Hello Northeast Ohio Counties!

We hope you all enjoyed the Farm Science Review if you were able to attend.

2021 Soybean harvest has officially begun. There are several fields here in Portage County that are harvested. I'm looking forward to seeing many more combines in the field very soon.

Have a great week!

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Minimizing Corn Harvest Losses At The Combine

By: Jason Hartschuh, CCA, Elizabeth Hawkins, Will Hamman
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2021-33/minimizing-corn-harvest-losses-combine

Corn harvest is getting an early start this year with excellent September Corn prices it may make economic sense for your operation to start corn harvest at higher moistures than normal. A few producers have also noted poor stack quality which may also be a reason to begin harvest sooner if your operation has this issue. High moisture corn may require us to look harder at combine settings to minimize harvest loss. Initial settings for different combines can be found in the operator’s manual but here are a few adjustments that can be used to help set all machines.

**Corn Head**
Setting the combine starts at the header with an average of 66% of all machine harvest loss in corn occurring here. Wetter corn often has stronger ear shanks making it harder to snap at the head. When fodder is wet, it is tough and does not flow as well through the head. The major adjustments on the header are deck plate width and gathering chain speed.

**Deck plate settings**
Setting deck plates in variable field conditions caused by poor stands in some areas can be challenging, hydraulic adjust deck plates help a lot but if they are not automatic adjust you will have to adjust them as conditions change throughout the field. Under normal conditions deck plates should be set to 1 ¼ inches in the front and 1/8 inch wider at the back, 1 3/8 inches. While this is a starting point, a better method is to use actual stalks of corn and set the deck plates 1/16 of an inch wider at the front than the third node width of a corn stalk. If you check the best and the worst corn in the field you should be able to get an idea of how to vary deck plates on the go, possibly make marks on the indicator gauge to know where you want to be in each area. The basic goal is to keep deck plates narrow enough that we avoid butt shelling and ears slipping between the plates into the stalk roll but still manage to be wide enough that most of the stalk and leaves get pulled through. When stalks are damp and tough, opening deck plates wider allows the stalk and husk to flow through better. If stalk lodging is present, increasing the deck plate...
taper (more open at the top) will decrease the fodder entering the combine but may increase butt shelling.

**Stalk roll and gathering chain speed**
The other major setting is matching gathering chain and stalk roll speed to combine ground speed, which can be a challenge if you cannot vary header speed from the combine cab. Since the threshing system works best when full, we often increase ground speed in lower yielding areas. However, if the gathering chains/stalk rolls speeds aren’t adjusted to match the change in ground speed, our header loss will increase. The rule of thumb is when ground speed is 4 mph gathering chains should be running at 55 rpm, with the ratio staying constant across all ground speeds. Headers should be ran slower in wet, green corn since the leaves do not strip off and provide cushion to the ear impacting the deck plates. Running heads slightly faster in dry corn allows more plant material to move down through the rolls and cushion the ears as leaves strip off. Chain lugs should be opposite each other. With variable field conditions, making sure your rubber ear savers are present and flexible will prevent whole ears from being lost. In high moisture corn around 30%, grain damage can be caused by the header auger running to much clearance to the auger trough or too tight. The initial setting for most headers is 1-1 ¾ inches between the auger and the trough at the tightest point.

**Threshing**
Increased fodder making it past the header leads to higher threshing loss. If fodder is present, double check the header settings.

**Cob investigation to set rotor and concave**
The first consideration in threshing settings is cob integrity, which is often compromised in stressed and high moisture corn. When setting concaves the goal is to not break cobs into more than 2 pieces crosswise and not break them length wise at all. The initial concave clearance on most machines is 3mm over cob diameter. Setting the concave clearance and rotor/cylinder speed is the first steep to a clean sample and maximum machine capacity. Cobs should be coming out the back of the machine intact but when you break them in half, there should be signs of compression. Rotor or cylinder speed should be set using your book and only increased if concave clearance is set properly and ears are still not threshed. Increasing rotor speed can increase threshing quality without breaking cobs better than tightening concave settings. In wet corn, damaged grain is more often caused by high rotor speed than narrow concave settings, often rotors need slowed down compared to book values.

