

COSHOCTON COUNTY AGRICULTURE & NATURAL RESOURCES



Master Gardener Volunteer Plant Sale

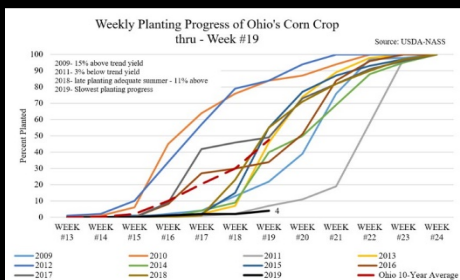
Saturday, June 1, 2019 9:00 AM

Coshocton County Fairgrounds Rotary Pavilion

The annual Master Gardener Volunteer Plant Sale will be held June 1, 2019 at the Coshocton County Fairgrounds in the Rotary Pavilion. Free literature promotes support for educational programming and outreach throughout the year. Master Gardener Volunteers will provide demonstrations beginning at 9:30 am. The sale will begin at 10:00 am and there are no entry fees before this time. The sale will conclude at noon or when plants are gone, whichever comes first.

The plant sale will offer some of the finest plants from the gardens of the Master Gardener Volunteers and friends of OSU. Items include selected tree seedlings, vegetable plants, annuals, many perennials, herbs, house plants and garden related accessories. All plants are labeled with their common and proper names, growing conditions and size. Please bring your gardening related questions to ask any of the Master Gardener Volunteers. Come to the sale, learn something new, and take home some treasures for your garden!

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May 15, 2019 Issue

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Control Pasture Weeds Now
Forage Options for "Prevented Planting" Corn & Soybean Acres
Transitioning the Farm
Obnoxious Nostoc
Violets in Lawns -Pro or Con?
MG Plant Sale
Needs Assessment

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Hello Coshocton County! A little panic is setting in for farmers across Ohio as less than 5% of this year's corn crop (as of Sunday) has been planted. Ohio's planting progress for corn is usually at an average of 48% at Mother's Day so the reported 4% planted is the worst start we have seen in decades. Yikes!

Locally, we are in a little better shape as much of the river bottom ground has been planted and it does appear that warmer temperatures are coming. But a lot of work is left to be done. When the weather improves it will be GO TIME! Much like 2003 when Ohio farmers planted 65% of the corn acreage in one week's time.

I was very pleased that we were able to plant one of OSU Extension Soybean Research Plots in cooperation with Lapp Farms last Wednesday. Out of 20 plots which are going to be planted across Ohio, it was only the 4th one in the ground. The 2nd phase of this trial is set to be planted Memorial Day weekend. I really appreciate David Lapp, Jason Massie and Pat Snyder for cooperating with this research project.

Research is the name of the game and I am looking for farms to conduct soybean cyst nematode sampling (25 total sites) and locations to put out both Western Bean Cutworm (2 sites) and Stinkbug Monitoring Traps out (1 site). If you are interested in any of these projects, just contact at the Coshocton County Extension office at 740-622-2265 or via email at Marrison.2@osu.edu

Praying for better weather ahead. Be safe!

Sincerely,

David Marrison

Coshocton County OSU Extension ANR Educator



THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL,
AND ENVIRONMENTAL SCIENCES

CFAES provides research and related educational programs to clientele on a nondiscriminatory basis. For more information visit: go.osu.edu/cfaesdiversity.

Windows for Planting Expected Next 2-3 Weeks

By Jim Noel

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2019-13/windows-planting-expected-next-2-3-weeks>

After a wet spring was forecasted since January, it appeared in April that a window would open in May. The rain total window has; however, the frequency window has not. The rainfall the last two weeks in Ohio has averaged 1.5 to 2.5 inches with some streaks above 3 inches and some below 1.5 inches. Normal for this period is 1.5 to 2.0 inches. The reality is the ground is just so wet from the wet period up to May. The other BIG key is the frequency of the wet weather.

Often times when it is wet in say the eastern U.S., it is dry in the western U.S. The opposite also holds true. However, we have a very active and progressive weather pattern all around the northern hemisphere. This means a lot of weak to moderate storms on a continuous basis. It is not just Ohio either. Boston, MA set a record for most days with measurable rain in the month of April.

Much of the U.S. is very wet right now. The latest soil moisture rank shows most of the corn and soybean belt is in the top 1-5%. https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/Figures/daily/curr.w.rank.daily.gif There are some questions on similarities to past years. Yes, you can see some similarities to 1993 or 1965 or 1948 and 1949 but there is no perfect year. It depends on where you are. From the widespread wetness in the U.S. you have to look at 1948/1949 for a closest fit but even that does not.

Going forward for the rest of May, we will be seeing increasing temperatures which will lead to increasing evapotranspiration. Hence, like most years, even with some rainfall, the ground will begin to dry in the top layers. Up to May 16, temperatures will be below normal. However, starting May 17 - May 31 the second half of May will see above normal temperatures and evapotranspiration so things will dry some. Rainfall for the rest of May will average close to normal in the 1.5-3 inch.

Looking ahead to the summer growing season, not much has changed. We expect near to slightly above normal temperatures from June to August. However, due to the wet soils, we expect normal daytime temperatures and above normal nighttime temperatures similar to last summer. Humidity levels will be above normal this summer too with all the evaporation. Therefore, expect increased issues with mold and mildew. As for precipitation, June looks like a variable month with areas of above and below normal precipitation. That could create some early challenges for growing if you get areas of hard ground near the top soil with wet ground underneath. As we get into July and August, indications are for a little wetter than normal pattern to resume.

