Hello Northeast Ohio Counties!

It’s very unusual to see such dry soils in March in NE Ohio. Here in central Trumbull County we have had less than 0.10” of rain in the last ten days. It looks like we should see some moisture later this week, but some field work has begun.

With above average temperatures predicted for the rest of March it won’t be too long before it’s time to fertilize wheat. It looks as though our cold winter has set some small grains back, and if you are seeing a lot of damage give our office a call.

Stay safe and healthy!

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TYPICAL MARCH WEATHER CONTINUES

By: Aaron Wilson
Source: https://agcrops.osu.edu/newsletter/corn-newsletter/2021-06/typical-march-weather-continues

After a warm December and January but chilly February, Ohio’s winter will go down as one of near-average temperatures for the season. This past winter also ranks as the 23rd driest on record (1895-2021). This was a bit unusual given the cooler than average sea surface temperatures in the tropical Pacific Ocean, a pattern referred to as La Niña, and one that often brings wet weather to the Ohio Valley during winter and early spring.

A more active pattern has certainly set in over the last several weeks, especially across southern Ohio. Precipitation for the last 30 days shows quite a contrast between northern and southern Ohio, with less than 1 inch falling across northwestern counties, while areas near the Ohio River have experienced more than 4 inches (Fig. 1). With long-term lingering dry conditions relative to average across northern Ohio, the current U.S. Drought Monitor depicts more than 50% of the state in abnormally dry conditions, with Fulton, Lucas, and northern Wood counties currently in moderate drought conditions. Whether this long-term dryness will have an impact on the summer growing season could largely be determined by the weather pattern over the next several weeks.

Figure 1: Multi-sensor precipitation estimates for the past 30-days ending March 14, 2021. Courtesy of the Midwest Regional Climate Center.

Figure 2: Forecast precipitation for the next 7 days. Valid from 7 pm Monday March 15, 2021 through 7 pm Monday March 23, 2021. Figure from the Weather Prediction Center.
A system that brought rain (freezing rain and sleet to some areas) across the state on Monday will be moving out of the region on Tuesday. After a brief break on Wednesday, a potent system will move through on Thursday with another round of showers and thunderstorms. Under the influence of high pressure, conditions will dry out over the weekend with fair weather expected. Highs in the 50s and 60s midweek will trend cooler for Thursday and Friday, then slightly warmer temperatures will resume for the weekend. The Weather Prediction Center is currently forecasting 0.75-1.50” of rain across Ohio over the next 7 days (Fig. 2).

The latest NOAA/NWS/Climate Prediction Center outlook for the 8-14 day period (March 23 - 29) and the 16-Day Rainfall Outlook from NOAA/NWS/Ohio River Forecast Center show a strong probability of above average temperatures and elevated probability of above average precipitation (Fig. 3). Normal highs (north-to-south) during the period are in the upper-40s to mid-50s, lows in the upper-20s to mid-30s, with 0.5-1.00” of precipitation per week.

![Figure 3: Climate Prediction Center 8-14 Day Outlook valid for March 23 - 29, 2020 for left) temperatures and right) precipitation. Colors represent the probability of below, normal, or above normal conditions.](image)
Early spring provides one of the two preferred times to seed perennial cool-season forages, the other being late summer. The outlook for this spring is for probabilities of above average precipitation in April and May. Planting opportunities will likely be few and short. An accompanying article on preparing now for planting along with the following 10 steps to follow on the day you plant will help improve chances for successful forage establishment.

1. Check now to make sure soil pH and fertility are in the recommended ranges. Follow the Tri-state Soil Fertility Recommendations (https://forages.osu.edu/forage-management/soil-fertility-forages). Forages are more productive where soil pH is above 6.0, but for alfalfa it should be 6.5 – 6.8. Soil phosphorus should be at least 20 ppm for grasses and 30 ppm for legumes, while minimum soil potassium should be 100 ppm for sandy soils less than 5 CEC or 120 ppm on all other soils. If seedings are to include alfalfa, and soil pH is not at least 6.5, it would be best to apply lime now and delay establishing alfalfa until late summer (plant an annual grass forage in the interim).

