Hello Northeast Ohio Counties!

We finally got some snow! Despite Armageddon predictions from the local weather forecasters, the snow here in Trumbull was fairly manageable – as long as the wind didn’t pile it up!

It was a challenge keeping water troughs come freezing with the cold temps too. Temps dropped below 0F in many locations this morning. With warmer temps later today it could make for icy driving. Be careful out there.
Northeast Ohio Agronomy School Returns February 20, 2019

OSU Extension will be hosting the Northeast Ohio Agronomy School again in 2019! A wide variety of topics will be discussed throughout the day including weed management, insect control, agronomic decisions for soybeans, and updates to the Tri-State Fertility guide. Speakers for this year's event include Mark Loux, Andy Michel, Steve Culman, Laura Lindsey, Anne Dorrance, Origin Malts, and presentations from our sponsors.

We're in a new location this year – The Agronomy School will be held at the Bristolville Community Center in Bristolville, OH. Cost for the program is $15/person and includes snacks, lunch, and handouts. Pesticide, fertilizer, and CCA credits will be available. For more information, or to register call 330-638-6783.

Ohio Agricultural Law Blog—Ohio Department of Agriculture: New Director Changes Course Of Watersheds In Distress Rulemaking
By: Evin Bachelor, Law Fellow, Agricultural and Resource Law Program
Source: https://farmoffice.osu.edu/blog/wed-01162019-221pm/ohio-agricultural-law-blog-ohio-department-agriculture-new-director-changes

Less than a week into the administration of Ohio Governor Mike DeWine, a new approach to watersheds in distress has emerged. Director Dorothy Pelanda assumed the helm of the Ohio Department of Agriculture (“ODA”) earlier this week. (Read more about the new director below). By Tuesday, ODA had changed the status of the proposed watersheds in distress rules in the Register of Ohio to “To Be Refiled.”

Watersheds in Distress Proposed Rules “To Be Refiled”

The change in status of the proposed rules signals that ODA plans to change its earlier proposal. The Register of Ohio, which is where state agencies post rules and proposed rules, defines a proposed rule with a “To Be Refiled” status as one “that has been temporarily removed from JCARR consideration by the rule-filing agency.” Until a sponsoring agency acts, the proposed rule remains in the “To Be Refiled” status and off of the agenda of the Joint Committee on Agency Rule Review (“JCARR”). As we mentioned in a previous blog post, JCARR was set to consider the controversial proposal at its January 22, 2019 meeting. However, the change in status of the proposed rules means that JCARR will not consider them.
until ODA takes further action. ODA may revise the proposal, refile as-is, take no action, or withdraw the proposal.

Readers may recall from a previous blog post that the Kasich administration sought to expand the number of watersheds designated as “in distress,” which would impose additional regulations and restrictions on farmers who apply manure and nutrients to the land. Further, the proposal would have required impacted farmers to submit a nutrient management plan to ODA, and ODA would have to audit at least 5 percent of those plans. ODA’s Soil and Water Conversation Division held a hearing on November 21st, and a number of stakeholders attended to provide comments. A summary report of the hearing is available here. Currently, the Grand Lake St. Marys Watershed is the only watershed in Ohio subject to the additional requirements.

**Managing Limited Hay Supplies**

By Dr. Jeff Lehmkuhler, Associate Extension Professor, University of Kentucky

Source: [http://u.osu.edu/beef/2019/01/16/managing-limited-hay-supplies/](http://u.osu.edu/beef/2019/01/16/managing-limited-hay-supplies/)

Steps:

1. **Determine hay needs** – Hay needed to overwinter a cow can be estimated relatively easily. If you know the mature weights of your cows, multiply the average weight by 3% and then by the expected number of days you will feed hay. For example, if cows at a body condition score 5 weigh 1,300 lbs, the daily hay needed would be 1,300 lb * 3%/100 = 39 lbs. Assume you began feeding hay November 15 and expect to feed until April 15, the hay needed equals daily intake in lbs X Number of months X 30 = 39 lbs X 5 months X 30 = 5,850 lbs. If bales provide 800 lbs of good forage (exclude rot/spoiled hay), the number of bales needed would be 5,850 lb /800 lb/bale = 7.3 bales/cow for the feeding period. Always add 10-20% more due to feeding losses, spoilage and longer feeding periods. Inventory hay stores in the early winter as hay will be cheaper at the start of the winter as opposed to later when hay stocks are lower.

