Hello Northeast Ohio Counties!

After a cold and rainy week, it looks like the weather is finally going to warm-up a little this week!

Have you been wondering what's been going on with lumber prices? Check out the article in today's issue that talks about lumber prices?

Have a great week!

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Growing Degree Days vs. Calendar Days – How Long Will Emergence Take?

By: Alexander Lindsey and Greg LaBarge, CPAg/CCA
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/13-2021/growing-degree-days-vs-calendar-days---how-long-will-emergence

When we examine crop emergence post-planting, two factors can impact speed of emergence – soil moisture content and soil temperatures. If soil temperatures are lower, it can take more calendar days for emergence to occur meaning rowing corn may take a little more time. In the Ohio Agronomy Guide, emergence should begin to occur after approximately 100 air GDDs.

A difference in 10 degrees in temperature can dramatically affect how quickly crops will emerge. For example, at a temperature of 60 degrees F heat unit accumulation per day would be 60 F – 50 (base temperature for growth) = 10 GDDs. If it takes 100 GDDs to start to see emergence, at this rate it would take 10 calendar days to see the crop start to emerge. If temperatures are 70 degrees F, heat unit accumulation per day would be 70 F – 50 = 20 GDDs. This would shorten the emergence window to 5 calendar days instead, resulting in more rapid emergence from planting.

In recent work from Nemergut et al. (2021), researchers from OSU observed emergence starting at 110 to 120 soil accumulated GDDs (base of 50 degrees F) for corn, which equated to first emergence observed in 4 or 5 days after planting. Some of the difference in calendar date for emergence (though GDD accumulation was similar) was because planting depth was changed, and the 1” planting accumulated GDDs faster than the 2” and 3” planting depths. These studies though were planted in May or early June (2019 wet spring delayed planting), and

Figure 1 Emerged corn on May 6, 202 planted April 19 near London, OH.

Northeast Ohio Agriculture
daily accumulated GDDs was higher than we might expect if planted in late April. Soil accumulated GDDs have been discussed above, and these could vary slightly compared to air accumulated GDDs (calculated using air temperatures). In the work referenced above, accumulated air GDDs in the first four days post-planting were 106-118 GDDs, slightly less than the soil accumulated GDDs.

If you want to predicate emergence on your farm, the GDD calculator found at https://mrcc.illinois.edu/U2U/gdd/ is a useful tool. It is a two-step process, first find your location on the map, then enter your planting date. The graph will display accumulated GDD’s for your location. Example output in Figure 2 shows GDD accumulation from an April 19, 2021 planting date near London, OH in Madison County. By May 6 the accumulated GDD was 138 and the emerging corn is shown in Figure 1. The GDD calculator can be used to predict growth stage throughout the growing season. This is a handy to time when scouting and management decisions should be made.

Figure 2 GDD accumulation from April 19 to May 6, 2021 near London, OH.
As the days turn cooler, don’t be surprised if the crops don’t pop out of the ground quickly due to lower soil temperatures. If emergence is still not observed after two weeks, it may be worth checking the field to see if other issues may be affecting emergence.

References:


**Numbers of Black Cutworm and True Armyworm Moths Increasing but Remain Relatively Low**

By: Andy Michel, Kelley Tilmon, Curtis Young, CCA, Clifton Martin, CCA, Lee Beers, CCA, Beth Scheckelhoff, Eric Richer, CCA, Cindy Wallace

Source: https://agcrops.osu.edu/newsletter/corn-newsletter/13-2021/numbers-black-cutworm-and-true-armyworm-moths-increasing-remain

Over the past few weeks, we have caught an increasing number of both black cutworm and true armyworm moths in our traps (see here). While our weekly total may be high (119 for true armyworm, and 111 for black cutworm) the numbers are much lower when we look at the number of moths caught per trap and per day. Most of our traps are reporting far less than 2 moths trapped per day. Of course, these traps only indicate that flight is occurring. As we progress through the season, growers should continue to monitor these counts and check both corn and wheat fields for any early appearance of feeding or damage. On wheat or a rye cover crop, look for evidence of defoliation. Armyworms can often be found on the ground underneath debris and its best to look for them on cloudy days, or during dusk/dawn. Black cutworms are more difficult to spot, so look for the presence of corn that has been cut, or holes near the based of the plant. See our fact sheets at our webpage (https://aginsects.osu.edu/home, under Extension Publications)
What’s going on with Lumber Prices?

