AGRICULTURE

What a year it has been!

By Carri J. Jagger, Agriculture & Natural Resources Extension Educator

It's been a year since the craziness of the Covid-19 pandemic started and we all had to start living and working a little bit differently. It caused a lot of frustration and heartache because we had to cancel things and learn to do our jobs differently. For me it was how can I reach my clients and help them while I'm working from home and not able to visit them? This was very frustrating for me as I enjoy going and visiting with the folks of Morrow County. I enjoy having in person classes where we can learn together from each other by sharing our experiences of successes and failures on our own properties.

During this time I created a weekly Agriculture, Horticulture and Natural Resources newsletter that is sent out via email. The newsletter contains educational information and educational opportunities that are happening in Morrow and surrounding counties. If you would like to sign up for the weekly email please visit https://u.osu.edu/morrowcountyag/ and subscribe to receive the weekly email of updates.

I also wanted to continue to offer educational programs to the folks of Morrow County, so I created video lessons and posted them to our YouTube page:

OSU Extension Morrow County

https://www.youtube.com/channel/UCtUQ7f11LTrGmdGEBaSHU2A .

Please visit the page to see all of the educational videos we have shared over the past year. As summer nears we are hopeful that things are starting to change and we can get back to some sort of normal again. Continue to follow OSU Extension to see what exciting things we bring to 2021.

Growing Degree Days (GDD)

By Amy Stone

Growing Degree Days (GDD) are a measurement of the growth and development of plants and insects during the growing season. Development does not occur at this time unless the temperature is above a minimum threshold value, or what is also referred to as the base temperature. This base temperature can vary for different organisms and is determined through research and experimentation.

The actual temperature experienced by an organism is influenced by several factors and these factors will ultimately affect that organisms growth and development. We can probably all agree that depending on the weather, an organism's temperature may be a few degrees more or less than that recorded. For example, an organism in direct sunlight will likely experience higher temperatures, than those in full shade, and of course somewhere in the middle if the organism is located in dabbled shade, or both sun and shade at some point throughout the day. What is comes down to is the actual location can result in those temperature differences.

Fertility and nutrient levels in the soil can also affect the growth rate of insects and plants. The presence of weeds and precipitation may indirectly influence development as well. Due to these factors and some other scientific considerations, a base temperature of 50 degrees Fahrenheit is considered acceptable for all plants and insects, and what is used on the Ohio website.

GDD is a tool that should be in each green industry professional's "tool-box", and can be beneficial for consumers too. In Ohio, we are very lucky to have a GDD website that was developed as a result of work that Daniel Herms, Denise Ellsworth, Ashley Kulhanek and other contributors including Ohio Master Gardener Volunteers over the years. Check out the website for more information: https://www.oardc.ohio-state.edu/gdd/

The website uses GDD that ultimately provides a biological calendar that 'marries' a list of plants at their first and full bloom, and insect activity. This calendar is a sequence of events that includes both plants and insects and ties to each organisms to the GDD.

It is important to say that while the actual number associated with GDD is based on weather stations across Ohio, there can be some differences based on microclimates, but the sequence of activity is always in the same order. As you use GDD, it is always recommended to get outdoors and compare what the website is telling you what should be happening, and what you are seeing. For example, the first plant on the Ohio list is first bloom of silver maple at 34 GDD. Check out the website, type in your Ohio zip code, see what the website says your GDD is, and then head out to the field and make the seasonal observations that is included in the list. Are you seeing silver maples blooming in your area?

Beef Quality Assurance Re-Certification and Certification offered April 22 at 6 p.m.

In today's market, it is important to take advantage of any and all opportunities that make our cattle more desirable to the buyer sitting in the stands. As of now, Wendy's Restaurant, Tyson Foods and multiple auctions have announced that they will require producers to be certified in BQA in order to market their cattle or serve their product. To learn more and become certified or re-certified, join us April 22 at 6 p.m. at the OSU Extension Morrow County 2nd Floor Conference Room, 5362 US Hwy 42, Mt Gilead, OH 43338

Please RSVP to the OSU Extension Office 419-947-1070 or Jagger.6@osu.edu by April 20.