2. **Match hay quality to animal needs** – Use limited forage wisely by matching quality to stage of production. Growing and lactating animals have the highest nutritional needs. As you consider the annual production of a beef cow, nutritionally we tend to break them out to late gestation, early lactation, late lactation, and the dry, mid-gestation period. During late gestation, particularly the last 60-75 days before calving, the fetus is growing rapidly increasing nutrient needs of the cow. Additionally, mammary tissue development and colostrum formation require additional nutrients. As cows calve and freshen, nutritional requirements increase with milk production. Peak milk production occurs around eight weeks post-calving and corresponds with the highest nutritional needs during the production year. Nutritional needs may decrease after peak as milk production
decreases. However, some research has shown that cows may sustain high levels of milk production out to 120 days post-calving. Thus, it is important to monitor cow body condition through lactation and make feeding adjustments as needed. This is important for fall calving beef cows as they may require additional supplementation to support higher levels of milk production. Feed the highest quality forage during lactation to minimize body condition loss and supplementation needs. As cows are weaned and milk production ceases, nutritional needs are greatly reduced. Dry, non-lactating cows that have weaned 6-8 month old calves should be in the second trimester of gestation. The nutritional needs to support fetal development at this point is low and corresponds to the lowest nutritional requirements for the production year. Utilize lower quality forages at this point to conserve higher quality forages for other phases of production. See the table below for guidelines on forage quality needed at different stages of production for mature beef cows. These assume cows are in good body condition and no environmental stress (i.e. mud, wet haircoats, etc…).

<table>
<thead>
<tr>
<th>Stage of Production</th>
<th>% TDN</th>
<th>% CP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry, mid-gestation</td>
<td>45-50%</td>
<td>7-8%</td>
</tr>
<tr>
<td>Late gestation</td>
<td>50-55%</td>
<td>8-9%</td>
</tr>
<tr>
<td>Early lactation</td>
<td>60-65%</td>
<td>10-12%</td>
</tr>
</tbody>
</table>

3. Less Time – Limited hay stores can be stretched if you have the ability to limit the amount of time cows have access to the hay. This can only be done for mature cows that are in the dry, mid-gestational stage of production and are 5-6 body condition scores. Young and thin cows need additional feed to grow and replenish body stores and should not be limit fed. Purdue research demonstrated that limiting access to 8-12 hours did not have detrimental impacts on body weight or condition of mature cows. In this work, restricting access to hay to 8 hours reduced hay disappearance by approximately 15%. Restricting access time to hay, however, resulted in a linear decrease in body weight gain in young, second calf cows. Researchers at the University of Illinois reported findings from a similar study. Simmental cows in the last trimester were limit fed for approximately 90 days. Access time to hay in this study was ad libitum (free-choice), 9, 6 or 3 hours. Hay disappearance decreased from 34 lbs of dry matter for free-choice cows to approximately 18 lbs for cows having only 3 hours of hay access. Cow body weight gains decreased linearly as the time restriction increased. Body condition score changes followed similar trends to weight changes. In the second trial conducted hay access was restricted to only 6 or 9 hours. Again, hay disappearance decreased as access time was limited. Body weight and body condition score changes were not impacted by restricting hay access in this trial. These studies utilized above average quality grass/legume hay. The level or degree of restriction will be dependent on the quality of the forage. Low quality forage should not be restricted. Cows will need to consume as much of quality forage as they can due to the low digestibility and low nutrient concentrations. If this management is
used, the herd will need to be separated by age and production as lactating cows, late gestational and young or thin cows should not be restricted.

4. Reduce feeding losses – Managing hay feeding can also aid in stretching limited hay stocks. Research demonstrated increased losses when unrolling hay on the ground. Hay is trampled into the mud from being walked and laid upon. Defecation and urination on hay will prevent intake as well. Research from North Dakota has also demonstrated that feeding with a hay processor on the ground leads to increased hay losses compared to feeding in a hay ring. Leaf shatter and small forage particle loss leads to lowered utilization. If using a processor and one wants to minimize losses, place processed hay in a feeder or bunk rather than on the ground. Hay rings should have sheeting around the bottom to minimize hay losses. Improved designs that keep bales elevated on the ground while allowing dropped hay to fall within the hay feeder also lower feeding losses. These feeders are more expensive up front but if hay is expensive, they can lower feeding costs. It is important these hay feeders are managed. If hay builds up inside the feeder and the cattle don’t consume the hay due to rot or mold, move the hay ring. If the hay is not of low quality, allow animals to consume the hay that is lying on the ground within the ring before placing a new bale in the feeder. Allowing the hay to build up to the top of the ring/sheeting/tire in these newer designs will increase losses when a new bale is offered as hay will fall out over the edge of the ring or tire. Further, placing hay rings on a feeding pad can lower losses from hay that falls outside the ring on the ground. This hay may be consumed off the ground on a feeding pad while it would otherwise be trampled into the mud around the feeder.

