

Auglaize County OSU Extension Weekly Agriculture Newsletter – December 31, 2019

Scouting and Latest Information

Hello!! Good morning! Happy New Year!!! I pray you are well.

If you are a buyer or seller of hay, let me know and I can keep a list to share with others. Call the OSU Extension office at 419-739-6580.

Joke: What do you call cattle with a sense of humor??

Rain fell three days since the last newsletter. Rainfall for Saturday, December 28th, ranged from 0.18” at about 2 miles southeast of Fryburg to 0.4” at about 1 mile north of St. Marys. Rainfall on Sunday ranged from 0.45” near Bloody Bridge to 1.12” at about 1 mile northeast of Fryburg. Rainfall on Monday ranged from 0.04” at my house south of St. Marys and at Wapakoneta – Fisher and Townline – Lima Roads to 0.36” near Bloody Bridge. Rainfall for the week ranged from 1.01” near Bloody Bridge to 1.52” at about 1 mile northeast of Fryburg. The average liquid precipitation since the last newsletter was 1.22”. The average high temperature should now be around 35 degrees F, a 2-degree drop from last newsletter. Temperatures were way above normal for most days with some greater than 25 degrees F above normal, but the first two days were below normal.

Wheat – I rate the wheat the same as last week which was 7% excellent, 29% good, 69% fair, and 0% for poor and very poor.

Alfalfa – Nothing to report.

Corn – I think all corn has now been harvested in the county.

Soybean – Nothing to report.

Weeds – Nothing to report

Insects - No report.

There WERE changes to the XtendiMAX and Engenia labels. There were NO changes to the FeXapan and Tavium labels. The Engenia label still has the most approved products compared to XtendiMAX and FeXapan. Forty-nine new herbicides were added to the XtendiMAX label this past week, which totals 201 herbicides. Forty-two new adjuvants was added the XtendiMAX label, now totaling 386. No new nozzles were added to the XtendiMAX label, which totals 36. Six new Drift Reducing Adjuvant (DRA's) was added to the XtendiMAX label this week, making a total of 64 DRA's. Twelve new nutritional products were removed from the XtendiMAX label which totals 215. Thirty-six new products were added to the Insecticides, Fungicides, Plant Growth Regulator and Other group on the XtendiMAX label which totals 97. Two new adjuvants were added to the Engenia label, which now totals 500. No new herbicides were added to the Engenia label, which brings the total herbicide count to 146. 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. Three new Drift Reducing Adjuvants (DRA's) were added to the Engenia label, which totals 108. 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, 185 adjuvants, and 41 nozzles approved for use with Tavium.

Upcoming Meetings

Get signed up for these important meetings!! Time is running for some of these meetings

1. **Ag Outlook.** This meeting will be held **January 8, 2020** from 1:00 PM to 4:30 PM and a second session from 5:45 PM to 9:15 PM at the Wapakoneta Eagles (25 East Auglaize St., Wapakoneta). Topics discussed

will be Farm Bill Nuts and Bolts, Farm Bill, Farming Outlook, and Grain Market Outlook. Register before 12-31. A meal will be provided for free between the two sessions. See attached flyer for more information.

- 2. Small Grains Management Workshop.** This meeting will be held **January 9, 2020** from 9:00 AM to 2:30 PM in the downstairs room of the Auglaize County Administration Building (209 S. Blackhoof St.). This will be the best small grains meeting you have ever been to so get signed up. See the flyer for additional information.
- 3. Plant and Soil Nutrient Management.** This meeting will be held **January 22, 2020** from 8:30 to 4:00 PM. The location will be the Eagles in Wapakoneta. This meeting will talk about all aspects of nutrient management.
- 4. Auglaize County Agronomy Day.** This meeting will be held on January 27 from 9:00 AM to 3:00 PM at St. Joseph Parish Center. Kelly Tilmon will be there to talk about insects and you will be able to get recertification credits.

Answer to joke: Laughing Stock

What is Frogeye Leaf Spot?



Frogeye Leaf Spot was less prevalent in soybeans in Auglaize County in 2019 than in 2018. It has been present in the county from time to time since 2005.

The pathogen causing the disease is a fungus called *Cercospora sojina*. The pathogen is very diverse genetically and infects soybean. There are between 12 and 20 different races of the pathogen. A race are genetically similar individuals of the pathogen having the same combination of genes making them able to cause the disease on a particular variety of soybean.

