

Auglaize County OSU Extension Weekly Agriculture Newsletter – October 30, 2019

Scouting and Latest Information



Harvesting soybean



Harvesting corn

Hello!! Good morning! I pray you are well. Most received a nice dose of rain for the wheat and cover crops.

If you are a buyer and need some hay or have hay to sell, let me know. Call the OSU Extension office at 419-739-6580.

I have returned. What a trip. What a difference compared to the Brazil trip.

Joke: What happened when the farmer crossed a chili pepper, a shovel and a terrier???

Rain fell only 1 day this past week, but more than the previous week. Rainfall on Saturday, October 26th ranged from 0.64" at Wapakoneta – Fisher and Townline - Lima Roads to 1.5" at about 6 miles northwest of St. Marys. Rainfall for the week was similar to the rainfall for the week. Average rainfall for the week was 1.01". Temperatures were mostly above normal

Tasks for the week included: fall tillage, hauling manure, harvesting corn and soybean, planting cover crops, and tiling fields.

I was unable to drive the county on Sunday due to being in China..

Wheat – unknown with being gone.

Alfalfa – unknown with being gone.

Corn – Nearly all corn should be at the R6 (black layer) stage. Only about 30% of corn has been harvested in the county. I'm hearing yields from 160 to 230 bushels per acre. Last year at this time 67% of the corn was harvested. I left the corn condition the same again this week since we are so close to harvest. The condition last week was 2% excellent, 14% good, 74% fair, 10% poor and 0% very poor.

Soybean – Soybean growth stage should be at R9 (all pods brown). About 88% of soybeans have been harvested in the county. Yields are ranging from 37 to 68 bushels per acre with the average around 57 bushels per acre. Last year 91% of soybeans were harvested at this time so we are nearly the same as last year for harvest progress. I left the crop condition the same this week since there is little impact at this stage. The condition last week was 2% excellent, 20% good, 64% fair, 12% poor, and 2% very poor.

Weeds – Scout wheat fields for weeds. Scout fields for winter annual and biennial weeds.

Insects - There are no insect numbers since I was in China.

There were NO changes to the XtendiMAX, Engenia, FeXapan, or Tavium labels. The Engenia label still has the most approved products compared to XtendiMAX and FeXapan. No new herbicides were added to the XtendiMAX label this past week, which totals 152 herbicides. No new adjuvant was added the XtendiMAX label, now totaling 344. No new nozzles were added to the XtendiMAX label, which totals 26. No new Drift Reducing Adjuvant (DRA's) was added to the XtendiMAX label this week, making a total of 58 DRA's. No new nutritional products were removed from the XtendiMAX label which totals 203. No new products were added to the Insecticides, Fungicides, Plant Growth Regulator and Other group on the XtendiMAX label which totals 61. No new adjuvants were added to the Engenia label, which now totals 482. No new herbicides were added to the Engenia label, which brings the total herbicide count to 144. No new products were added to the Other category (growth regulators, and fungicides) on the Engenia label, which totals 29. No new insecticide were added to the label which currently has 28 products. No new Drift Reducing Adjuvants (DRA's) were added to the Engenia label, which totals 105. No new nozzles were added to the Engenia label, which totals 29. No new nutritional products were added to the Engenia label which totals 177 products. No new product was added to the pH Modifier group of the Engenia label which totals 16 products. The FeXapan label has many of same the products and nozzles as the XtendiMAX label, but NOT all are the same, so check the FeXapan label carefully. There are 120 herbicides, 49 DRA's, 312 adjuvants, 151 nutritionals, 44 insecticides, fungicides, and others, and 26 nozzles that have been approved for

the FeXapan label. There are 13 herbicides, 66 DRA's, 181 adjuvants, and 41 nozzles approved for use with Tavium.

Answer to joke: He got a hot-diggity-dog!

Storing Corn



Now that corn harvest is about 30% completed it is time to manage the corn in the bin. Use integrated pest management practices to protect the corn from mold and insect activity. Once the corn is in the bin all that can be done to manage the corn is to control temperature, manage the depth of the grain in the bin to allow for good airflow, and to monitor moisture, mold, and insect populations. Proper management of the grain can prevent the use of insecticides to control insects.