**Concave selection**
When harvesting high moisture corn, technically anything over 22% according to most manufacturers, different concaves can help with threshing. Changing the
large wire concaves to round bar, either straight or fish bone helps maintain cob integrity and grain quality in wet corn. Extremely wet corn, over 30% moisture, will need round bar concaves to maintain threshing grain quality. Damp fodder also does not get stuck on the round bar concaves as badly as large wire, reducing rotor loss. Another option if you are having issues with fodder plugging concaves is to remove every other wire, creating skip wire concaves. If using skip wire, usually keep large wire in position one. Moving rotor vanes to the slowest position possible will help decrease rotor loss. Wet corn can be damaged much more easily during threshing.

**Cleaning shoe**
The last settings are in the cleaning shoe: fan speed and sieve opening. In corn, especially wet corn, most if not all of the separation and cleaning should take place on the top sieve.

**Sieve setting**
For dry corn, the lower sieve should be closed a little tighter than the top sieve. In wet corn, many manufacturers recommend opening the bottom sieve all the way so that corn easily moves into the clean grain elevator and does not overload the tailings auger. A common starting opening is 5/8 inch, then open until the first cob appears in the grain tank and shut one notch.

**Cleaning fan**
Fan speed should be increased until all red chaff is gone from the grain tank then slowed down 30-50 rpms to keep grain from being blown out the back. Often fan speed settings are opposite of logic, increasing fan speed often decreases losses because chaff floats more allowing grain to fall through the sieves better.

**Checking harvest loss and combine settings**
When assessing combine settings there are four areas of loss to consider. The first is preharvest loss. Each dropped ear per 1/100th of an acre equals about 1 bushel per acre (1/100th of an acre equals 29 feet for 6 row headers or 21.8 feet for 8 row headers). The next source of loss is header loss, then threshing and sieve loss. When counting individual kernels, 2 kernels per square foot equally distributed equals 1 bushel per acre.

To determine which part of the combine to adjust, you need to calculate loss from each area.

**Header loss**
1. Stop the combine and back up the length of your combine
2. Count the number of kernels **in front of** the combine from center of row to center of row (for 30 in. rows count for 4 feet of row length, 10 square feet)
a. Each row of your header should be checked and recorded separately, since only one may be out of adjustment.

3. Also check for additional ears that may have been lost by the header and not pre harvest, remember one ear per 1/100th of an acre equals a bushel.

4. Divide by 20 to get bushels per acre

Separator loss
1. Count the number of kernels behind the combine from center of row to center of row (for 30 in. rows count for 4 feet of row length, 10 square feet)
   a. Each row of your header should be checked and recorded separately, since only one may be out of adjustment

2. Divide by 20 to get bushels per acre

3. Subtract each row individually from header loss to calculate separation loss

Threshing loss
1. Count the number of kernels on partially threshed cobs behind the combine from center of row to center of row (for 30 in. rows count for 4 feet of row length, 10 square feet)
   a. Each row of your header should be checked and recorded separately, since only one may be out of adjustment

2. Divide by 20 to get bushels per acre

3. Subtract each row individually from header loss and separation loss to calculate threshing loss

A study conducted in Iowa found the best set combines have a total loss, pre and post-harvest loss, of 1.5 bushel per acre. Use the table below to calculate losses, remember kernels per 10 sq ft divided buy 20 equal bushels per acre.
## Setting Harvest Loss/Tattletale Monitors

Once your machine is set to expected harvest losses, adjust your loss monitors. Harvest lost monitors work by sensing grain impact on the sensors, grain size and sensitivity can be adjusted to calibrate these loss monitors. Larger grain hits more area on the sensor, increasing loss values. Larger, harder grain also hits with more force. Usually you adjust grain size and then sensitivity. Taking the time to properly set your combine can help minimize harvest losses. With the challenging conditions so far this fall, this extra time may really pay off. Good luck with harvest!

### Table

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C-E-G=I or B-D-F=H
**Wet but well worth it: Farm Science Review 2021**

By: Alayna DeMartini  
Source: [https://cfaes.osu.edu/news/articles/wet-well-worth-it-farm-science-review-2021](https://cfaes.osu.edu/news/articles/wet-well-worth-it-farm-science-review-2021)

A deluge of rain might have shortened this year’s Farm Science Review by a day, but the show still drew a strong crowd, which got its fill on the latest farm techniques and technology.