Managing Big, Wet Cover Crops

Managing Big, Wet Cover Crops

By: Mark Loux

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2019-13/managing-big-wet-cover-crops>

Managing cover crops in a year like this can challenge even those with the most experience. A few suggestions regarding termination of covers:

- Increase glyphosate rates to compensate for larger size, and consider applying alone or just with Sharpen. Mixing glyphosate with other herbicides or ATS can reduce its activity on grass covers, especially when large. Herbicides that can antagonize glyphosate include 2,4-D, metribuzin, atrazine, and flumioxazin and sulfentrazone products. Sharpen has not caused a reduction in glyphosate activity on grass covers in university research. One approach would be to apply the glyphosate or glyphosate/Sharpen first, wait a few days, and then apply residual herbicides.
- For covers that contain legumes, it will be generally still necessary to include with the glyphosate a growth regulator herbicide such as 2,4-D, dicamba, or clopyralid. Sharpen will not be effective enough unless canola or rapeseed is the cover targeted. Clopyralid is very effective on alfalfa and clover. The

exception here is hairy vetch which is easily killed by herbicide or even just being run over once it flowers.

- Our experience with relatively small (less than 2 feet) covers is that they do not interfere with the activity of residual herbicides. We are somewhat unsure about the effect of taller covers on residual herbicide activity, but assume it could be reduced. This may be a situation where the residual could be omitted from the burndown and then included in an early POST treatment. Some considerations here:
 1. A large dense cover does provide fair to good early-season control of weeds on its own;
 2. We have herbicides in corn and soybeans (depending upon which traits are planted) allowing us to obtain POST control of many weeds, so the residuals could be omitted entirely, but this probably won't work in nonGMO or Roundup Ready soybeans;
 3. Many covers are variable in size and density, and fields can have areas where the cover is not providing any control of weeds - omitting PRE residual herbicides in these areas can be a mistake;
 4. Most PRE corn herbicides can also be applied early POST, but most PRE soybean herbicides cannot, including anything containing metribuzin, flumixazin, sulfentrazone, or saflufenacil. Soybean herbicides with substantial residual activity on at least some weeds, which can be applied POST, include Scepter, imazethapyr (Pursuit), FirstRate, metolachlor, Zidua/Anthem, Warrant, and Outlook. Due to widespread ALS resistance or just a narrow spectrum of broadleaf weed control, none of these have any residual activity on marestail or ragweeds; so
 5. A two POST application approach may be more effective in soybeans than trying to make residual herbicides work.
- This may be a situation where planting green is better than killing the cover ahead of planting and allowing the cover to start to die and degrade. Rationale for this is that a live cover can continue to use soil water and help create conditions fit for planting, while a dead cover can trap moisture and prevent soil conditions from drying as fast. One option here is to delay burndown until the crop has been planted, or even until crop has emerged. Ability to do this in soybeans would depend upon which herbicide resistance traits were present – more complex trait systems would be more effective.
- We generally do not recommend using Gramoxone to control large covers or large weeds. Gramoxone is most effective on small weeds and covers (6 inches tall or less). Where Gramoxone might fit would be in a situation where we are able to spray first with a systemic product like glyphosate, but not able to plant for another week or two, and there is additional weed emergence or an incomplete cover crop termination. This would create a need for a quick burn down with a second burndown pass just before planting, and Gramoxone could be used in the second burndown (with some metribuzin ideally).
- Grass covers that are not completely killed by an initial herbicide application can be controlled with glyphosate POST. Planting Enlist or Xtend soybeans will provide for the most effective POST options to control legume covers that escape the initial burndown, although high rates of glyphosate can also work. Glufosinate also has some activity on legumes but will be more variable – use high rates and spray volumes and take steps to otherwise maximize coverage and activity.

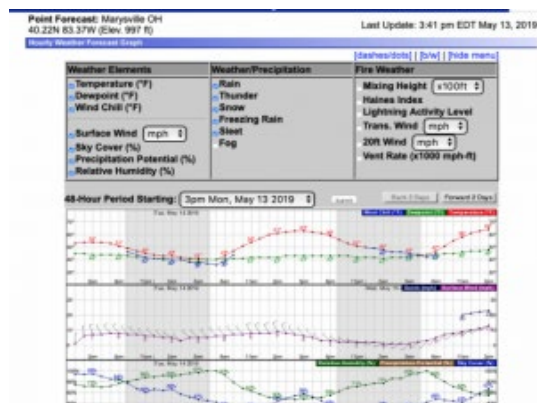
Fertilizer & Manure Application Weather Forecast Tools

By: Harold Waters

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2019-13/fertilizer-and-manure-application-weather-forecast-tools>

For those of you who sat in our Fertilizer Applicator Certification Training, you already know about using the National Weather Service website to see and capture the seven-day forecast for manure or fertilizer applications. Go to <https://www.weather.gov>, then select forecast - local - then enter your zip code. View the multi-day forecast report in the lower right corner. Shown here for Marysville – doesn't look too bad but unfortunately the ground won't support equipment.

A couple of other tools can also be used, and have interesting features are:



The Ohio Applicator Forecast from the Ohio Department of Agriculture is designed to help nutrient applicators identify times when weather-risk for applying is low.