Corn moisture should be held at 15%. Much of the corn currently being harvested is coming off at 18 to 20% moisture and people are putting it in the bin without drying and planning to just use air to dry it. Problems with storage can occur when corn has not been dried enough or not dried uniformly enough and high levels of trash and fine material are present. Therefore it is important to check the top layer in all bins about one week after drying and cooling to make sure no moisture build up has occurred. Elevated temperatures and/or moisture can cause mold and insect growth even in cool weather. The growth of mold and insects will produce heat causing further deterioration of the grain.

Controlling temperature and moisture is the most cost-effective way to prevent spoilage problems. The temperature of the corn should match the average air temperature. It is better to have the grain cooler than warmer. Mold and insect activity is held in check when grain temperatures are below 55° F and relative humidity is below 65%. To keep the molds from growing and producing mycotoxins the grain should be

stored at 36 to 44 degrees F. Clean corn dried to 15% should store for at least 6 to 12 months if cooled properly.

Even properly dried corn can spoil if corn is not cooled thoroughly. Uneven grain temperatures can lead to moisture migration to the top center of the bin, promoting mold and insect growth. Moisture migration can be prevented when grain temperature is equalized throughout the bin with aeration. The length of aeration time to remove the moisture depends upon the size of the fan relative to the amount of grain.

If possible remove the top cone of corn occupying the upper portion of the bin. Removing the corn will reduce the risk of spoilage as most storage problems occur in the upper center of the corn pile where air flow is most difficult. Removing the top cone will also remove fines leading to better air flow.

Stored grain should be inspected in the fall and spring every one to two weeks and every two to four weeks during the winter. Please consider all safety procedures before entering the bin, especially if grain has been removed. Before handling and moving grain with molds be sure to wear a dust mask, goggles, and gloves! The mycotoxins are dangerous to human health.

C.O.R.N. Newsletter

<https://agcrops.osu.edu/newsletter/corn-newsletter>

Field Drying and Harvest Losses in Corn

According to the USDA/NASS (<https://www.nass.usda.gov/>) as of Sunday, Oct. 27th, 37 percent of Ohio's corn was harvested for grain, compared to 62 percent for last year and 56 percent for the five-year average. Late corn plantings and sporadic rain in some areas are not helping with field drying. Some growers are delaying harvest until grain moisture drops further. However, these delays increase the likelihood that stalk rots present in many fields will lead to stalk lodging problems (Fig. 1). Leaving corn to dry in the field exposes a crop to unfavorable weather conditions, as well as wildlife damage. A crop with weak plant integrity is more vulnerable to yield losses from stalk lodging and ear drop when weathering conditions occur. Additional losses may occur when ear rots reduce grain quality and can lead to significant dockage when the grain is marketed. Some ear rots produce mycotoxins, which may cause major health problems if fed to livestock.



Several years ago we conducted a study that evaluated effects of four plant populations (24,000, 30,000, 36,000, and 42,000 plants/A) and three harvest dates (early-mid Oct., Nov. and Dec.) on the agronomic performance of four hybrids differing in maturity and stalk quality. The study was conducted at three locations in NW, NE, and SW Ohio over a three-year period for a total of eight experiments. Results of this study provide some insight on yield losses and changes in grain moisture and stalk quality associated with delaying harvest. The following lists some of the major findings from this research.

Key Findings:

- Results showed that nearly 90% of the yield loss associated with delayed corn harvest occurred when delays extended beyond mid-November.
- Grain moisture decreased nearly 6% between harvest dates in Oct. and Nov. Delaying harvest after early to mid Nov. achieved almost no additional grain drying.
- Higher plant populations resulted in increased grain yields when harvest occurred in early to mid-October. Only when harvest was delayed until mid-November or later did yields decline at plant populations above 30,000/acre.
- Hybrids with lower stalk strength ratings exhibited greater stalk rot, lodging and yield loss when harvest was delayed. Early harvest of these hybrids eliminated this effect.
- The greatest increase in stalk rot incidence came between harvest dates in October and November. In contrast, stalk lodging increased most after early-mid November.
- Harvest delays had little or no effect on grain quality characteristics such as oil, protein, starch, and kernel breakage.