AGRICULTURE

Spring is in Sight

This has been a long, cold winter. Thank goodness spring is in sight, Saturday, March 20 marked the first day of spring. With this being said, it's time to start thinking about planning vegetable gardens. If starting a new garden, soil testing the site where the garden will go is a good idea. If it is an existing garden and the soil has never been tested, now would be a good time to think about testing it. OSU Extension - Morrow County can help with soil testing. We can come out, take the samples, and send them to Spectrum Analytic to have them analyzed. The testing costs $15.00. The fee covers the shipping and soil analysis.

Another gardening task to be thinking about is seed starting. Growing plants from seed is a lot of fun and now is the time to be doing this. Below is a chart from The Old Farmer's Almanac that will help determine when to start seeds indoors, transplant seedlings outdoors, and when to start seeds outdoors.

Taking a look at the chart at right, notice that some of the vegetable crops we like to plant in the garden can handle cooler temperatures and those are recognized as cool season crops. Some of those include:

- Cole crops (or brassicas) which are an amazingly large and varied family, whose edible portions span from leaves to flowers to roots. This includes broccoli, cauliflower, kale, cabbage, radishes, turnips, kohlrabi, arugula, Asian greens, and mustard greens (Brussels sprouts, a brassica, are planted in the cool season but take many months to mature).
- Peas (both edible-podded and shelling) are another familiar cool-season crop.
- Lettuce is yet another group that has a huge number of varieties.
- Spinach is also included the cool season assembly.

Now that we have talked about testing the garden soil, starting seeds and cool season crops. We need to think about the frost-free date in Morrow County. According to the old farmer's almanac the frost-free date is May 10th for Morrow County. However, I caution folks of following this date. I like to use Memorial Day as a frost-free date in central Ohio because the last several years have presented us with a frost and or freeze near Mother's Day. Mother's Day has always been a good rule of thumb for safely planting vegetables and flowers outside, but I caution folks to watch the weather and think about planting around Memorial Day, all threat of frost should be gone by then.

I know the temptation is always there to start earlier especially if we are experiencing 65 and 70 degree days. That is why it is important to follow the planting guide above. If you have raised beds or microclimates under cold frames the soil might warm up quicker allowing you to start a little earlier. Ideally cool season crops would like soil temperatures to be above 40 degrees and warm season crops would like soil temperatures to be at or above 55 degrees.

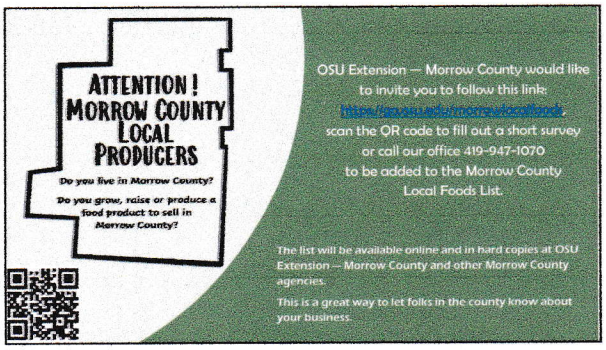
If you do jump the gun and plant before Memorial Day your crops can potentially be protected from frost with old blankets, cardboard and row covers.