Visit: <https://www.agri.ohio.gov/wps/portal/gov/oda/divisions/plant-health/resources/ohio-applicator-forecast>

- The risk forecast is created by the National Weather Service
- Takes snow accumulation and melt, soil moisture, and forecast precipitation and temperatures into account.
- The chances of surface runoff in the next 24 hours are displayed on the overview map of the state.
- Zoom to street level and 7 days of weather conditions and runoff chances are predicted.
- Risk is grouped into 3 categories: Low, Medium, and High.
- When the risk is Medium, it is recommended that the applicator evaluate the situation to determine if there are other locations or later dates when the application could take place.

Field Application Resource Monitor from OSU. Visit: <https://farm.bpcrc.osu.edu>

- F.A.R.M. allows users to define their location of interest (using Google Maps) and receive 12- and 24-hour precipitation forecasts to aid in the application of fertilizer, manure, and/or pesticides.
- F.A.R.M. also utilizes a database of historical forecasts allowing users to search previous dates.
- Gives you a red light or a green light on application.

Applying Manure to Newly Planted Crops

By Glen Arnold

Source: <https://agcrops.osu.edu/newsletter/corn-newsletter/2019-13/applying-manure-newly-planted-crops>

Livestock producers across the state are dealing with manure storages that are extremely full. Wet weather last fall, poor winter conditions for manure application, and a wet spring will have many livestock producers needing to apply manure and plant crops at the same time when fields become suitable.

Liquid dairy and swine manure can be applied to both newly planted corn and soybean fields. If applied while the seed is protected by a layer of soil, both corn and soybeans will emerge through surface applied manure.

Corn is more tolerant of manure than soybeans. In research plots and on-farm trials, we have applied swine and dairy manure to corn using a drag hose from just after planting to the V3 stage of growth. The manure did not seem to hamper corn emergence and growth. The only obvious damage to the emerged corn plants was when the tractor wheels crushed them. These plants are always slightly behind the remainder of the field but still produce ears.



Soybeans can be easily killed by swine finishing manure when emerging from the soil or already emerged. We have wiped out double-crop soybean stands using swine finishing manure rates of 5,000 gallons per acre. I have had livestock producers tell me they have applied sow manure and nursery manure to soybeans without a problem. Other livestock producers have said they have reduced soybean yields when manure has been applied to established soybeans. Based on one year of data, we know a drag hose (no manure applied) does not damage soybeans enough to reduce yields at stages V1, V3, and V5.

If you think you will be working with a commercial manure applicator to apply manure to newly planted crops, be sure to contact them well in advance. Commercial applicators I have spoken with are stretched extremely thin with all their regular customers with full manure storage facilities.

Surface applied manure is at risk to runoff caused by pop-up thunderstorms. Be sure to print out rainfall forecasts when starting the manure application and check with your SWCD office about setbacks from ditches and streams.

USDA Announces Enhancements to Livestock & Dairy Insurance Programs.

Source: <https://u.osu.edu/ohioagmanager/2019/05/13/usda-announces-enhancements-to-livestock-and-dairy-insurance-programs/>

USDA's Risk Management Agency (RMA) announced on April 22, 2019 that several enhancements to insurance programs that will provide a more efficient level of coverage for livestock and dairy producers. These program improvements to the Dairy Revenue Protection (DRP), Livestock Gross Margin (LGM) and Livestock Risk Protection (LRP) programs take effect July 1, 2019. "These changes to livestock and dairy programs strengthen risk management options and provide peace of mind in times of unpredictable market fluctuations," said RMA Administrator Martin Barbre.

Livestock Gross Margin:

LGM provides protection against loss of gross margin or the market value of livestock minus feed costs. The Bipartisan Budget Act of 2018 removed the livestock capacity limitation, which allowed the LGM program to remove the individual capacity limitation under the cattle, dairy and swine program. Prior to the revised legislation, the Federal Crop Insurance Act limited the amount of funds available to support livestock plans of insurance offered by RMA to \$20 million per fiscal year.

Livestock Risk Protection

LRP protects livestock producers from the impact of declining market prices. RMA offers LRP insurance plans for fed cattle, feeder cattle and swine.

Beef producers electing the LRP insurance plan for fed cattle may choose from a variety of coverage levels and insurance periods that correspond with the time the market-weight cattle would normally be sold. Likewise, the LRP plan for feeder cattle allows beef producers to choose from a variety of coverage levels and insurance periods that match the time feeder cattle would normally be marketed (ownership may be retained).

LRP insurance for swine gives pork producers the opportunity to choose from a variety of coverage levels and insurance periods that match the time hogs would normally be marketed.

LRP improvements include:

- Expanded LRP coverage for swine, fed and feeder cattle to all states;
- Increased LRP subsidy from the current 13 percent for all coverage levels to a range from 20 percent to 35 percent based on the coverage level selected;
- Updated the Chicago Mercantile Exchange trading requirements to allow for more insurance endorsement lengths to be offered for producers to purchase;
- Increased per head and annual head limits – fed cattle and feeder cattle: 3,000 head per endorsement and 6,000 head annually; swine: 20,000 per endorsement and 75,000 annually; and
- Modified the Price Adjustment Factor for Predominately Dairy cattle to 50 percent for both weight ranges, which allows dairy cattle to reflect market prices more accurately.

RMA has also enhanced risk management options for dairy producers.

Dairy Revenue Protection

DRP is designed to insure for unexpected declines in the quarterly revenue from milk sales compared with a guaranteed coverage level. The expected revenue is based on futures prices for milk and dairy commodities and the amount of covered milk production elected by the dairy producer. The covered milk production is indexed to the state or region where the dairy producer is located.