In this study, yields averaged across experiments, populations and hybrids, decreased about 13% between the Oct. and Dec. harvest dates. Most of the yield loss, about 11%, occurred after the early-mid Nov. harvest date. In three of the eight experiments, yield losses between Oct. and Dec. harvest dates ranged from 21 to 24%. In the other five experiments, yield losses ranged from 5 to 12%.

Grain moisture content showed a decrease from the Oct. to Nov. harvest dates but little or no change beyond the Nov. harvest dates. Grain moisture, averaged across experiments, hybrid, and plant population, decreased 6.3% points between the Oct. and Dec. harvest dates, with most of the decrease occurring between the Oct. and Nov. harvest dates (5.8 % points); only a 0.5 % point decrease occurred after early-mid Nov. Population effects on grain moisture content were not consistent. Differences in grain moisture were evident among hybrids on the first harvest date in early-mid Oct. but were generally negligible on the later dates.

A Field Loss Calculator for Field Drying Corn

Agronomists at the University of Wisconsin have developed a “Field Loss Calculator” Excel spreadsheet available at: <http://corn.agronomy.wisc.edu/Season/DSS.aspx> that allows producers to calculate the costs of harvesting today versus allowing the crop to stand in the field and harvesting later. The spreadsheet accounts for higher drying costs versus grain losses during field drying. It allows the user to account for elevator discounts and grain shrink.

Author(s):

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2019 Ohio Soybean Performance Trial- All Yield Results Available

All yield results of the 2019 Ohio Soybean Performance Trials are available online here: <https://stepupsoy.osu.edu/news/2019-ohio-soybean-performance-trial-all-yield-results-available>
The report will be updated with seed size, protein, and oil results in the upcoming weeks.

Author(s):

[Laura Lindsey](#), [Wayde Looker](#)

Assessing the 2019 Production Year

The 2019 production year has presented many challenges. Ohio State University Extension wants to be responsive to needs of the agricultural community. A short survey aimed at farmers to identify both short- and long-term outreach and research needs of Ohio crop and livestock/forage producers based on the 2019 farm crisis year has been developed. Questions relate to crop production, livestock forage needs, emergency forage success, economic and human stress concerns. Since challenges and concerns varied across the state, this survey is designed to assess needs on a county, regional and statewide basis. The study will be used to determine Extension programming and future research needs.

Please consider sharing your experiences at <https://go.osu.edu/ag2019>.

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Other Articles

Game changer: New chemical keeps plants plump

Date: October 25, 2019

Source: University of California - Riverside

Source: <https://www.sciencedaily.com/releases/2019/10/191025075842.htm>

A UC Riverside-led team has created a chemical to help plants hold onto water, which could stem the tide of massive annual crop losses from drought and help farmers grow food despite a changing climate.

"Drought is the No. 1 cause, closely tied with flooding, of annual crop failures worldwide," said Sean Cutler, a plant cell biology professor at UC Riverside, who led the research. "This chemical is an exciting new tool that could help farmers better manage crop performance when water levels are low."

Details of the team's work on the newer, more effective anti-water-loss chemical is described in a paper published today in *Science*. This chemical, Opabactin, is also known as "OP," which is gamer slang for "overpowered," referring to the best character or weapon in a game.

"The name is also a shoutout to my 10-year-old at home," Cutler said.

An earlier version of OP developed by Cutler's team in 2013, called Quinabactin, was the first of its kind. It mimics abscisic acid, or ABA, the natural hormone produced by plants in response to drought stress. ABA slows a plant's growth, so it doesn't consume more water than is available and doesn't wilt.

"Scientists have known for a long time that spraying plants with ABA can improve their drought tolerance," Cutler said. "However, it is too unstable and expensive to be useful to most farmers."

Quinabactin seemed to be a viable substitute for the natural hormone ABA, and companies have used it as the basis of much additional research, filing more than a dozen patents based on it. However, Quinabactin did not work well for some important plants, such as wheat, the world's most widely grown staple crop.

When ABA binds to a hormone receptor molecule in a plant cell, it forms two tight bonds, like hands grabbing onto handles. Quinabactin only grabs onto one of these handles.

Cutler, along with other collaborators from UCR and the Medical College of Wisconsin, searched millions of different hormone-mimicking molecules that would grab onto both handles. This searching, combined with some chemical engineering, resulted in OP.