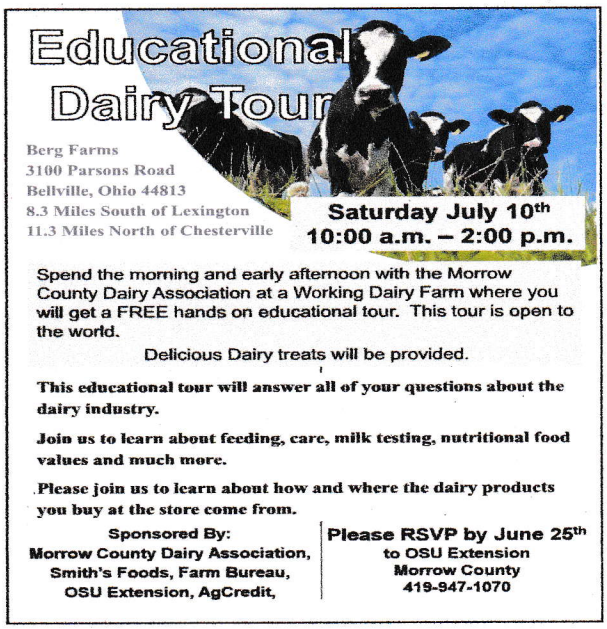
Whether you are starting transplants from seed or purchasing them, watch the weather forecast to ensure your little plant babies are protected. Have a fun and successful spring.

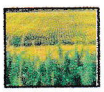
If you have questions call the Extension office and Carri Jagger, the Agriculture and Natural Resources Educator, will be happy to help you. 419-947-1070

PLANTING DATES

Crop	Start Seeds Indoors	Transplant Seedlings	Start Seeds Outdoors
Beans			May 17 - June 7
Beets			April 26 - May 17
Broccoli	March 29 - April 12	April 19 - May 10	
Brussel Sprouts	March 29 - April 12	April 12 - May 3	
Cabbage	March 15 - 29	April 12 - 26	
Cantaloupe	April 12 - 19	May 24 - June 14	May 24 – June 1
Carrots			April 5 - 19
Cauliflower	March 29 – April 12	April 12 - 26	
Collards	March 29 – April 12	April 12 – May 3	
Corn			May 10 - 24
Cucumbers	April 12 – 19	May 24 – June 14	May 24 – June 1
Eggplants	Feb. 28 – March 15	May 24 – June 14	
Kale	March 29 - April 12	April 12 - May 3	
Lettuce	March 29 - April 12	April 26 - May 24	
Onions			April 12 – May 3
Peas			March 29 – April 19
Peppers	Feb. 28 – March 15	May 24 – June 14	
Potatoes			May 3 – 24
Pumpkins	April 12 – 26	May 24 – June 14	May 24 – June 1
Radishes			March 15 - April 5
Spinach			March 29 - April 19
Sweet Potatoes	April 12 – 19	May 24 – June 14	May 24 – June 1
Squash	April 12 – 26	May 24 – June 14	May 24 – June 1
Swiss Chard	March 29 – April 12	April 19 – 26	May 24 – June 1
Tomatoes	March 15 – 29	May 17 – June 7	
Turnips			April 12 – May 3
Watermelons	April 12 – 19	May 24 – June 14	May 24 – June 1







AGRICULTURE

Grass Tetany Hypomagnesemia: Start Preventive Measures Now

By Dr. Michelle Arnold, Ruminant Extension Veterinarian, University of Kentucky Veterinary Diagnostic Lab

A special thanks to Dr. Jeff Lehmkuhler for his contributions to this article.

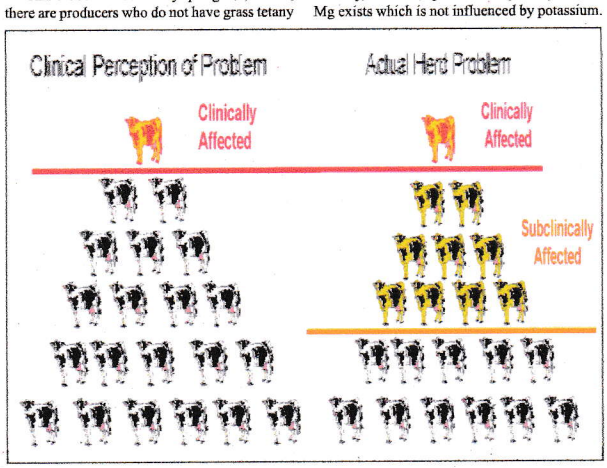
What is "Grass Tetany" and when are cattle most likely to have it?