Symptoms usually just appear on leaves, but can appear on pods and stems in years when the disease is severe. Symptoms usually appear shortly after flowering. The youngest leaves are the most susceptible to the pathogen. Lesions (spots) appear as small gray spots with reddish-brown to purple borders. On the underside of the leaf, the lesion appears brown to gray with tiny dark “hairs”. The hairs are the long conidia or infective spores of the fungus. Severe leaf drop can occur when the disease is severe. Pods and stems can become infected if frequent rainfall and high humidity persists. The lesions (spots) on pods are reddish brown, shrunken, and circular to elongate in shape. Older lesions on pods become brown to dark gray, usually with a narrow, dark brown border.

The disease now over winters in our area on soybean residue and on infected seed. Spores are also carried by wind and rain from other areas. Rain splashes spores from soybean residue up onto young leaves in the canopy. The pathogen prefers warm (77 degrees F to 86 degrees F) and wet (rain, heavy dew or >90% relative humidity) conditions to cause infection and disease development. Symptoms develop in 7 to 12 days after infection, depending upon temperature. The disease will complete multiple life cycles during the season, so the disease will get worse on individual plants and throughout the field.

If frogeye leaf spot shows up prior to or at flowering then substantial amounts of the disease can develop and will have a negative impact upon yield. Frogeye leaf spot can reduce yields by 10 to 60%. If the disease is first found at or after R4 (full pods on one of upper four nodes) to R5 (beginning seed (1/8 inch seed) in one of upper four nodes) then very little impact occurs to the plant.

One of the biggest problems with frogeye leaf spot is that the pathogen is likely resistant to strobilurin fungicides such as Headline, Quadris, Aftershock, Evito, and Aproach. The resistant pathogen was first reported in Auglaize County in 2016.

The best way to manage frogeye leaf spot is to plant varieties resistant to the pathogen. Purchase varieties with the Race (RCS) 3 gene. The next method to managing frogeye leaf spot is to completely bury the soybean residue and/or rotate to corn, wheat, or alfalfa, which are non-host crops to the disease. Planting continuous soybeans will only increase the problem. The only other management strategy is to apply fungicides. For fungicides to be effective, timely scouting is required. Fungicides should be applied when one or two lesions (spots) can be found in every 25 foot of row when soybeans are at the R2 (full flower)

growth stage. Effective single active ingredient fungicides include Topguard, Proline, Domark, and Topsin-M. Remember that strobilurin fungicides are no longer recommended for managing frogeye leaf spot due to the likelihood of resistance.

Have a successful season managing frogeye leaf spot.

C.O.R.N. Newsletter

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

No news this week

Other Articles

Comparing heirloom and modern wheat effects on gut health

Date: December 18, 2019

Source: American Chemical Society

Source: <https://www.sciencedaily.com/releases/2019/12/191218153433.htm>

Amid concerns about gluten sensitivity, increasing numbers of people are avoiding wheat. Most have not been diagnosed with a wheat-related medical condition, yet they seem to feel better when they don't eat gluten-containing foods. A possible explanation is that modern varieties of wheat are responsible. But now, researchers reporting in *ACS' Journal of Agricultural and Food Chemistry* have shown that a popular modern variety does not impair gastrointestinal health in mice compared with heirloom wheat.

When people with celiac disease or other forms of gluten sensitivity eat wheat, they experience gastrointestinal distress and inflammation. However, little is known about whether eating wheat could cause gastrointestinal problems in healthy people. Some have speculated that selective breeding of wheat might have altered the grain in a way that negatively affects gut health. From the late 1800s to 1940s, a variety known as "Turkey" was the

major wheat grown in the U.S. Then, selective breeding created new types with higher yields and resistance to pests and pathogens. The "Gallagher" variety, introduced in 2012, is now one of the most widely grown bread wheats in the U.S. Great Plains region. Brett Carver, Brenda Smith and colleagues wondered whether eating the modern Gallagher variety would increase gastrointestinal problems in healthy mice relative to a blend of two heirloom wheats, Turkey and "Kharkof."

To simulate a Western-type diet, which has itself been linked to chronic inflammation and disease, the researchers fed mice chow that was high in sugar and fat. Then, they added either heirloom or modern wheat to the food, at a level that resembled normal-to-high human consumption. Signs of gut inflammation were similar between mice fed the heirloom and modern varieties, although heirloom wheat slightly reduced levels of the pro-inflammatory cytokine interleukin-17. However, modern Gallagher wheat improved the structure of villi -- fingerlike projections that absorb nutrients -- in a specific region of the small intestine compared with heirloom wheat. These findings indicate that a modern wheat variety did not compromise gut barrier function or contribute to inflammation in healthy mice compared with its heirloom predecessors, the researchers say.