OP grabs both handles and is 10-times stronger than ABA, which makes it a "super hormone." And it works fast. Within hours, Cutler's team found a measurable improvement in the amount of water plants released.

Because OP works so quickly, it could give growers more flexibility around how they deal with drought.

"One thing we can do that plants can't is predict the near future with reasonable accuracy," Cutler said. "Two weeks out, if we think there's a reasonable chance of drought, we have enough time to make decisions -- like applying OP -- that can improve crop yields."

Initial funding for this project was provided by Syngenta, an agrochemical company, and the National Science Foundation.

Cutler's team is now trying to "nerf" their discovery.

"That's gamer speak for when a weapon's power is reduced," Cutler said.

Whereas OP slows growth, the team now wants to find a molecule that will accelerate it. Such a molecule could be useful in controlled environments and indoor greenhouses where rainfall isn't as big a factor.

"There's times when you want to speed up growth and times when you want to slow it down," Cutler said. "Our research is all about managing both of those needs."

Ohio Ag Law Blog--The Ag Law Harvest

Source: <https://farmoffice.osu.edu/blog/wed-10232019-1108am/ohio-ag-law-blog-ag-law-harvest>

By: Ellen Essman, , Senior Research Associate , Senior Research Associate Wednesday, October 23rd, 2019

Written by: Ellen Essman and Peggy Hall

October is almost over, and while farmers have thankfully been busy with harvest, we've been busy harvesting the world of ag law. From meat labeling to RFS rules to backyard chickens and H-2A labor certification, here's our latest gathering of agricultural law news you may want to know:

Federal judge upholds Missouri's meat labeling law—for now. Missouri passed a [law](#) in 2018, which among other things, prohibited representing a product as “meat” if it is not derived from livestock or poultry. As you can imagine, with the recent popularity of plant-based meat products, this law is controversial, and eventually led to a lawsuit. However, U.S. District Judge Fernando Gaitan Jr. decided *not* issue a preliminary injunction that would stop the Missouri Department of Agriculture from carrying out the labeling law. He reasoned that since companies like Tofurky, who brought the suit, label their products as plant-based or lab-grown, the law does not harm them. In other words, since Tofurky and other companies are not violating the law, it doesn't make sense to stop enforcement on their account. Tofurky, the American Civil Liberties Union, and the good Food Institute have appealed Judge Gaitan's decision, asserting that Missouri's law infringes upon their right to free speech. This means that the Missouri law can be enforced at the moment, but the decision is not final, as more litigation is yet to come.

Oregon goes for cage-free egg law. In August, Oregon passed a new [law](#) that would require egg-laying chickens, turkeys, ducks, geese, or guinea fowl to be kept in a “cage-free housing system.” This law will apply to all commercial farms with more than 3,000 laying hens. A cage-free housing system must have both indoor and outdoor areas, allow the hens to roam unrestricted, and must have enrichments such as scratch areas, perches, nest boxes and dust bathing areas. As of January 1, 2024, all eggs sold in the state of Oregon will have to follow these requirements for hens. The law does allow hens to be confined in certain situations, like for veterinary purposes or when they are part of a state or county fair exhibition.

City can ban backyard chickens, says court. The Court of Appeals for Ohio's Seventh District upheld the city of Columbiana's ordinances, which ban keeping chickens in a residential district, finding that they were both applicable to the appellant and constitutional. In this case, the appellant was a landowner in Columbiana who lived in an area zoned residential and kept hens in a chicken coop on his property. The appellant was eventually informed that keeping his hens was in violation of the city code. A lawsuit resulted when the landowner would not remove his chickens, and the trial court found for the city. The landowner appealed the trial court's decision, arguing that he did not violate the city ordinances as they were written, and that the city applied the ordinances in an arbitrary and unreasonable way because his chickens did not constitute a nuisance. Although keeping chickens is not explicitly outlawed in Columbiana, the Court of Appeals for Ohio's Seventh District found that reading the city's zoning ordinances all together, the “prohibition on agricultural uses within residential districts can be inferred.” Furthermore, the court pointed out that the city's code did not ban chickens in the whole city, but instead limited them to agricultural districts, and that the prohibition in residential areas was meant to ensure public health. For these reasons, the court found that the ordinances were not arbitrarily and unreasonably applied to the appellant, and as a result, the ordinances are constitutional. To read the decision in its entirety, click [here](#).