Grass tetany, also known as spring tetany, grass staggers, wheat pasture poisoning, winter tetany or lactation tetany, is a condition resulting from a low level of magnesium (Mg) in the blood. Maintenance of blood magnesium depends on the amount obtained from the daily diet since the magnesium present in teeth and bones and is not easily mobilized in times of need. Magnesium is required for proper nerve and muscle function so low levels in the blood result in "tetanic spasms" where muscles contract uncontrollably. The disorder in an adult cow begins with separation from the herd and going off feed. The ears are often erect and twitching and the cow is alert, hyperexcitable and may be aggressive. The symptoms quickly progress to muscle spasms, convulsions, difficulty breathing, and death. Often the affected animal is found dead with evidence of thrashing and struggle on the ground around her. Deficiencies occur most often in beef cows when they are nursing a calf and grazing young, green grass in early spring. Fast-growing spring pastures are high in potassium (K+) and nitrogen (N+) and low in magnesium (Mg++) and sodium (Na+) ions. Affected cattle often have low blood calcium concurrently. Fall calving cows may also experience grass tetany during the winter months.

Will Feeding Plain White Salt to Cows Prevent Grass Tetany?

This claim is shared every spring and, indeed, there are producers who do not have grass tetany that only feed salt. How can that be? Simply put, for some producers, the minerals available in their soils and forages are enough to meet the nutritional needs of their cows. Regional soil types, soil fertility, diverse forage species and differing cattle requirements based on age and stage of lactation result in different mineral needs for grazing livestock on every farm. A blanket recommendation to just feed salt ignores these factors and oversimplifies a very complex situation. Trace minerals such as copper, selenium, and zinc are all essential nutrients vital for proper growth, production, and immune system function. Trace mineral deficiencies are very common and predispose animals to serious and sometimes fatal disease conditions. Commercial trace mineral mixes are formulated to meet the needs of cattle, including their daily need for salt. Because interactions occur between all the various metals, minerals, and other elements in the diet, optimal amounts of all elements are essential for proper nutrition.

Several complex factors are in play for magnesium to be absorbed through the rumen (stomach) wall and into the blood. Primarily there is a "pump" mechanism that actively moves the dissolved "soluble" form of Mg across the rumen wall to the bloodstream. If potassium in the rumen is high and sodium is low, this setup changes the electrical potential needed to drive the pump. Research has shown that the negative effects of high potassium in early spring grass cannot be overcome by simply adding more sodium in the form of salt. In fact, too much salt will increase urination and cause magnesium to be lost in urine. Salt, as with any substance, can be dangerous and even fatal at high levels. Fortunately, a second, "passive transport" system for Mg exists which is not influenced by potassium. This transport system only works when soluble Mg in the rumen fluid is high and Mg will then flow into the bloodstream without having to be pumped. High magnesium mineral mixes prevent grass tetany by increasing the amount of dietary magnesium concentration in the rumen, allowing this passive movement of Mg to take place.



Hypomagnesemia is often referred to as an "iceberg" disease because only a few clinical cases occur but there are many unobserved or subclinical cases that may become problems after a stressful event such as a weather change.

Does Grass Tetany Only Occur in the Spring?

No! "Winter tetany" in beef cattle is caused by consumption of a diet low in energy and an insufficient intake of magnesium, usually over winter. It may also be observed when feeding wheat or rye baleage since these forages are often high in potassium and nitrogen but low in magnesium. Affected cattle have borderline low blood magnesium concentration then clinical signs of grass tetany are triggered by a stressor such as a severe cold snap.

How Can Grass Tetany Be Prevented?

