resources Risk
  Introduction, Real Colors®, Family and Business Communication

Tuesday Oct. 16th, 6:00 pm
• Financial Risk
  Mission statement and goal setting, developing a business plan, balance sheets and credit scores

Tuesday Oct. 23rd, 6:00 pm
• Production Risk
  Farm Service Agency and USDA-NRCS, Crop Insurance, Pest and Disease Management

Tuesday Oct. 30th, 6:00 pm
• Market Risk
  Insurance for the farm family, utilizing markets, social media marketing

Tuesday Nov. 6th, 6:00 pm
• Legal Risk
  Value added foods, Liability issues, contracts, leases, CAUV

Tuesday Nov. 13th, 6:00 pm
• Work Life Balance
  Dealing with Difficult People, program evaluation.

Dinner will be provided at all dates. Schedule subject to change.

Who is Annie?

Annie grew up in a small farm community with a goal to marry a farmer, and she did. Annie spent her life learning how to be an involved business partner with her farm husband. Annie’s Project was designed by her daughter to provide risk management education for women involved in all aspects of the agriculture industry. Since 2000, well over 5,000 women have completed the workshop.

What will you gain?

Annie’s Project participants say they find answers, strength, and friendship – and also grow in confidence, business skills and community prestige through this program. Annie’s Project provides education and a support network to enhance business skills of women involved in all aspects of agriculture. Through the program, you will gain insight and knowledge about:

- Your personality temperament and how it affects communication
- The importance of organizational skills and goal setting.
- How to find resources and work with professionals to meet your goals.