By: Brent Sohngen, Professor Environmental and Natural Resource Economics.
Source: https://u.osu.edu/aede/2021/05/08/whats-going-on-with-lumber-prices/

In case you haven’t noticed, lumber prices have increased a lot over the last year. Based on the US Bureau of Labor Statistics Lumber Price Index, which you can find here, lumber prices have increased 180% since April, 2020. This increase started last fall, and has continued ever since. So, why have they risen, and how high will they go?

Let’s start with the first question, why have they risen? The economic explanation is relatively straightforward: Demand rose rapidly due to pandemic related building, and supply is really inelastic, as we say in economics. Thus, while the demand of wood has increased dramatically, the supply of wood hasn’t been able to keep up. Let’s break this down.

Consider the demand side first. The construction sector, specifically building and remodeling houses, is one of the largest demanders of lumber in the US and around the world. New home starts and construction spending cratered at the beginning of the pandemic, but they rebounded pretty quickly. Remodeling in particular seems to have picked up a real head of steam.

While demand for new construction and remodeling is hot, it’s actually now at about the same level as before the pandemic. So something else must be going on. One of those something else’s is the price of steel, which has also increased dramatically in the US. Steel is a substitute for wood, especially in commercial construction, and rising steel prices have also driven up demand for lumber and other things that can be made out of wood or steel.

Ok, so the demand side is going crazy. What about supply?

The supply side in forestry is really inelastic. That is, it’s hard to make big increases in supply in short periods of time. There are lots of reasons for this.

First, you can’t build a lumber mill overnight. And after some mills slowed down during the depths of the pandemic, and others closed, it’s not as simple as just turning the key to start the remaining ones back up. You need trained workers, the machines are pretty complicated and may need some maintenance work before re-starting production, and you need logs.

Second, getting logs is not easy either. There is a whole complicated supply chain associated with delivering logs to mills that itself has been affected by the pandemic.
Third, the supply of logs is super-inelastic because of the way trees grow. Plantation trees, which supply around 50% of our timber in the US, put on a lot of value in the 5-10 years before they are harvested. Most people who own these trees don’t want to cut them too early because they’ll miss this value growth, which could be 8-12% or more per year.

When plantation trees are cut, they actually are still growing, perhaps 6% or more per year, so if prices start rising really quickly, many landowners may actually hold them longer than they would otherwise because they get some nice volume growth plus the price growth. So when prices rise rapidly as they are now, the supply of logs contracts a bit because landowners hold onto their trees. Seems strange, but the value growth that occurs with the rising prices gives people who own trees a real reason to put off logging for a while.

Fourth, the supply of logs from our main source of imported lumber, Canada, is super inelastic because most supply there is from public lands, and is controlled by government allowable cut constraints. These allowable cut constraints are set administratively, not economically, and thus limit their ability to increase supply in times of high demand.

There are some other issues at play, including US tariffs on wood, but most of this dramatic increase in prices is due to short-term market phenomena related to the rebound from the pandemic, not any long-term structural issues or limitations in supply. In fact, evidence from the US South, which is our main timber growing region in the US, indicates that an enormous area of trees has been planted in the last decade, providing a reasonably large long-term supply of wood.

Further, supplies of plantation timber in other productive regions of the world, especially South America, but also China, New Zealand, Australia, and parts of Southeast Asia, are expanding. The current high prices for lumber may linger for a while as demand continues to rebound from the pandemic, and due to overall inflationary pressures, but over the next 6 months to a year, prices should stabilize. And over the longer-run, there will be plenty of wood to go around.

**When making baleage, what plastic do I use?**

Source: [https://u.osu.edu/beef/2021/05/05/when-making-baleage-what-plastic-do-i-use/](https://u.osu.edu/beef/2021/05/05/when-making-baleage-what-plastic-do-i-use/)

During the second session of this past winter’s Ohio Beef Cattle Management School, one focus of the evening was effectively utilizing plastic wrap for fermenting baled forages and making baleage. In the 2 minute excerpt of that evening’s presentation, Jason Hartschuh answers the question, “When making baleage, what plastic do I use?”
In the entirety of the presentation, Hartschuh discussed harvest options, correct harvest moisture, and properly baling and wrapping wet forages. You can find that entire presentation, “The Do’s and Don’ts of Making High Quality Baleage” embedded below.
Testing a New Way to Kill Harmful Algal Blooms
By: Alayna DeMartini
Source: https://cfaes.osu.edu/news/articles/testing-new-way-kill-harmful-algal-blooms

As the weather warms and draws people to the water, tests are about to begin on a new technique for killing off harmful algal blooms in Ohio’s streams and lakes.