5. Hay replacement – Replacing hay with other feedstuffs to supply the nutrients needed is feasible. A word of caution, when restricting hay the rumen will not be full. Stretch receptors on the rumen will lead to cows seeking to eat something even though nutritionally they won’t need to eat. This can lead to tree and fence damage or even cows getting out looking for something to eat. Giving access to low quality forage ad lib can curb this by giving cows something to eat and fill the rumen. Corn stover, wheat straw and other low quality forages can used. The typical fescue hay will contain 50-54% TDN and 7-9% protein on a dry matter basis. If one were to offer 1 lb of dried distillers grains, the protein supplied would be the equivalent of 3-4 lbs of hay while the energy from the distiller grains would replace 1.75 lb of hay. For dry, gestating cows soybean hulls can be used to replace average grass hay at a rate of 1.5 lbs of soyhulls per pound of hay. Cows should always be offered at least 8-10 lbs of long stemmed forage to maintain rumen health and lower the incidence of bloat. Other feedstuffs can be used to develop a low hay diet for beef cows. Be sure to work with a nutritionist to ensure the nutrient needs of the cows are met and to lower the risk of digestive disorders. Other nutrients should not be overlooked. The rumen is approximately 80% moisture and a beef cow may need 10-20 gallons of water a day. If water availability is restricted,
intakes will be depressed and milk or performance will be reduced. A high quality loose mineral should be provided at all times to ensure mineral and vitamins requirements are met. If supplement is offered, considered including an ionophore such as monensin or lasalocid to improve energy efficiency. Research has demonstrated the cows will maintain similar body condition when fed 200 mg/hd/d of monensin on 5-10% less feed.

Sound management will allow you to conserve hay without sacrificing animal productivity. Remember that the animals’ nutritional needs should always come first. Work with your local county extension office or nutritionist to ensure the nutritional needs will be met. Here’s to not losing a boot in the mud.

Dorothy Pelanda Assumes Directorship of Ohio Department of Agriculture

Director Pelanda steps into Governor Mike DeWine’s cabinet as the 39th Director of the Ohio Department of Agriculture. She served in the Ohio House of Representatives from 2011 until the end of the previous General Assembly, and held leadership positions within the Republican caucus. Prior to her appointment to the Ohio House, Director Pelanda practiced law in Union County. She is a graduate of the University of Akron School of Law, Miami University, and Marysville High School. Director Pelanda is the first woman to serve as the Director of the Ohio Department of Agriculture. For more information about Director Pelanda, visit ODA’s website.

ODA REMINDS FARMERS OF REQUIREMENTS FOR DICAMBA USE

Revised label and new training required before use in 2019

REYNOLDSBURG, Ohio (Jan. 16, 2019) – The Ohio Department of Agriculture (ODA) is reminding farmers of revised labels and new training requirements for applicators who intend to use dicamba herbicide products this year. In October 2018, U.S. EPA approved revised labels for the three dicamba products that are labeled for use on soybeans: Engenia (BASF), XtendiMax (Monsanto) and FeXapan (DuPont).

“Like any other product, we want to ensure licensed applicators are properly following label directions as they get ready for this growing season,” said Matt Beal, chief of the ODA Division of Plant Health. “This not only helps ensure the safe use of pesticides, it also helps prevent misuse and mishandling.”
The manufacturers of these dicamba products also agreed to additional requirements for their products. Some of the requirements include:

- 2019 labels supersede all prior labels for these products. Applicators must obtain a copy of the new label and must have that label in their possession at the time of use.
- Only certified applicators may purchase and apply the products:
  - Those operating under the supervision of a certified applicator may no longer purchase or apply.
  - Anyone who mixes, loads or cleans dicamba application equipment must become licensed.
  - ODA will host additional “Dicamba Ag Only” exams in February and March for those looking to become a certified applicator. Visit [agri.ohio.gov](http://agri.ohio.gov) for more details.
- Applicators must complete dicamba-specific training.
- Increased recordkeeping requirements.
- Wind speed restrictions.
- Temperature inversion restrictions.
- Sensitive/susceptible crop consultation.
- Spray system equipment clean-out.