Prevention is based on providing magnesium in the diet during times when conditions are right for grass tetany. If the active transport pump is driving magnesium across the rumen wall, grass tetany problems should not develop. However, when factors prevent this pump from working (for example, high levels of K+ in lush spring grass), the second or "backup" pathway depends on increasing levels of magnesium in the diet. Supplementation with high magnesium mineral should begin at least 30 days prior to calving. Cows require magnesium daily or 4 ounces per day of a 12% magnesium mineral mix, especially during the late winter and early spring if pregnant or lactating. The keys to using a free-choice trace mineral product are to ensure cattle have access to mineral 100% of the time, use a palatable, quality product and make sure they are consuming it at the expected level. Remember a 50-pound bag of hi-mag mineral to be fed at 4 ounces per head per day will only last 4 days in a 50 cow herd. If the cows have calves that also eat mineral, a bag may only last 3 days. Mineral feeders should not be allowed to be empty because consistent intake is important for clinical disease prevention. Provide adequate access for cows and calves, for example 1 mineral feeder per 15 cow/calf pairs. Do not offer additional loose salt, salt blocks, or sources of salt at the same time! High magnesium mineral may be discontinued in late spring once the grass is more mature, the water content of the forage is decreased, and daily temperatures reach at or above 60°F.

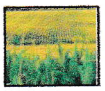
Does the form of magnesium used in the mineral matter?

Absolutely. The feed industry utilizes magnesium oxide (MgO) to supply magnesium but there is tremendous variation in quality and bioavailability. Magnesium oxide is bitter and unpalatable to beef cattle. Recently the UK Beef IRM mineral recommendations were updated to reflect current market conditions. The more palatable form of magnesium known as "prilled MagOx" has been removed from the Beef IRM mineral guidelines because it is unavailable at the present time.The granular or powder magnesium oxide has a greater surface area resulting in the potential for a decrease in palatability, therefore the magnesium oxide level was reduced to 12% from the previous recommendation of 14%. UK Beef Integrated Resource Management (IRM) mineral recommendations for free choice supplements for grazing beef cattle now include 15% salt and 12% magnesium in the complete mineral mix and all magnesium from magnesium oxide (no dolomitic limestone or magnesium mica). These complete mineral mixtures also supply the necessary sodium in the form of salt to aid in combatting high potassium intakes. Consumption should be monitored because cattle will not eat enough trace mineral if using poor quality products or if any additional free-choice salt is available. Only put out 1-2 weeks' worth of mineral at a time. If feeding grain to cattle, MagOx can be added to grain to ensure magnesium consumption. For example, with approximately 60% Mg in MagOx and if feeding 2 lbs grain / cow, then adding 50 lbs MagOx / ton of feed will provide about 14 g Mg to the cow.

Are there management changes that reduce the risk of grass tetany?

Yes. These include: 1) Soil test and apply fertilizer based on soil test results and use no more potassium than recommended since grasses are "luxury" consumers of potassium; 2) Legumes are high in magnesium and will help offset the problem although their growth is slow in late winter; 3) Offer hay to cattle on lush pasture during susceptible periods or limit grazing time to 2-3 hours per day to slow the rate of passage through the digestive tract and allow more time for magnesium absorption; 4) Graze the less susceptible or non-lactating animals (heifers, dry cows, stocker cattle) on the highest risk pastures. Be aware that the use of poultry litter as a feed supplement or fertilizer has frequently been associated with an increased incidence of grass tetany.

In summary, increasing magnesium intake by providing a free choice, high magnesium trace mineral mix and no alternative forms of salt, and meeting energy needs with good quality forage or supplemental feed are necessary to prevent development of grass tetany. Both are exceptionally important when mov-ing from winter rations to young spring grass pasture, especially in early lactation cows. Grass tetany is considered a true veterinary emergency requiring prompt treatment with magnesium to prevent death. Response to therapy is not always good and depends largely on the length of time between onset of symptoms and treatment. Cattle that do recover take at least an hour which is the time it takes for magnesium levels to return to normal. Many of these cows will relapse and require more treatment within 12 hours. Administering oral magnesium gel once the animal has regained good swallowing reflexes, drenching with magnesium oxide or magnesium sulfate, or administering a Mg enema will reduce the rate of relapse. If grass tetany has occurred within a herd, an effort should be made to immediately increase the intake of magnesium to other herd members to prevent further losses.