The technology being tested creates ozone and injects it into a waterway in the form of microscopic bubbles. Once in the water, the ozone can kill unwanted algae, destroy toxins, and boost oxygen levels, said Heather Raymond, director of the Water Quality Initiative at The Ohio State University College of Food, Agricultural, and Environmental Sciences (CFAES).

When these tiny bubbles of ozone called “nanobubbles” burst in the water, they produce hydroxyl radicals and peroxides. Those substances can further destroy harmful algae and possibly help cut off the algae’s food supply, thus preventing future blooms.

How well this technology works to combat Ohio’s harmful algae will be tested in the lab, in test ponds, and in several state lakes and rivers. Researchers at Ohio State are partnering with scientists from the University of Florida, the U.S. Environmental Protection Agency, and the National Oceanic and Atmospheric Administration to test the technology as part of a $1.5 million dollar grant from the U.S. Army Corps of Engineers.

“I think this could be a game-changer for small lakes and reservoirs,” Raymond said.

Test results will help researchers understand how much ozone is needed, if the nanobubble technology also helps prevent blooms, and if there are any potential negative effects to other forms of life and the environment.

“There’s no question in my mind that this can solve a lot of water problems in the state of Ohio,” said Chas Antinone Jr., president and chief operating officer of Green Water Solutions LLC, the Brookfield, Ohio-based company that has a patent on the nanobubble technology.
Tests of the technology done in Port Mayaca, Florida, and in the 60-acre Lake Newport in Youngstown were successful in removing algae and preserving fish life, he said.

“We continue to test to find out exactly what levels of ozone in the water are still safe to those at the bottom of the food chain,” Antinone said.

Additional testing will be done before trials occur at Ohio’s state park lakes or public water system reservoirs.

“If we can also demonstrate that the ozone nanobubble technology helps reduce nutrient availability to harmful algae, that would expand its potential usefulness,” Raymond said.

It would be too expensive to treat blooms on entire lakes as large as Lake Erie, she said. But the technology could potentially be used to treat streams entering those lakes, including Lake Erie.

“The sooner you can start cleaning the water that goes into the lake, the better,” Antinone said.

**Lee’s Monthly News Column**

Hello Trumbull County! With our early and dry spring, you’ve likely mowed your lawn a few times by now. I’ve been getting lots of questions on how to best maintain a lawn, so I thought I would share a few tips with you this week.

The foundation of a good lawn starts with your soil. If your soil pH is out of balance, or if you are lacking nutrients you will have trouble getting grass to grow very well. The only way to know if you need to adjust your pH with lime or sulfur, or know how much fertilizer to apply is to test your soil. This is a pretty simple process that involves taking samples of your soil from your lawn (or garden) in about 10 locations, putting it in a bucket to let it dry, mix it up and send it to a soil analysis lab. Trust me, it sounds more difficult than it really is. We sell the soil test kits in our office, or you can order them online at trumbull.osu.edu. You can also call our office at 330-638-6783 and I can help you through the process.

While the soil test results will tell you if you need lime, phosphorus, and potassium, one nutrient that you need to apply annually is nitrogen. So, even if you don’t test your soil this year you can safely apply this nutrient at one to four pounds per 1000sq/ft each year. When you purchase fertilizer you will see three numbers such as 10-52-0. These
numbers correspond to the percentages of nitrogen-phosphorus-potassium, respectively. So in our example of 10-52-0, a 50 pound bag would contain 5 pounds of nitrogen, 26 pounds of phosphorus, and 0 pounds of potassium.

Without a soil test, I recommend purchasing and applying a nitrogen only fertilizer. Common nitrogen fertilizers you can purchase at most garden centers will be 21-0-0, 23-0-0, or 46-0-0. If you purchase 21-0-0, and you want to apply two pounds of nitrogen per 1000sq/ft, an application of ten pounds of actual fertilizer per 1000sq/ft would need to be made to get the appropriate rate. I mentioned that you can apply one to four pounds of actual nitrogen, and you may be wondering why there is a range. I put it this way, if you want to mow your grass frequently, apply two pounds of nitrogen now and apply the other two pounds in early September. If you want to mow less, apply less nitrogen.