More details on these revisions can be found in the attached fact sheet. Applicators looking for a list of ODA-approved trainings can visit [www.agri.ohio.gov](http://www.agri.ohio.gov). For questions, applicators can contact the ODA Pesticide and Fertilizer Regulation Section at 614-728-6987 or [pesticides@agri.ohio.gov](mailto:pesticides@agri.ohio.gov).

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**Right green for crop, environment, wallet**

*Light sensor tools help growers make sense of nitrogen*

*By: Adityarup Chakravorty*

*Source: [https://www.sciencedaily.com/releases/2019/01/190116090647.htm](https://www.sciencedaily.com/releases/2019/01/190116090647.htm)*

Too much of a good thing can be a bad thing. That's certainly true for nitrogen fertilizers.

Without enough nitrogen, crops don't grow well. Yields are reduced significantly.

Applying too much nitrogen fertilizer, on the other hand, can hurt the environment. Nitrogen can enter the watershed, polluting aquatic ecosystems. Microbes can also convert the excess nitrogen into nitrous oxide, a greenhouse gas implicated in climate change.

"Managing nitrogen is vital for global food security," says Yuxin Miao, an agronomist at the University of Minnesota. "It is also crucial for reducing pollution and climate change."
Miao and his colleagues have been researching ways to efficiently manage nitrogen in agriculture. They compared several approaches. The researchers found that one approach, active canopy sensor-based nitrogen management, is the most efficient.

Sensor-based nitrogen management uses light sensors to actively monitor crop health and vitality. The sensors measure different wavelengths of light coming from crop leaves. These measurements serve as proxies for crop health.

Based on field measurements, software in the sensors can calculate how much nitrogen crops need. Farmers can use these data to apply optimal amounts of nitrogen to crops.

The goal is to "match nitrogen supply with crop nitrogen demand," says Miao. That allows crops to access nitrogen fertilizers exactly when they most need it. In turn, that could increase yields.

This approach has several benefits compared to other nitrogen management strategies. "It reduced overall nitrogen fertilizer application," says Miao. "It also decreased nitrogen loss into the environment and lowered nitrous oxide emissions."

Canopy sensor-based systems have several other advantages as well. "Using sensors is fast and non-destructive," says Miao. "There are no additional costs beyond purchasing the sensors."

Also, the latest models of sensors are not influenced by environmental light. That means growers can get an accurate measurement no matter the weather -- no need for clouds to clear.

There may also be monetary benefits. "This technology can reduce the use of nitrogen fertilizers," says Miao. "Farmers can lower production costs and increase economic returns."

To test different nitrogen management strategies, Miao and his colleagues conducted field experiments from 2008 to 2012. The study site was in the Hebei Province in northern China. The researchers tested the different strategies on a winter wheat and summer corn rotation system.
Some of the other nitrogen management strategies tested by Miao also reduced fertilizer use. But they all had drawbacks. For example, one system required testing the soil for nitrogen levels. "However, this system had labor, time, and cost limitations," says Miao.

Miao is now working to make improvements. Some of the new systems will be more suitable for high-yield cropping systems. Others may be more efficient than the current hand-held ones.

Miao hopes these sensor systems will have global reach. "This strategy of nitrogen management would work with major crops in many countries."

But Miao thinks that farmers can't do it alone. Farmers, researchers, and service providers will need to work together. "That can facilitate widespread adoption of this system, especially in developing countries," he says.

Miao presented these results at the November 2018 meeting of the American Society of Agronomy and Crop Science Society of America in Baltimore, MD.

**Local Dicamba Training Available**

Local pesticide applicators that will be applying new dicamba products this year will need to obtain their annual training to learn about the new rules and restrictions. WI Miller and Sons (3500 Gardner Barclay Rd., Farmland, OH 44417) will be hosting a Monsanto dicamba training session on February 6, 2019 from 9:30 A.M. to noon. Preregistration is requested, and you can register online at [http://www.cvent.com/d/x6qn7y](http://www.cvent.com/d/x6qn7y). Call WI Miller and Sons with any questions 330-876-6573.

**Scholarship opportunity available**

A SCHOLARSHIP FOR STUDENTS…interested in horticulture is available through the Men’s Garden Club of Youngstown. It is open to any student in horticulture that is from Mahoning, Trumbull, Columbiana, Stark and Portage Counties in Ohio and Mercer and Lawrence Counties in PA.