Improvements for the 2020 crop year:

- Modified the minimum declared butterfat from 3.50 to 3.25 pounds, making the range 3.25-5 pounds, and the minimum declared protein range is expanded from 3.00 to 2.75 to 2.75-4 pounds, affording greater coverage flexibilities for dairy producers;
- Removed the declared butterfat test to declared protein test ratio to simplify the process for dairy producers; and
- Adjusted the coverage levels – removal of the 70 and 75 percent coverage levels.

Additionally, the Agriculture Improvement Act of 2018 allows producers to enroll in LGM-Dairy or DRP and simultaneously participate in Dairy Margin Coverage, a program administered by the Farm Service Agency. For more information and answers to frequently asked questions on livestock and dairy risk management options, visit www.rma.usda.gov or contact an [approved insurance provider](#).

Ohio Corn, Soybean & Wheat Enterprise Budgets- Projected Returns

by: Barry Ward, Leader, Production Business Management, College of Food, Agricultural and Environmental Sciences- Ohio State University Extension

Source: <https://u.osu.edu/ohioagmanager/2019/05/13/ohio-corn-soybean-and-wheat-enterprise-budgets-projected-returns-for-2019/>

Production costs for Ohio field crops are forecast to be largely unchanged from last year with slightly higher fertilizer and interest expenses that may increase total costs for some growers. Variable costs for corn in Ohio for 2019 are projected to range from \$356 to \$451 per acre depending on land productivity. Variable costs for 2019 Ohio soybeans are projected to range from \$210 to \$230 per acre. Wheat variable expenses for 2019 are projected to range from \$178 to \$219 per acre.

Returns will likely be low to negative for many producers depending on price movement throughout the rest of the year. Grain prices used as assumptions in the 2019 crop enterprise budgets are \$3.60/bushel for corn, \$8.20/bushel for soybeans and \$4.25/bushel for wheat. Projected returns above variable costs (contribution margin) range from \$150 to \$308 per acre for corn and \$144 to \$300 per acre for soybeans. Projected returns above variable costs for wheat range from \$102 to \$202 per acre (assuming \$4.25 per bushel summer cash price).

Return to Land is a measure calculated to assist in land rental and purchase decision making. The measure is calculated by starting with total receipts or revenue from the crop and subtracting all expenses except the land expense. Returns to Land for Ohio corn (Total receipts minus total costs except land cost) are projected to range from \$23 to \$182 per acre in 2018 depending on land production capabilities. Returns to land for Ohio soybeans are expected to range from \$84 to \$254 per acre depending on land production capabilities. Returns to land for wheat (not including straw or double-crop returns) are projected to range from negative \$2 per acre to a positive \$143 per acre.

Total costs projected for trend line corn production in Ohio are estimated to be \$753 per acre. This includes all variable costs as well as fixed costs (or overhead if you prefer) including machinery, labor, management and land costs. Fixed machinery costs of \$66 per acre include depreciation, interest, insurance and housing. A land charge of \$187 per acre is based on data from the Western Ohio Cropland Values and Cash Rents Survey Summary. Labor and management costs combined are calculated at \$69 per acre. Returns Above Total Costs for trend line corn production are negative at -\$120 per acre.

Total costs projected for trend line soybean production in Ohio are estimated to be \$518 per acre. (Fixed machinery costs – \$52 per acre, land charge: \$187 per acre, labor and management costs combined: \$45 per acre.) Returns Above Total Costs for trend line soybean production are also projected to be negative at -\$76 per acre.

Total costs projected for trend line wheat production in Ohio are estimated to be \$488 per acre. (Fixed machinery costs: \$52 per acre, land charge: \$187 per acre, labor and management costs combined: \$39 per acre.) Returns Above Total Costs for trend line wheat production are also negative at -\$137 per acre.

These projections are based on OSU Extension Ohio Crop Enterprise Budgets. Newly updated Enterprise Budgets for 2019 have been completed and posted to the OSU Extension **farmoffice** website:

<https://farmoffice.osu.edu/farm-management-tools/farm-budgets>

Control Pasture Weeds Now

By: [Christine Gelley](#), Agriculture and Natural Resources Educator, Noble County OSU Extension

Source: <http://u.osu.edu/beef/2019/05/15/control-pasture-weeds-now/>

With the combination of sunny warm days and more than adequate rainfall received so far in May, grasses and legumes in our hayfields are beginning to flower. Which means, according to our knowledge of grass maturity and forage quality, it's already time to make hay. If the weather will cooperate, that is.

It's also prime time to control pasture weeds. Thistles, docks, ironweed, asters, poison hemlock, and cockleburrs are up and actively growing. Control on these species is most effective when they are small (less than six inches tall). Many are already past this point. The longer we wait, the greater impact they will have on overall production and the more difficult they will be to treat in both hayfields and grazed pastures.

The decision of how and when to wage war on damaging weeds is one based on many factors. Extension always recommends utilizing an integrated pest management program to control pests and weeds. The most effective programs are a combination of cultural, mechanical, and chemical control.

Weeds are a symptom of pasture weaknesses. These could be related to soil moisture, pH, fertility, erosion, compaction, or poor harvest methods. In order to make progress on weed treatment, we have to strengthen the health of our soils and desired species. Step one is always to address soil fertility. Step two is species I.D. Step three is deciding on a treatment method. Some weeds are simply annoying, while others can be seriously hazardous for animals and people. Before attempting a treatment, get a confirmed I.D.