You are likely battling dandelions and other weeds already, and weed and feed products can be effective for control. If you are choosing to use a weed and feed type of product, do NOT apply at a rate above what is on the label. The weed control ingredients in these products need to be applied at a specific rate, and excess applications may actually harm your lawn. If your weed and feed applications cannot meet your nitrogen needs, purchase a separate fertilizer-only product and apply separately. Other options to control lawn weeds are numerous, and are often applied in liquid form. Again, if you choose to use these products be sure to follow the label. Special care must be made to protect flowers, vegetables, trees, and other plants in your landscape to prevent unintended damage.

Other common problems I have been getting asked about relate to damp or wet lawns. Moss is a great indicator that your soil is too damp, and your grass is not competing effectively. There are lots of products sold to kill moss, but the best way to get rid of moss is to increase sunlight, improve drainage in your lawn, or look at why your grass is not growing well. A thick stand of grass will always outcompete moss, so if you have moss growing there is some other issue that needs to be addressed.

Lastly, if you need to reseed your entire lawn, or just a small patch you need to wait until the soil is a little bit warmer for seed germination. Ideally, the soil temperature should be approximately 60F or above. Broadcasting seed over your lawn is an easy way to establish a lawn, but other methods such as hydroseeding, or using a special overseeder might produce better results. You will likely need to hire someone for hydroseeding, but you can rent overseers locally and reseed your lawn in an afternoon. The overseeder is a powered machine that looks similar to a lawnmower, but as it moves along it creates a thin trench in your soil, drops seeds, and then closes the trench. This provides great seed to soil contact which increase seed germination. This method also has the advantage of not needing to cover the seed with straw or some other material.
These are just a couple quick tips for maintaining your lawn this year, but if you have any questions give me call at 330-638-6783 or email me at beers.66@osu.edu. 

Take care, and stay healthy!
The Geauga County OSU Extension office will be hosting a re-certification session for private pesticide applicators on **Wednesday, May 19, 2021** at Abner Miller’s Produce Packing Barn from 1:00 p.m. to 4:00 p.m. This session will offer 3 credits for pesticide re-certification for CORE and All Categories (1-7). The cost of this session is $35 per registrant.

A fertilizer certification session will be held immediately following the pesticide re-certification session from 4:00 p.m. to 5:00 p.m. This session will allow farmers to renew their fertilizer certification (for farmers who apply commercial fertilizer to 50 or more acres). The cost of this session is $10 per registrant.

**Pre-registration is required by May 17th.** Mail attached registration form with check payable to **OSU Extension**, P.O. Box 387, Burton, OH 44021. If you have any questions, please contact the Extension office at 440-834-4656.

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**Private Pesticide Applicator Re-Certification & Fertilizer Re-Certification – May 19, 2021 Registration**

(Please make check payable to OSU Extension and Mail to OSU Extension, P.O. Box 387, Burton, OH 44021)

Name________________________________ Pesticide Applicator number________________

Address________________________________ Email Address_______________________________

City__________________________ Phone Number______________

State________________ Zip code________________  County__________________________

Check the Categories Needed for Re-certification

__ Core    __1    __2    __3    __4    __5    __6    __7

____ Fertilizer

**Fee Required (check all that apply):**

Private Pesticide Applicator Re-Certification ($35) $___________

Commercial Fertilizer Applicator Re-Certification ($10) $___________

**Total Fee Due** $___________

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The Ohio State University

College of Food, Agricultural, and Environmental Sciences

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The Trumbull County Master Gardeners will be returning with their annual plant sale on May 15, 2021 at the Trumbull County Ag Center from 9am to 2pm. We will have our favorite locally grown plants for sale and many of them are straight from our gardens! We will also be bringing back the popular “Vintage Garden” tent where you might find that something that you didn’t know you needed. All proceeds go to continue maintaining the garden as we are a non-profit group.
Please Help Us Stay Healthy

We will be observing the following guidelines for our plant sale due to COVID-19

• Masks are required
• Please allow for 6 foot physical distance
• Please follow arrows on ground
• Do not enter the sale area until permitted by a volunteer