Farmers have to contend with sudden shifts in the weather. So do outdoor farm shows. Predictions of constant rainfall and powerful wind gusts that toppled some show tents and signs led to the show’s closure on the second day of what’s typically a three-day event. On the other two days, Sept. 21 and Sept. 23, a crowd persevered through wind and intermittent rain for a total turnout of 70,850 people.

“There have been so many events canceled in the last 18 months that people were really happy to be outside at a large event with others,” said Nick Zachrich, manager of FSR.

“The first day I saw people out in the rain without jackets on, and they all had smiles on their faces.”

With so many shortages in raw materials and machinery, the show gave visitors a chance to see what is available to them for their businesses, Zachrich said.

“In my experience working with farmers, they are always looking for the best. Something new. Something that works. Something that increases yields,” said Ohio Gov. Mike DeWine, who attended the first day of FSR along with The Ohio State University President Kristina M. Johnson and Cathann A. Kress, Ohio State vice president for agricultural administration and dean of the College of Food, Agricultural, and Environmental Sciences (CFAES).

“Farmers are always out there looking,” DeWine said, “and Farm Science Review answers that.”

Visitors to this year’s show could learn about topics including the profit potential in carbon markets, reducing energy costs on the farm, weeds that can poison livestock, and one of the timelier issues, farming in the rain and other difficult weather conditions. “We’re having wetter springs and wetter falls and are trending toward drier summers in some parts of the Midwest,” said Aaron Wilson, climate specialist for CFAES, which hosts FSR. “That makes farming much more challenging.”

But, Wilson offered FSR attendees an optimistic outlook on weather in the coming weeks. Temperatures are expected to be above average and drier than normal and October, overall, is typically light on rain, he said.
“It does look like a favorable harvest season. But it’s going to take us a few days to dry out after the last two days’ deluge.”

While his fields in Kenton were drying out Thursday, Austin Heil took a break from farming to be at FSR. He’s been to the show most years from the time he was about 6. “It’s one of the very few opportunities that we get as growers to meet with company representatives. It’s very much a two-way street,” Heil said. “We have to have those connections and those relationships built so we can have clear communication with the industry.”

And it’s helping the next generation in the agricultural industry, he said. “It’s a prime opportunity to find out about jobs in the future,” he said. “And the industry needs to be receptive to our next generation. We are the ones who are going to mentor them.”

Among the new features at this year’s FSR was an immersive theater experience. Watching a movie on a screen all around them, viewers could feel as if they were flying over a field or standing in the middle of a pumpkin patch.

Next year’s FSR, Sept. 20–22, will be sure to offer a new lineup of practical and entertaining offerings.

**Don’t Let Your Guard Down On Fall Armyworm, Just Yet**

By: Andy Michel, Curtis Young, CCA, Aaron Wilson, Kelley Tilmon, Mark Sulc

Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2021-33/don%E2%80%99t-let-your-guard-down-fall-armyworm-just-yet

Last week, we discussed the possibility of a cold snap limiting any future fall armyworm outbreaks. We did have some fairly low temperatures last week—most areas had 40 to 60 straight hours of temperatures below 65°F (this was the temperature when mortality significantly impacted fall armyworm larvae). Today, several OSU extension educators have noticed a very large number of adult moths caught in our expanded trap network. As adults are migratory (often flying with winds in the atmosphere), they may be more cold-tolerant than the larvae, so it may not be
surprising to still see some moths. However, we do not yet know how the cold snap affected the larvae. Fields should continue to be scouted for the presence of fall armyworm larvae at least for this week and likely until we get a significant frost. Check alfalfa, forage, cover crops, winter wheat, and even turf for damage and small larvae. As we get closer to the winter, we want to protect against any further damage that could compromise winter survival and regrowth in the spring.

**Inaugural Director for the Farm Financial Management and Policy Institute (FFMPI) Sought**


The Ohio State University Department of Extension, and the Department of Agricultural, Environmental, and Development Economics (AEDE) together are pleased to announce that they are seeking an innovative and transformative inaugural Director for the new Farm Financial Management and Policy Institute (FFMPI). The FFMPI Director will be appointed as an Associate Professor or Professor in the Department of Extension (75%), with the consideration of a joint teaching and/or applied research appointment in AEDE (not to exceed 25%) or other relevant college at The Ohio State University.