Your county extension office is here to help you. Whether you need a soil probe to do a test, help with interpreting results, weed identification assistance, or more information about selecting the best treatment for you, call or stop by to visit with your county extension educator for personalized consultation. Also, for help with identifying several weeds common in Ohio pasture and forage fields, see the video by now retired OSU Extension Educator Mark Landefeld. The video can be accessed at: <https://youtu.be/tVLUIIxUpk>

Forage Options for "Prevented Planting" Corn & Soybean Acres

[Stan Smith](#), PA, Fairfield County OSU Extension

Today, as we sit here on May 15, we know three things for certain:

- Ohio has the lowest inventory of hay since the 2012 drought and the 4th lowest in 70 years.
- Ohio's row crops will not get planted in a timely fashion this year.
- Grain markets have fallen to the point that in many cases – or, perhaps most cases – for those with coverage, Prevented Planting Crop Insurance payments will yield more income than growing a late planted corn or soybean crop this year.

Prevented planting provisions in the USDA's Risk Management Agency (RMA) crop insurance policies can provide valuable coverage when extreme weather conditions prevent expected plantings. On their website, RMA also says "producers should make planting decisions based on agronomically sound and well documented crop management practices."

Today, insured corn and soybean growers throughout Ohio find themselves at the crossroads of a decision that pits the overwhelming desire to want to plant and grow a crop against the reality that financially and agronomically it might be a more sound alternative to accept a Prevented Planting insurance payment. Adding further support to the notion that today one might be better off not planting the corn or soybean crop is the opportunity to plant a 'cover crop' in those insured but unplanted acres and utilize it for cattle feed late this fall.

Let's start at the beginning. To an insured crop producer, what is Prevented Planting?



Grazing oats planted on Prevented Planting acres in very late fall is an excellent alternative for harvesting this cover crop.

RMA says "Prevented Planting is a failure to plant an insured crop with the proper equipment by the final planting date designated in the insurance policy's Special Provisions or during the late planting period, if applicable." The most common cause for the failure to plant a crop in a timely fashion is adverse weather. An insured producer in Ohio can elect to receive a Prevented Planting payment for corn on June 6th and/or June 21st on soybeans if adverse weather has prevented the crop from being planted by then.

You may ask why I'm discussing this in a beef cattle publication. Once the decision to apply for Prevented Planting (PP) has been made, cover crops – including those a cow can eat – may be planted on those PP acres and grazed or harvested without affecting the PP payment beginning November 1. It may take some creativity to turn cover crops into feed beginning November 1, but considering that inventory of quality hay in Ohio is so low right now, it merits consideration.

Before we go further, if you're considering planting a cover crop that you might harvest for forage on PP acres, check with your crop insurance agent and Farm Service Agency for any restrictions you might need to consider. While there are a variety of cover crops that might be planted and make feed yet by fall, I suggest spring oats be considered as a viable, affordable and productive alternative. Not only are there plenty of jobs on the farm aside from planting cover crops that need immediate attention, soil conditions across much of Ohio remain too wet for planting them today, most fields are plagued with weeds that have yet to be controlled, and in many cases fields are still rutted from last fall's harvest. And, if forage and not grain is the goal, plenty of time remains to get oats planted.

Over the years we've found it's not important to rush to get spring oats planted in order to grow lots of high quality forage late in the summer. In fact our experience has been that we get a greater yield and higher quality feed if we wait until the end of July or early August to plant oats for forage. Without getting into a science lesson, it seems the oats prefer the cooler average daily temperatures we typically experience beginning in August, and they are more likely to not push out a seed head, but remain vegetative until extremely cold temperatures shut them down completely sometime in December.

Not only does an August 1 planting date seem to offer more yield and higher quality oats, but it will also allow ample time for fields to dry, ruts from last fall to be repaired, manure to be hauled, and weeds to be controlled. Based on our experience beginning in 2002 in Fairfield County with oats planted mid to late summer, if you can utilize a forage for grazing, baled hay, or silage late this fall or early winter, oats appear to be the most productive, highest quality, least cost, single harvest alternative available to Ohio livestock producers for

planting during the summer months. In fact with some timely rainfall, when planted most any time before late August, there's an opportunity to 'create' on a dry matter basis anywhere from two to five tons of forage while investing little more than the cost of 80-100 pounds of oats and 40 pounds of nitrogen.

Based on experiences with summer planted oats, Curt Stivison, who initiated this work in Ohio, and I offer these suggestions:

- * Optimum planting date for oats from the perspective of forage yield is not until the first of August. Early August plantings also have resulted in the highest total amount of TDN produced per acre. Later plantings will be slightly higher in quality, but typically not enough so to offset the yield advantage of an August 1 planting. While being more conducive to a mechanical harvest in early Fall, planting in early to mid July reduces both yield and quality. The earlier oat plantings also have exhibited more susceptibility to rust.
- * Regardless the planting date, or variety, no-tilled seeding rates of from 80 to 100 pounds of oats have consistently resulted in optimum forage yields.
- * Optimum nitrogen application rate has been 40 to 50 pounds per acre. This application not only produces the highest yields, but at current values of nitrogen, it's also the most cost effective rate. Higher rates of nitrogen actually depressed yields in our 2008 plots.
- * Over the years, many growers have been successful using bin run 'feed' oats originating in Canada. Most of the concerns with utilizing 'feed' oats are obvious: no germination test, and the potential for bringing some weed seed onto the farm. Another problem we experienced once was that a few of the Canadian oats in the "feed bin" were apparently winter oats. After getting started in the fall, they went dormant over winter, and then elongated in the spring much like winter wheat does after breaking dormancy.
- * The optimum combination of productivity and quality of August planted oats arrives 60 to 75 days after planting. Apparently due to the heat, oats planted in July mature more quickly and thus, rapidly decline in quality beginning 50 to 60 days after planting in most years.
- * Oats harvested 50-60 days after planting and while still in the boot stage of maturity may offer some regrowth that could be grazed.
- * A weed control application of glyphosate is a necessary and cost effective practice prior to oat planting.