2. Plant high quality seed of known varietal source adapted to our region. Planting “common” seed (variety not stated) usually proves to be a very poor investment, yielding less even in the first or second year and having shorter stand life. Be mindful of how much seed coating is present on the seed you are planting. Many of the new alfalfa varieties are sold with a 34% clay coating by weight, so your actual pure live seed rate would be dramatically reduced if you don’t adjust for the seed coating.

3. Calibrate forage seeders ahead of time. Seed flow can vary greatly for different varieties and depending on the seed treatment and coatings applied. A good video on this entitled “Drill Calibration” is at https://forages.osu.edu/video/.

4. Prepare a good seedbed as soon as soils are fit in April. The ideal seedbed for conventional seedings is smooth, firm, and weed-free. Don’t overwork the soil. Too much tillage depletes moisture and increases the risk of surface crusting. Firm the seedbed before seeding to ensure good seed-soil contact and reduce the rate of drying in the seed zone. Cultipackers and cultimulchers are excellent implements for firming the soil. If residue cover is more than 35% use a no-till drill. No-till seeding is an excellent choice where soil erosion is a hazard. No-till forage seedings are most successful on silt loam soils with good drainage and are more difficult on clay soils or poorly drained soils. You will want no-till fields to be smooth because you do not want to bounce over them for all the years of this stand!

5. Try to finish seeding by the end of April in southern Ohio and by the first of May in northern Ohio. Timely planting gives forage seedlings the jump on weeds and the forages become established before summer stress sets in. Weed pressure increases with later plantings, and forages will not have as strong a root system developed by early summer when conditions can turn dry and hot. Later plantings also yield less, so if planting is
delayed, it might be better to plant a summer annual and establish the perennial forages in August.

6. Plant seed shallow (¼ to ½ inch deep) in good contact with the soil. Stop and check the actual depth of the seed in the field when you first start planting. This is especially important with no-till drills. In my experience, seeding some seed on the surface indicates most of the seed is about at the right depth.

7. When seeding into a tilled seedbed, drills with press wheels are the best choice. When seeding without press wheels or when broadcasting seed, cultipack before and after dropping the seed, preferably in the same direction the seeder was driven.

8. In fields with little erosion hazard, direct seedings without a companion crop in the spring allows harvesting two or three crops of high-quality forage in the seeding year, particularly when seeding alfalfa and red clover. For conventional seedings on erosion prone fields, a small grain companion crop can reduce the erosion hazard and will also help compete with weeds. Companion crops like oat can also help on soils prone to surface crusting. Companion crops usually increase total forage tonnage in the seeding year, but forage quality will be lower than direct seeded legumes. Take the following precautions to avoid excessive competition of the companion crop with forage seedings: (i) use early-maturing, short, and stiff-strawed small grain varieties, (ii) plant small grains at 1.5-2.0 bu/A, (iii) remove companion crop as early pasture or silage, and (iv) do not apply additional nitrogen to the companion crop.

9. During the first 6 to 8 weeks after seeding, scout new seedings weekly for any developing weed or insect problems. Weed competition during the first six weeks is most damaging to stand establishment. Potato leafhopper damage on legumes in particular can be a concern beginning in late May to early June.

10. The first harvest of the new seeding should generally be delayed until early flowering of legumes (approximately 60 days after emergence) unless weeds were not controlled adequately and are threatening to smother the stand. For pure grass seedings, generally harvest after 70 days from planting, unless weeds are encroaching in which case the stand should be clipped earlier to avoid weed seed production.

Don’t let the green grass fool you
By: Dr. Katie VanValin- Assistant Extension Professor- University of Kentucky.
Source: https://u.osu.edu/beef/2021/03/10/dont-let-the-green-grass-fool-you/

Perhaps it was the full season worth of winter weather we got in one-week last month, or the above average temperatures that followed, but either way we are rounding the bend and spring will be here before we know it. One of the things I love most about spring is that along with the warmer temperatures and longer days, inevitably comes greener pastures. However, the growth we see out in our pastures during the early spring can often be deceiving from a nutrient standpoint.

The problem that we can run into is that there simply is not enough forage available, and the forage that is high in moisture. When we turn cows out to early,
they can exert more energy searching for the next mouthful then they are consuming, since most of every mouthful is water. This is especially critical for spring-calving cows. At this time, cows have either or will be transitioning from late gestation to lactation which represents the time when a cow’s maintenance nutrient requirements are at their highest throughout the production cycle. This is not the time to let cows slip into an energy deficit and lose condition.