Under the direction of the Associate Dean and Director for Ohio State University Extension (OSUE) in the College of Food, Agricultural, and Environmental Sciences (CFAES), in collaboration with the Chair of AEDE, the FFMPI Director will serve as the administrative head of the institute.

The Director will be responsible for leading, developing, and maintaining robust high-quality research, teaching, and Extension programs to find solutions to the most critical farm management and agricultural policy issues facing Ohio producers; including, but not limited to, issues of marketing, finance, risk management, supply chain, human resources, and agricultural policy.


Or visit: [https://hr.osu.edu/careers/](https://hr.osu.edu/careers/) Requisition# R27629

Northeast Ohio Agriculture

OHIO STATE UNIVERSITY EXTENSION
Ashtabula, Portage and Trumbull Counties

By: Peggy Kirk Hall, Associate Professor, Agricultural & Resource Law
Source: https://farmoffice.osu.edu/blog/fri-09242021-1217pm/ohio-legislation-move-farm-science-review-edition

As it often goes with farming, the weather interfered a bit with Farm Science Review this year. We missed seeing farmers and students from across the state gather for the show on Wednesday. But even wind and rain didn’t stop our Farm Office team, above, from presenting Farm Office Live from the Review on Thursday. I gave an update on Ohio legislation, as Ohio’s legislature is back from its summer break. Here’s a summary of the legislation I discussed at our Farm Science Review program.

Bills passed and soon effective
S.B. 52 – Solar and wind facilities. S.B. 52 passed several months ago and will be effective on October 11, 2021. The new law will allow counties to designate “restricted areas” in a county where wind and solar projects may not locate and creates a county referendum process for a public vote on restricted area designation. The law will also require developers to hold a public meeting in the county where a facility is proposed at least 90 days before applying for project approval with the Ohio Power Siting Board. After the meeting, the county commissioner may choose to prohibit or limit the proposed project. Another provision of the new law appoints 2 local officials from the proposed location to serve on the OPSB board that reviews a project. And importantly for landowners, the new law requires a developer to submit a decommissioning plan to OPSB for approval with the application and to post and regularly update a performance bond for the amount of decommissioning costs. Watch for our new law bulletins on S.B. 52, which we’ll publish soon.

Bills on the move
H.B. 30 – Slow-moving vehicles. The bill passed the House on June 23, 2021, and just received its second hearing before the Senate Transportation on September 22, 2021. It proposes revisions to marking and lighting requirements for animal-drawn vehicles to make the vehicles more visible and reduce roadway accidents.

Northeast Ohio Agriculture

OHIO STATE UNIVERSITY EXTENSION
Ashtabula, Portage and Trumbull Counties
H.B. 95 – Beginning farmers. We’ve been hoping this bill aiding beginning farmers would continue to receive attention. It would allow individuals to be certified as beginning farmers and create income tax credits for owners who sell land and agricultural assets to certified beginning farmers and for beginning farmers who attend approved financial management programs. The bill passed the House on June 28, 2021 and was referred to the Senate Ways and Means Committee on September 8, 2021.

S.B. 47 – Overtime pay. The Senate passed S.B. 47 on September 22, soon after returning from break. It would exempt an employer from paying overtime wages for certain activities, including traveling to the workplace, actions before or after beginning principal work activities, or “de minimus” acts requiring insignificant time. The bill sponsors state that it will bring necessary clarity to overtime pay in the era of more employees working unsupervised from home.

Bills newly introduced

H.B. 397 – Termination of Agricultural Lease. A bill that aims to bring certainty to farmland leases was introduced in the House on August 24, 2021 and referred to the Agriculture and Conservation Committee. The proposal states that where a farm lease agreement does not provide for a termination date or a method for giving notice of termination, a landlord who wants to terminate that agreement must do so in writing by September 1. Unless otherwise agreed in writing, the termination date would be either the date harvest or removal of the crops is complete or December 31, whichever is earlier.