An additional advantage observed when using oats for an annual forage crop is the opportunity to capture the total tonnage produced with a single cutting harvest if grazing is not an option. Crops that require multiple mechanical harvests increase costs of production significantly.

As oat forage harvest options typically beginning November 1 are considered, grazing provides the most effective and affordable alternative. In 2002, locally one family strip grazed oats all winter and actually began the calving season on them before the oats ran out in mid March.

Dry baling oats in the fall has been done around Ohio, but it's a challenge considering that oats will dry less than half as fast a grass hay. Cut in November, oats typically require at least two weeks or more to cure. Wet wrapping them is an expensive alternative. Using an in-line bale wrapper/tuber is a little less expensive per ton than individually wrapped bales if the equipment is available locally. Oats won't die until temperatures have been in the mid 20's for several hours. That means they'll still be green and alive in December most years in Ohio. When they finally freeze, and if it's not a wet winter, growers may be able to let them die and dry while standing, get a few days of dry frozen weather in January, mow them, rake them and quickly bale them after they've essentially cured while still standing.

In Canada, growers have sprayed their oats with glyphosate and let them dry out while standing. Then, after a few weeks and at a time when they get a dry week, they mow, rake and bale them all in a day or two. Locally, that's been done once that I know of which allowed the oats to be baled in late December and January.

If grazing the standing oats is not an opportunity, perhaps chopping and ensiling oats is the best alternative for harvest. This offers several advantages over baling or wet wrapping. Obviously the issue of curing the plants for dry harvest becomes a moot point. Chopping and ensiling into either a permanent structure or bags is also likely less expensive than wet wrapping individual bales. Perhaps even better, as detailed by Francis Fluharty a few years ago, chopped forages are 30 to 60% more digestible than long stem forages.

Admittedly chopping and ensiling is likely more expensive than rolling dry hay, but when you consider you get essentially no storage losses, the timeliness of harvest which is afforded, and the more digestible feed which results, it's a good alternative. And if you're able to bunk feed the chopped and ensiled oats, there will be no "bale ring" feeding losses to be experienced.

Keep in mind, if you plan to accept a full Prevented Planting Crop Insurance payment, cover crops can't be harvested or grazed until November 1. For more information on making the Prevented Planting decision, you may review this recent post from the University of Illinois ***farmdocdaily*** entitled [Prevented Planting Decision for Corn in the Midwest](#).

During the winter of 2013 Ohio Forage and Grassland Council Annual Meeting, I was invited to share the following presentation, which includes a number of photos, about our past experience of growing oats late in the summer for forage. Oats, planted late in the summer, could indeed offer a productive and high quality forage alternative on insured Prevented Planting acres! The video can be accessed at: <https://youtu.be/yW124VH6R6M>

Transition the Farm Business to the Next Generation

by Rory Lewandowski, OSU Extension Educator

Source: <https://u.osu.edu/ohioagmanager/2019/05/15/transition-the-farm-business-to-the-next-generation/>

Passing the farm business on to the next generation is not automatic. Failure to plan is a plan for failure. Successful farm transition requires preparation and planning. It takes time, effort, communication between family members and legal assistance. The Wayne County Extension office is offering a two-part farm transition workshop on Friday July 19 and Friday July 26 to help farm families with the farm transition process.

The location for the July farm transition workshop is the Secrest Arboretum Welcome Center located at 2122 Williams road, Wooster, near the OARDC campus. The workshop will run from 10:00 am until 3:00 pm each day. By attending the workshop, farm families will learn steps necessary for a successful farm transition, get a start on developing a transition plan for the future, discover ways to increase family communication regarding farm transition, and learn strategies on how to transfer management skills and the farm's business assets to the next generation.

Thanks to support from our sponsors, Farmers State Bank, Wayne Savings Community Bank, Farmers National Bank and Farm Credit Mid-America, the registration fee for the workshop is only \$25 for the first two persons from a farm business and \$10 for each additional person from the same farm business when sharing a resource notebook. Registration is limited to the first 50 persons with a registration deadline of July 12th. Registration includes refreshments, lunch and a resource notebook.

An informational brochure that includes workshop instructors and agenda topics along with a registration form is available on the Wayne County Extension web site at <http://go.osu.edu/2019WoosterFarmTransition>. Direct questions or requests for more information to the Wayne County Extension office at 330-264-8722.

The Inside Story on Obnoxious Nostoc

By: [Joe Boggs](#)

Source: <https://bygl.osu.edu/node/1258>

I received an e-mail message earlier this week with images showing colonies of a cyanobacterium, *Nostoc commune*, growing in openings created by turfgrass succumbing to some other issue. The sender asked me to identify the "black stuff" they believed was killing their lawn.

Of course, the cyanobacterium did not kill the turfgrass. Something else was killing the lawn and the cyanobacterium was just an innocent bystander taking advantage of an opening; literally.

Cyanobacteria are single-celled organisms with great aspirations. They can exist in multicellular states with chains of cells stuck together within a sheath to form a filament. This allows the cells to communicate and share nutrients over a large area which is how many *Nostoc* species form large mats.