If cows lose condition during early lactation when their maintenance nutrient requirements are high, it is often difficult to recover that condition prior to breeding. It is a much better plan to ensure cows are in good body condition prior to calving and maintain adequate condition through breeding. Research has shown the reproductive performance is decreased when cows reach a BCS of 4, so it is critical to the performance and efficiency of the cow herd that cows maintain a BCS of 5-6.

For example, a cow in early lactation with a BCS of 4 consuming fresh cool-season forages would be able to consume enough forage to meet her maintenance requirements. If we tried to improve the BCS of this cow by ¾ of a BCS (approximately 75 lbs) now that fresh forage is only providing about 70% of her energy requirement. So, in this scenario even if available forage was not the limiting factor, supplementation would still be needed to improve body condition. It can also be helpful to manage older or thin cows separately from the rest of the herd, allowing them to receive the extra nutrition they require without overfeeding the rest of the herd.

Although it is tempting to turn cows out to grass early, remember that doing so may limit cow-performance. This can also cause undue stress on forages, ultimately hurting our stands, and creating opportunity for opportunistic weeds to encroach. Evaluate the forages in your pasture and let grass growth dictate when cows are turned out as opposed to a date on the calendar.

The bottom line here is don’t let spring fever set in early by turning cows out onto fresh grass that may not meet all the nutritional demands of the herd. Continue to evaluate BCS of the herd and allow this to guide nutrition and management decisions as mother nature transitions from winter to spring, and cows transition from gestation to lactation.
IPM Video Library on YouTube

For over 100 years OSU Extension has delivered information to growers in the form of field days, workshops, conferences, newsletters, factsheets, guides, bulletins, etc. However, in the past decade there has been a shift in how people (including growers) search for and consume information. That newer method of information transfer is through the use of “how to” videos to show people how to do something or prepare for something, and it’s available free 24 hours a day, 365 days a year.

Partial screen shot of OSU IPM YouTube Video Library. The OSU IPM Video Library on YouTube (https://go.osu.edu/osuipm) embraced this digital delivery trend and was launched in 2009. The site now has 81 videos on a variety of crops (pumpkin, sweet corn, carrots, strawberry, hops, field crops and coming soon apples) and a number of topics including identification, monitoring and management of traditional and invasive pests. Videos are added throughout the year to these categories called playlists and new playlists are being created to house specific content such as apples. In the next month or two, new videos on squash vine borer and striped cucumber beetles on pumpkin will be released. Updated videos on monitoring brown marmorated stink bug and spotted lanternfly are also on this list.

This year in addition to shooting in our traditional video format, we intend to experiment with shorter (one minute long?) but more frequent (weekly?) videos, including some live streaming from the field; stay tuned for more details on that.

How can YOU participate in adding content to the video library? What kind of topics would YOU like to see added to the YouTube channel? You can either email me directly at Jasinski.4@osu.edu about specific topics or ideas you have or if you prefer to send...
them 100% anonymously, click on this link (https://osu.az1.qualtrics.com/jfe/form/SV_6RawJGD7q2Tj2bY) and leave your suggestion. One thing we always struggle with is how long to make the video. While we generally know that shorter is better, it can be challenging to convey the nuances of some pest management topics in shorter videos but we try!

We hope the content on the site is useful to your operation and our IPM Team is looking forward to your video suggestions. Remember, YOU put the You in YouTube!

**Pesticide and Fertilizer Recertification Update**

Happy New Year! I’m sure some of you have received your private pesticide license renewal from the ODA, and are wondering how to get recertified. Admittedly, we are behind this year as we try to navigate changing guidelines from the state, county, and OSU on holding meetings. Hitting a moving target is a little challenging! We will make sure that everyone will get recertified one way or another.

While we prefer in-person programs, that is not possible in the near future. We have been granted permission by the ODA to hold virtual live meetings for pesticide recertification, and we have four sessions scheduled for the upcoming months. You can find those dates below, and registration links as well. These are live events and not recorded. We realize that not everyone has a computer, or reliable internet so we are working on some in-person events later this spring. We will provide updates on those in-person events when those are available.