H.B. 385 – Municipal waste discharges to Lake Erie western basin. Municipalities would be prohibited from discharging waste from treatment plants into Lake Erie under a new bill proposed by Rep. Jon Cross (R-Kenton). The bill would require the Ohio EPA to revoke all existing NPDES permits for municipal treatment works or sewerage systems to in the western basin and prohibit any additional permits for that purpose. It would also fine municipalities up to $250,000 per day for knowingly discharging waste into Lake Erie on the first offense and $1,000 per day for subsequent offenses, or to fine $100 million if the discharge amount exceeds 100 million gallons in a 12-month period. Introduced on August 6, 2021, the bill has been referred to the House Agriculture and Conservation Committee.

Catch a replay Farm Office Live from Farm Science Review at https://farmoffice.osu.edu/farmofficelive. Register at that site to join us for the next Farm Office Live on October 13 at 7 p.m. or a repeat on October 15 at 10 a.m., when the Farm Office team will digest the latest news and information on agricultural law and farm management issues that affect Ohio’s farm offices.

Why Are My Maple Trees Losing Their Leaves Early
By: Angie Arnold
Fall is officially here and as our temperatures drop the leaves on our maple trees will soon be full of colors; however, when driving around Portage County it’s easy to spot several maples that have lost their leaves. This is especially true for both Crimson and Norway maples around the county. The Portage County Extension Office have received several calls of homeowners wondering what is wrong with their maple trees. Extension educators here in Northeast Ohio are also reporting similar calls.

So, why are our maple trees prematurely losing their leaves? Maple trees can lose their leaves for several reasons, it could be due to water stress (either too much or too little), pests or diseases, and / or due to a crowded canopy.

Tar Spot caused by the fungus *Rhytisma acerinum*, and Anthracnose, which is caused by several fungal pathogens, are the two main diseases causing premature leaf drop this year. Both diseases favor wet and humid weather and they both spread their spores through wind and splashing rainwater. These pathogens overwinter on infected leaves that are left lying on the ground (anthracnose can also reside in infected twigs and buds).

Homeowners started to notice leaf drop on maple trees by mid-summer. Looking back to our weather pattern over the past three months, we did have a lot of rain this summer even though we were dry at times. The wind and rain, especially the spring and during early summer, were responsible for initial infection on our maple leaves. Signs and symptoms of these pathogens started to become more and more noticeable as we moved through summer.

A new tar spot infection starts out as small yellow spots. These spots then turn into black spots. As the infection progresses, the little black spots grow and coalesce.
Since there are several pathogens that cause anthracnose in maples their symptoms can vary based on the pathogen. Generally, anthracnose symptoms include irregular-shaped lesions, blotches, and angular spots on leaf veins and margins.

Several homeowners called and asked if their maple tree should be cut down because the issue was being spread to surrounding maples. Tar spot and anthracnose can make a tree look very ugly but generally does not pose a threat to the overall health of our maple trees. These diseases are more of a cosmetic issue.

So, what can a homeowner do to help mitigate these diseases in following years? There are a couple practices that can be done to help reduced disease severity. Homeowners should always practice good sanitation; this includes raking up all infected leaves and moving them off site. This control method works best if your neighborhoods practices good sanitation to remove all diseased leaves form the area.

It is also possible to treat these diseases with a fungicide but again this will likely be most effective if local neighborhoods practice good sanitation methods to remove any pathogen inoculum in the area.
Check out two Buckeye Yard & Garden Online articles written about both diseases in Maple trees.

Maple Anthracnose - [https://bygl.osu.edu/node/783](https://bygl.osu.edu/node/783)

Tar Spots of Maple - [https://bygl.osu.edu/node/525](https://bygl.osu.edu/node/525)
November 6th, 2021 - 7:00 p.m.
Expo Building at the Fairgrounds
127 N Elm St, Jefferson, OH 44047

Tickets for the prime rib dinner are $30 per person. The dinner is dine-in only. Ticket includes your 2021 membership into the Ashtabula County Cattlemen’s Association.

This year’s banquet will include live entertainment, ticket drawing prizes, and a great Prime Rib Dinner!

To purchase/reserve banquet tickets, call or text a director:
David Nye 330-559-9846  Bryan Elliot 330-240-5533
Zach Ward 440-666-3793  Garret Love 419-566-6570
Evan Flack 440-221-1668  OSU Extension 440-576-9008

New this year: Tickets can now be purchased through Venmo
Send your name(s) and $30 per ticket to @ashcattlemans or scan QR:
Ticket reservations are required by October 29th, 2021 to ensure adequate meal preparations can be made.