Nostoc commune and others in this genus of unusual organisms are often misidentified because of their changing appearance. During periods of wet weather, *Nostoc commune* may look like an agglomeration of rubbery yellowish-green to bluish-black material is "bubbling up" from the soil. The otherworldly appearance of hydrated *Nostoc commune* is responsible for several common names. It was once believed the alien-looking masses originated from the dust of shooting stars (a.k.a. meteors) which accounts for the common names of star-jelly, star-shot, and star-slime. Other common names such as "witch's-butter" are self-explanatory.

During periods of dry weather, the odd-looking masses collapse and turn black; the "black stuff" in the picture of struggling turfgrass that was sent to me. In fact, this is the most common appearance of *Nostoc* spp. that does not enjoy irrigation.

Drying occurs quickly; however, this causes no harm to the cyanobacteria. It's actually a survival strategy supported by a range of polymers that keep the overall structure intact.

The bottom line is that *Nostoc commune* and other mat-forming members of this genus are not toxic; they cause no harm to plants or animals including harm to the health of concerned Ohio landowners. However, the mucoid hydrated mates can become slippery when wet, so tread carefully.



When an Alga is Not an Alga

Cyanobacteria have long been mislabeled as "blue-green algae." That's because they have slightly bluish green photosynthetic pigments in their cytoplasm. Since the bacteria act like plants by producing their own "food" (polysaccharides) and generating oxygen, cyanobacteria were once lumped in with the algae.

However, algae, as well as other plants (and animals), are "Eukaryotes" meaning their nuclei are gift-wrapped in a membrane. Cyanobacteria lack membrane-bound nuclei; a condition that makes them a "Prokaryote." Cyanobacteria have a number of interesting tricks up their prokaryotic sleeves. They have specialized cells called heterocysts that can grab nitrogen out of the atmosphere in a process called "nitrogen fixation" to convert the nitrogen into molecular forms that make the element available for the bacteria as well as plants.

For this reason, some cyanobacteria may be found growing on the surfaces of plants, including certain algae, which once added to the confusion with learning the true identity of these unusual bacteria. Some, such as *Nostoc commune*, also have specialized pigments in their cells that absorb UV light to protect against UV radiation. This allows this bacterium to survive intense solar radiation. In fact, *Nostoc* spp. have a worldwide distribution and may be found thriving under some of the most extreme environmental conditions. Some biologists consider them to be a type of "extremophile" which is important to remember when you're trying to eliminate them!

A Shortened Long History

There are several interesting evolutionary connections between cyanobacteria and the rise of plants. Biologists generally agree that chloroplasts in plants have their ancestral origins with cyanobacteria through an evolutionary process called "symbiogenesis." Without cyanobacteria, higher plants as we know them would not exist. In fact, neither would we.

Earth has been around for about 4.55 billion years. Some believe slightly longer, but what's a few billion more or less among friends. There was no oxygen in Earth's early atmosphere; it was "anaerobic." That didn't mean life didn't evolve, but it was life that lived without oxygen. Some of those anaerobic microbes still exist, but not where they're exposed to the oxidizing effects of oxygen.

The geologic record in the form of bands of rust in rocks shows that something remarkable happened around 2.45 billion years ago. It's referred to as the Great Oxygenation Event (GOE) and marks the beginning of a rapid change in Earth's atmosphere from anaerobic to aerobic. The rise of oxygen contributed to the decline of free-floating iron in the early oceans. The iron oxidized; it rusted. The iron oxide (= rust) dropped to the ocean floor and was compressed into rocks. Eventually, the red-banded rocks were exposed through tectonic forces to provide an "Aha Moment" among geologists.

GOE occurred at about the same time that cyanobacteria appeared on the scene so it was once believed that these bacteria were entirely responsible for the rise of oxygen (literally). However, recent research has shown that other microorganisms were already producing some oxygen before the cyanobacteria. Regardless, it's still generally accepted that these remarkable bacterial oxygen pumps played a significant role in pushing atmospheric oxygen towards the current 21% that we enjoy today. So, you should thank cyanobacteria with your next breath.

Managing an Ancient

Although *Nostoc commune* is a remarkable organism that causes no harm and has even been investigated for use in land reclamation sites, it and other cyanobacteria in this genus can grow in large mats that present a slippery safety concern in nurseries and greenhouse walk-ways. Blackened, dehydrated colonies can create an unsightly mess on the bottoms of plant containers. The same is true with colonies growing in gravel driveways.

Still, it's almost impossible to eliminate an organism that has survived numerous mass extinctions from rampaging volcanoes to a dinosaur-killing meteor strike. However, an article titled, *A Biological Introduction to Cyanobacterial Mats* that was published in the March 2016 Issue of *Digger Magazine* (Oregon Association of

Nurseries) provides some helpful insights.

Water

Nostoc spp. are terrestrial organisms that can survive long periods looking like blackened, dried-out mucus. However, they must have periodical infusions of water to thrive. So, moisture management through improved drainage is essential. This includes addressing both shallow as well as deep drainage issues. For example, dried Nostoc mats can clog the drainage holes in ground cover and weed control fabrics. Using a coarse bristled push broom to remove dried Nostoc can open the drainage holes; however, nothing will be gained if the underlying soil does not drain rapidly.

Fertilizer

Although Nostoc can generate its own food and grab nitrogen from the atmosphere, it must acquire other nutrients from its environment. In fact, phosphorous is considered the most limiting nutrient in Nostoc development. This has also been observed with the aquatic cyanobacteria that periodically foul lake waters; but don't call the problem "algal blooms!" So, limiting phosphorous runoff can reduce the development of Nostoc mats.