Thankfully, the deadline for applicators with an expiration in 2020 and 2021 has been extended to July 1, 2021. We hope with the option of having recertification in warmer weather, we can move outside and get together in person. If you have any questions please give us a call and we will answer any questions you have.

- Normal/Agronomy
  - Date: April 7, 2021, Time: Daytime 10AM – 2PM
  - All categories, CORE and Fertilizer

**You can register now at [https://go.osu.edu/NEOPAT21](https://go.osu.edu/NEOPAT21)**
MANURE IMPROVES SOIL AND MICROBE COMMUNITY

By Kaine Korzekwa

In the dry air and soil of Texas’ Southern High Plains, improving soil health can be tough. We usually think of healthy soil as moist and loose with lots of organic matter. But this can be hard to achieve in this arid area of Texas.

The researchers used excess cattle manure from local producers. Here a donor deposits composted cattle manure prior to spreading it over the field sites. Credit: Paul Green
Lindsey Slaughter, a member of the Soil Science Society of America, set out with her fellow researchers to test a solution that kills two birds with one stone. They put excess cow manure on these soils to see if they could make them healthier.

The team recently published their research in the Soil Science Society of America Journal.

“We know that planting perennial grasslands for cattle production can help protect and restore soil in semi-arid lands that are likely to erode and degrade from intense farming,” Slaughter says. “But producers need additional ways to increase soil carbon and nutrient stores.”

What makes a healthy or unhealthy soil?

Slaughter describes soil health as the ability of a living soil ecosystem to perform a variety of important functions. These include cycling nutrients, storing and purifying water, helping plants and animals, and more.

This “living” part is made up of various microorganisms that help a soil be healthy. They, for example, help break down materials like manure so that it and its nutrients become part of the soil.
Farm manager Paul Green of Texas Tech University anchors tarps in the pasture just before compost was spread onto the fields. This created treatment areas in each field where compost application was excluded. Credit: Phil Brown

“Improving the soil’s ability to perform these roles and support plant and animal life is our target for soil health,” Slaughter says. “Adding the manure can provide a boost of material that can be incorporated into soil organic matter. This helps provide a stronger foundation for more microbial activity and nutrient cycling.”

This is why in their study they applied a low one-time amount of manure to two types of pastures to look into this. The pastures they put the manure on had either grass only that was fertilized occasionally or were a mix of grass and legumes that was not fertilized.

Manure helps, but results take time
Overall, they did find that manure helped increase soil organic carbon and the number of microbes in the soil. These are two important characteristics of a healthy soil.

It took almost a year and a half to see these changes, although they say this is not totally surprising.

“This tells us that it can take a long time for even a little added compost to become incorporated into the soil organic matter of semi-arid grasslands, but it definitely helps,” Slaughter explains.

Some of the research pastures included warm-season old world bluestem grass (left) mixed with legumes including alfalfa (purple blooms, center) and yellow sweetclover (yellow blooms, lower left). The legumes provide an organic source of nitrogen to the grasses and microbes, as well as a source of protein for grazing cattle in the pastures.

Credit: Lindsey Slaughter
“We think this is mostly due to the dry climate at our study site,” says Slaughter. “We commonly get little rainfall per year. The microbial community was not able to work quickly or efficiently to decompose the manure without water.”

Their results also showed that the pastures receiving fertilizer responded better to the manure. They believe this is because the nitrogen in the fertilizer helped the microbes decompose the manure better.

“Microbes help directly with releasing nutrients from organic material in a form that plants can use, as well as decomposing those residues to build soil organic matter,” Slaughter says. “A lot of work has been done on how this can help improve cropping systems. However, we wanted to also test this on forage pastures.”

Slaughter adds that the next steps in this work include whether more manure or multiple applications would get faster results. In addition, they hope to investigate if irrigation or fertilizer would help incorporate the manure faster.

“We need more research along these lines to help us design strategies that quickly and effectively increase soil health and productivity in these grasslands,” she says. “This helps farmers save money on nutrients and amendments while building soil organic matter and nutrient cycling capacity. This also saves them water and protects against soil degradation.”

**Lindsey Slaughter** is an assistant professor at Texas Tech University. Funding for this work was provided by the Southern Sustainable Agriculture Research and Education and the USDA’s National Institute of Food and Agriculture. Funding and student support was also provided by the Department of Plant and Soil Science in the College of Agricultural Sciences and Natural Resources at Texas Tech University.
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Fertilizer Applicator Certification Training

April 14, 2021  6 – 9 P.M.