EPA proposes controversial Renewable Fuel Standard rule. On October 15, EPA released a [notice](#) of proposed rulemaking, asking for more public comment on the proposed volumes of biofuels to be required under the Renewable Fuel Standard (RFS) program in 2020. The [RFS program](#) “requires a certain volume of renewable fuel to replace the quantity of petroleum-based transportation fuel” and other fuels. Renewable fuels include biofuels made from crops like corn, soybeans, and sugarcane. In recent years, the demand for biofuels has dropped as the Trump administration waived required volumes for certain oil refiners. The administration promised a fix to this in early October, but many agricultural and biofuels groups feel that EPA’s October 15 proposed rule told a different story. Many of these groups are upset by the proposed blending rules, claiming that way the EPA proposes calculate the biofuel volumes would cause the volumes to fall far below what the groups were originally promised by the administration. This ultimately means the demand for biofuels would be less. On the other hand, the EPA claims that biofuels groups are misreading the rule, and that the calculation will in fact keep biofuel volumes at the level the administration originally promised. The EPA plans to hold a public hearing on October 30, followed by a comment period that ends November 29, 2019. Hopefully the hearing and comments will help to sort out the disagreement. More information is available [here](#), and a preliminary version of the rule is available [here](#).

New H-2A labor certification rule is in effect. The U.S. Department of Labor has finalized one of many proposed changes to the H-2A temporary agricultural labor rules. A new rule addressing labor certification for H-2A became effective on October 21, 2019. The new rule aims to modernize the labor market test for H-2A labor certification, which determines whether qualified American workers are available to fill temporary agricultural positions and if not, allows an employer to seek temporary migrant workers. An employer may advertise their H-2A job opportunities on a new version of the Department’s website, SeasonalJobs.dol.gov, now mobile-friendly, centralized and linked to third-party job-search websites. State Workforce Agencies will also promote awareness of H-2A jobs. Employers will no longer have to advertise a job in a print newspaper of general circulation in the area of intended employment. For the final rule, visit [this link](#).

And more rules: National Organic Program rule proposals. The USDA has also made two proposals regarding organic production rules. First is a [proposed rule](#) to amend the National List of Allowed and Prohibited Substances for organic crops and handling. The rule would allow blood meal made with sodium citrate to be used as a soil amendment, prohibit the use of natamycin in organic crops, and allow tamarind seed gum to be used as a non-organic ingredient in organic handling if an organic form is not commercially available. That comment period closes on December 17, 2019. Also up for consideration is USDA’s [request to extend](#) the National Organic Program’s information collection reporting and recordkeeping requirements, which are due to expire on January 31, 2020. The USDA’s Agricultural Marketing Service specifically invites comments by December 16, 2019 on: (1) whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information will have practical utility; (2) the accuracy of the agency's estimate of the burden

of the proposed collection of information including the validity of the methodology and assumptions used; (3) ways to enhance the quality, utility, and clarity of the information to be collected; and (4) ways to minimize the burden of the collection of information on those who are to respond, including the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

Great Lakes restoration gets a boost from EPA. On October 22, 2019, the EPA announced a new action plan under the Great Lakes Restoration Initiative (GLRI). The plan will be carried out by federal agencies and their partners through fiscal year 2024. Past GLRI action plans have removed environmental impairments on the lakes and prevented one million pounds of phosphorus from finding its way into the lakes. The plans are carried out by awarding federal grant money to state and local groups throughout the Great Lakes, who use the money to carry out lake and habitat restoration projects. Overall, the new plan's goals are to remove toxic substances from the lakes, improve and delist Areas of Concern in the lakes, control invasive species and prevent new invasive species from entering the lakes, reduce nutrients running off from agriculture and stormwater, protect and restore habitats, and to provide education about the Great Lakes ecosystem. You can read EPA's news release on the new plan [here](#), and see the actual plan [here](#). We plan to take a closer look at the plan and determine what it means for Ohio agriculture, so watch for future updates!

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