Mowing urban lawns less intensely increases biodiversity, saves money and reduces pests

Date: December 19, 2019

Source: British Ecological Society

Source: <https://www.sciencedaily.com/releases/2019/12/191219074744.htm>

The researchers combined data across North America and Europe using a meta-analysis, a way of aggregating results from multiple studies to increase statistical strength. They found strong evidence that increased mowing intensity of urban lawns -- which included parks, roundabouts and road verges -- had negative ecological effects, particularly on invertebrate and plant diversity. Pest species, on the other hand, benefitted from intense lawn management.

"Even a modest reduction in lawn mowing frequency can bring a host of environmental benefits: increased pollinators, increased plant diversity and reduced greenhouse gas emissions. At the same time, a longer, healthier lawn makes it more resistant to pests, weeds, and drought events." said Dr Chris Watson, lead author of the study.

The issue with regular lawn mowing is that it favours grasses, which grow from that base of the plant, and low growing species like dandelion and clover. Other species that have their growing tips or flowering stems regularly removed by mowing can't compete. Allowing plant diversity in urban lawns to increase has the knock-on effect of increasing the diversity of other organisms such as pollinators and herbivores.

The effect of intense lawn mowing on pest species was the least studied aspect of the research the authors looked at, featuring in seven datasets across three studies in Eastern Canada. However, in all of these studies they found that intensive lawn mowing resulted in an increase in the abundance of weeds and lawn pests.

"These findings support a lot of research done by the turfgrass industry that shows that the more disturbance a lawn gets, the higher the likelihood of pest and weed invasion." said Dr Chris Watson.

Common ragweed, which featured prominently in the studies, is one of the most allergenic plant species found in North America and Europe. Previous studies have estimated the cost of ragweed-based allergies to be CAD\$155 million per year in Quebec and €133 million a year in Austria and Bavaria. Having a more rapid reproduction than other species, ragweed is able to colonise disturbances caused by intense mowing.

Chris Watson explained that "Certain lawn invaders, such as ragweed, can be decreased simply through reducing lawn mowing frequency. This will decrease the pollen load in the air and reduce the severity of hayfever symptoms, number of people affected, and medical costs."

To understand the economic costs of intensely mowed lawns the researchers used a case study of the city of Trois-Rivières, Quebec, Canada. By using data on mowing contractor costs they estimated a 36% reduction of public maintenance costs when mowing frequency was reduced from 15 to 10 times per year in high use lawn areas and 3 times to once a year in low use areas.

"If citizens would like to see urban greenspace improvement, they have the ability to influence how governments go about this -- especially if it does not cost more money!" said Dr Chris Watson. "Likewise, complaints about long, messy lawns could quickly reduce the appetite of local government to trial these approaches -- so it's important to have some community information and education as well. We need to shake the outdated social stigma that comes from having a lawn a few centimetres longer than your neighbour's"

The potential for long grass to harbour ticks and rodents is a common concern. However, Dr Chris Watson said there is little evidence to support this. "The presence of ticks are more strongly related to host populations, like deer, than type of vegetation. With respect to small mammals, some species prefer longer grass' whereas others do not. The next phase of our research aims to explore these negative perceptions in more detail."

For their meta-analysis the researchers identified studies in an urban setting that measured mowing intensity (either height or frequency) as an experimental factor. On top of the 14 studies they identified, which took place between 2004 and 2019, they also included three previously unpublished studies from their research group. A separate case study was used to estimate the economic costs of high intensity lawn management.

On the reasons for conducting a meta-analysis, Chris Watson explained that: "Often, ecological studies are done over only one or two years and can be heavily influenced by the weather conditions during the period of study. A meta-analysis looks beyond individual years or locations to provide a broad overview of a research subject."

The number of data sources from previous studies available to the authors ultimately limited the analysis. "In this case, all studies came from North America and Europe so there is a big opportunity in seeing if the trends we found are confirmed elsewhere. Likewise, all the studies were used to explore pest species were from Eastern Canada, so it is important to do more research in other places before applying these results generally." said Dr Chris Watson.

When looking at the economic impacts of intense lawn management the authors were only able to incorporate contractor costs which included worker's salaries, equipment operation and fuel. They were unable to include the costs of pesticides and fertiliser or factor in indirect economic benefits from improved ecosystem services like pollination.

The researchers are now looking expand the research and begin applying the findings to improve lawns. "We plan to conduct some larger trials in partnership with the City of Trois-Rivieres that expand the suite of pests and weeks that mowing may impact. At the same time we would like to investigate some of the negative perceptions of less-managed lawns and start working on some community outreach to promote low-intensity mowing for healthy lawns." said Dr Chris Watson.

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