Do you apply fertilizer to 50 acres or more for crops that are primarily for sale? If so, you are required by Ohio law to attend a training session or take a test to become certified. OSU Extension Trumbull County is offering a training session (no test) that will meet all certification requirements. Pre-Registration is required a week in advance. Due to COVID-19 restrictions only 10 registrants will be allowed. Cost for this training session is $35/person and includes training materials, and handouts. To register, complete the back portion of this flyer and mail with check to the address below. Please make checks payable to OSU Extension or go to https://go.osu.edu/aprfact2021 to register online and pay with a credit card which is the preferred method.

Location: OSU Extension Trumbull County, 520 West Main St, Cortland, OH 44410

Cost: $35/person

Contact information: 330-638-6783 or beers.66@osu.edu
SPONSOR: Ohio Farm Bureau Foundation

Camps are open to Ohio students interested in science, food and a variety of ag careers. Students must be a high school freshman, sophomore or junior.

OVERVIEW OF PROGRAM:

Why and who should attend
With an ever growing population and concerns over food security, there is a need for a workforce of talented young scientists who are able to think critically about the issues associated with providing safe, economical, and aesthetically pleasing food and fiber. This one of a kind STEM camp will engage students in the various careers in science, engineering and technology in the food, fuel, and fiber industry that will be needed to face our world’s challenges. Through hands-on tours and activities in state-of-the-art laboratories, campers will get a unique look at what careers in STEM can entail. Days will be filled with learning from the top agricultural science companies and researchers at Ohio State and Central State Universities. Campers will have the opportunity to network with leaders in the industry while gaining a new perspective on the variety of careers available to them in Ohio related to food, fuel, and fiber production. At the end of each day, counselors will lead the students in leadership development activities and programs to show them how to prepare for college and their future careers.

This action packed week will be highlighted each day with a field trip to a different agricultural/food business (i.e. Smuckers, Mohican State Park, Select Sires) followed by an interactive, on-campus lab activity (i.e. food science, greenhouses, meat lab). Students will be challenged through various activities to discuss current scientific issues facing Ohio and the world. Daily activities will engage them as they critically think through such issues.

DATES OF WEEKLONG CAMPS:
June 13-18 - Ohio State University Main Campus
June 20-25 - Ohio State University ATI Campus

DATES OF WEEKEND CAMPS:
Locations will be announced in conjunction with colleges or universities across the state
July 9-11
July 16-18
September 10-12

COST FOR CAMPS: Free

APPLICATION DEADLINES:
Priority Deadline - March 5th
Final Deadline - April 2nd

REGISTRATION: exploreag.org

APPLICATION REQUIREMENTS:
• A one-three minute video "Please tell us about one agricultural career and why that interests you."
• One reference that is not a friend or family member
Learn vegetable and flower gardening basics from the Ashtabula County Master Gardeners! Join us for this 5-part webinar series every Tuesday at 7:00 PM starting March 16th. Each program will be about 30 minutes long, with time to ask questions at the end. If you are wanting to plant a garden for the first time, or looking to improve your basic gardening skills, this series is for you! From types of garden, to plant care, to pest management, you'll have the knowledge to help you grow fresh produce and flowers in no time!

**Location:** Online via zoom  
**Cost:** Free

**Details:** Sign up today at: [https://go.osu.edu/bgs21](https://go.osu.edu/bgs21)

**Contact information:** For any questions or assistance signing up, please contact Andrew Holden at [Holden.155@osu](mailto:Holden.155@osu) or call 440-576-9008

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**Tuesday, March 16th**  
- Types of Gardens and Site Selection

**Tuesday, March 23rd**  
- Soil Preparation and Testing

**Tuesday, March 30th**  
- Plant and Seed Selection

**Tuesday, April 6th**  
- Plant Care Through the Season

**Tuesday, April 13th**  
- Garden Pest Management

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**Ashtabula.osu.edu**
GROWING PRACTICES FOR SMALL SCALE
FRUIT AND VEGETABLE FARMS

Workshops To Take Place on zoom

Tuesdays | March 9th to April 20th
6:30 PM - 8:30 PM