Chemicals

Algaecides such as sodium carbonate peroxyhydrate and copper sulfate products provide limited to no control of Nostoc. Herbicides such as glyphosate (e.g. Roundup) not only provide no control, but the release of phosphorus from dead plants can actually support Nostoc growth. Herbicidal soap products based on ammoniated soap of fatty acids or potassium salts of fatty acids can provide limited efficacy. However, trials conducted by Oregon State University (the Other OSU!) showed that the most effective herbicidal product is Scythe (pelargonic acid). Not only did Scythe kill Nostoc but it also prevented regrowth for several weeks and this product is labeled for treatment of algae, moss, or liverworts in container nurseries. Of course, hydrated Nostoc must be targeted, dried mats are not susceptible. Also, this contact herbicide can damage or kill preferred plants so avoid direct contact as well as drift.

Violets in Lawns -Pro or Con?

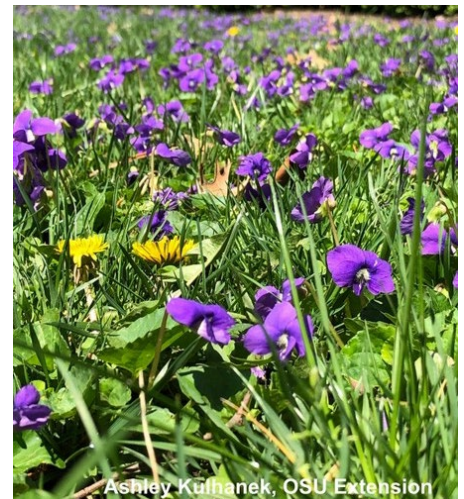
By: [Ashley Kulhanek](#)

Source: <https://bygl.osu.edu/node/1239>

For many, the lawn is a sacred place where nary a clover or dandelion dare venture. For others, lawns are becoming more diverse for the sake of bees, or for the sake of giving up on the battle against weeds. Dandelions and clover may be the first to pop to mind when considering lawn weeds, but this was the first time I had seen violets in turf.

From afar, the untrained eye may assume this purple hue in the lawn is creeping charlie, or dead nettle, both common weeds that carry a purple flower. But upon closer inspection, these were violets! While I treated this as a pot of gold at the end of a rainbow, one of our turf professors shared that wild violets are actually one of the most notorious lawn weeds and are difficult to manage.

Violets (*viola* sp.) spread by seed and by rhizome. They come in shades of purple, white, and yellow. Some are bi-color. Violets attract pollinators and are the primary host plant for the caterpillars of a group of butterflies known as fritillaries. Violets are also the sole food source for the mining bee *Andrena violae* a specialist bee that only visits violets.



Violets establish well in shady, moist areas where turf is not vigorous and cannot out-compete violets and other weeds. These areas often pose a challenge for turf establishment and so violets may be a welcome option for ground coverage. However, once established they can spread forth from that tough site into your desirable

lawn areas. Violets can also be a sign of thinning lawns overall, and can establish where lawns are mowed too short, competing with that lawns' chances of growing thick and vigorous once more.

So what to do? Of course, the choice is yours! Should they stay? OR should they go? OR, as one reader pointed out, WHY NOT BOTH! Those found at Chadwick seem to have become part of the display and were a welcome sight to frolic through this spring. This is a great example of how some more natural areas can be a welcome component of a lawn's aesthetics, bringing color and beneficial insects, and probably covering some tough sites.

Should you desire to manage your violets in lawns, there are options. If a patch is caught early, it may be best to dig and hand pull them for control. Consider the conditions of the site as well. Is there the option to increase light penetration or create a thicker stand of turf to compete with weeds? Chemical control for violets include the use of post-emergent broadleaf herbicides containing the active ingredient Triclopyr. Two or more applications may be required to make an impact on established violets. Fall application when plants are directing energy to the roots is considered most effective. Even with a solid product, control of violets is difficult. They're tough little things! When using pesticides, be sure to read all labels and follow instructions. The label is the law for use.



Master Gardener Plant Sale

The annual Master Gardener Volunteers Plant Sale, the group's major fund raiser, will be held June 1, 2019, in the Rotary Pavilion at the Coshocton County Fairgrounds. Demonstrations will start at 8:30 am and the sale will run from 9:00 am until noon or the plants are gone, whichever comes first. It is a good idea to arrive early for the best selection as the plants sell quickly. There are NO EARLY SALES of plants before 9 a.m. The plant sale will offer some of the nicest plants from the gardens of the MGVs and their friends. You may find assorted tree seedlings, vegetable plants, annuals, many perennials, herbs, house plants and garden related accessories. The plants are reasonably- priced and many are ready to plant directly into your garden. All plants are labeled with their common and proper names, growing conditions, and size. Please bring your gardening questions and ask any of the Master Gardener Volunteers.... we LOVE to talk about plants, bugs and anything garden related!

Coshocton County Ag & NR Needs Assessment- Your Input is Needed!

OSU Extension is conducting a formal Agriculture & Natural Resources Extension Educator for Coshocton. Farmers, landowners, and others involved in the agricultural industry are being asked to complete this 2-page survey. This survey will be used to help develop the framework of future Ag Extension programming here in Coshocton County. **Would you consider completing this survey?** (if you have already, thanks—no need to respond again) An on-line version of the survey can be accessed at go.osu.edu/coshoctonag **Survey respondents will also have the opportunity to register to win a donated \$100 VISA gift card by completing the survey.**

Upcoming Events

June 21 Dairy Farm Bill Meeting