APPLICATION: [https://mgcy.org/scholarship](https://mgcy.org/scholarship)

DEADLINE: March 1, 2019

QUESTIONS: Bob Schulick, oldsmansirl@aol.com, 330-727-1674

**Specialty Crop Growers’ Roundtable at OARDC**

Winter is a time for many activities, including obtaining new information and reconnecting with friends, peers, and partners. All these activities and more happen at programs coordinated by
grower associations, universities, and others. In that light, consider participating in the upcoming Specialty Crop Growers' Roundtable on February 4, 2019 at the OARDC in Wooster, OH.

Every program has something to offer. The Roundtable will offer brief, to-the-point presentations, demonstrations, exhibits, and trainings, and ample time for one-on-one and small group discussion — great value for commercial vegetable, fruit, and herb growers, especially ones active in local to regional markets. There will be plenty to hear, see, say, and do at the Roundtable. Please note: attendance is capped at 50 and pre-registration is required.

Learn more about the Roundtable program, including how to register. https://u.osu.edu/vegnetnews/2019/01/19/specialty-crop-growers-roundtable-at-oardc/

**Trumbull County Farmer Lunch Series**

OSU Extension Trumbull County, Trumbull County Soil and Water Conservation District, and the NRCS have combined efforts to offer a farmer lunch seminar series that will cover a variety of topics relevant to NE Ohio. Each program will start with lunch at 11:30 A.M. sponsored by the Trumbull County Holstein Club followed by a 1-hour presentation. Cost for individual programs is $10/person. If you would like to register for all four programs, the cost is $35/person.

*Wednesday, February 20, 2019 – NE Ohio Agronomy School in Bristolville, OH*

Tuesday, March 5, 2019 – Climate Impacts for Ohio Agriculture
- Aaron Wilson, OSU Byrd Polar and Climate Research Center
- Our changing climate has already influenced how Ohio farmers operate. Learn how predicted climate changes will continue to drive changes in Ohio agriculture. CCA credits available.

Tuesday, April 2, 2019 – Tillage Affects on Soil Health
- Steve Culman, Assistant Professor, State Specialist in Soil Fertility
- New tillage technologies are arriving each year, but are they hurting your soil health? Learn how tillage, and other practices can improve or hurt your soils health. CCA credits available.

**Upcoming Events**
Trumbull County Farmer Lunch  
March 5, 2019 – Climate Impacts for Ohio Agriculture  
April 4, 2019 – Tillage and Soil Health

Northeast Ohio Agronomy School  
February 20, 2019 – Bristolville Community Center

Ashtabula County Dairy Banquet  
March 26, 2019

Pesticide Applicator Training Dates  
Geauga County – February 1, 2019  
Portage County – February 8, 2019  
Ashtabula County – February 28, 2019

New Pesticide Applicator Training  
Geauga County – February 12, 2019  
Trumbull County – March 12, 2019

New Fertilizer Certification Training  
Trumbull County – February 23, 2019  9A.M. to 12P.M

Prune Into March  
Trumbull County – March 2, 2019

March In Prune Out  
Geauga County – March 30, 2019
Are you thinking about getting your pesticide license, but are nervous about the exam? OSU Extension is offering two opportunities to attend a New Applicator Training that will help you prepare for the ODA exams. We will cover CORE, or basic safety material and will discuss individual categories briefly. Pre-Registration is required a week in advance. Cost for this training session is $35/person and includes CORE study materials, and handouts. To register, complete the bottom portion of this flyer and mail with check to the location you plan to attend. Please make checks payable to OSU Extension

OSU Extension Trumbull County
520 West Main Street
Cortland, OH 44410

OSU Extension Geauga County
14269 Claridon Troy Road
Burton, OH 44021

2019 NEW PESTICIDE APPLICATOR TRAINING REGISTRATION FORM
Complete the below information and send with payment to the location you wish to attend the training.

Name: ____________________________________________________________
Address: __________________________________________________________
Phone: __________________________ Email: ____________________________
Number Attending: __________________________ X $35/person = __________ Enclosed

Please make checks payable to OSU Extension
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 offices in Ashtabula and Trumbull Counties are offering training sessions (no test) that will meet all certification requirements. **Pre-Registration is required a week in advance.** 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 location you plan to attend. Please make checks payable to OSU Extension.
2019 Fertilizer Applicator Training
Trumbull County

Name ____________________________________________

Address ____________________________________________

City _______________ State_____ Zip____________________

Phone ____________________ Email ______________________

Number of People Attending: _________ X $35/person __________

Please make checks payable to: OSU Extension

Please mail to the location you plan to attend.

OSU Extension Trumbull County, 520 West Main Street, Cortland, OH 44410

For questions, contact Lee Beers at 330-638-6783 or by email at beers.66@osu.edu