AGRICULTURE

Time is now to purchase the right nozzles for your spraying needs

By Erdal Ozkan

This is the time of the year you must complete shopping for nozzles because the spraying season is just around the corner. Each part of the application equipment plays a critical role in achieving maximum performance from the sprayer. Therefore, each component must be selected carefully and must perform successfully the tasks associated with it. Although nozzles are some of the least expensive components of a sprayer, they hold a high value in their ability to influence sprayer performance. They help determine the gallon per acre intended application rate. They also influence the droplet size, which plays a significant role in achieving improved penetration into crop canopy and better coverage on the target pest, both affect the efficacy we expect from pesticides applied. Wrong choice of nozzle may hurt us in several ways, but here are the three most obvious ones: We may end up with streaks of untreated areas causing non-uniform pest control; or simply complete failure or ineffective pest control which require repeat applications; and finally, we may end up losing a significant part of the pesticides applied in the form of spray drift. Sometimes, the choice of nozzle may be determined by the requirements given on the pesticide label.

Selecting the best nozzle requires careful consideration of many important factors including: sprayer operation parameters (such as application rate, spray pressure, travel speed); type of chemical sprayed (herbicides, insecticides, fungicides); mode of action of chemicals (systemic, contact); application type (broadcast, band, directed, air assisted); target crop (field crops, vegetables, vineyard, shrubs and trees, etc.); and spray drift risk. I will briefly cover some of these topics in this article. For detailed information on nozzle selection, I strongly recommend you read a new Ohio State University Extension Publication, entitled "Selecting the Best Nozzle for the Job". In this publication, you will see step-by-step guidelines for selecting the most appropriate spray nozzle for a given application situation. The publication is available online at following web site: http://ohioline.osu.edu/factsheet/fabe-528

Which nozzle type is best for your situation?

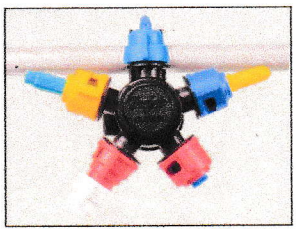
When I get a question like, "what is the best nozzle I can buy?", my answer is: it depends on the job on hand. The nozzle selection is a two-step process. First, we need to determine the type of nozzle best for a given situation. Next, we need to determine the appropriate size of that nozzle that will be capable of providing the desired gallons per acre application rate under various operating conditions such as travel speed and spray pressure. Each nozzle type is designed for a specific type of target and application. For example, a nozzle designed for broadcast spraying is not good for spraying pesticides over a narrow band. While one nozzle may be best for a given situation, it may be worst choice for another. For example, we at Ohio State University have conducted field experiments to determine which nozzles to choose for two different application situations: soybean diseases such as rust and white mold, and wheat diseases such as head scab and stem rust. We included 6-8 different nozzles in the experiments. We found out that while a twin-fan pattern nozzle was best for controlling wheat head scab, the same nozzle turned out to be the worst choice to protect soybeans against rust and white mold when the soybean canopy is tall and dense. So, before buying the nozzles and putting them on the boom, check the nozzle manufacturers' catalogs which have charts showing which nozzle type will be best for a specific job. Check the websites of nozzle manufacturers to reach their catalogs.

Nozzle size

Once you determine the type of a nozzle you need to buy, you also must buy the right size of that nozzle which will satisfy the application rate (gallons per acre or gpa) you wish to use as you do your spraying at different travel speeds. Nozzle catalogs are filled with tables and charts showing application rates, given a nozzle's flow rate (gallons per minute or gpm) delivered at various pressures (psi) and travel speeds (mph). However, the charts are only for a limited number of travel speed and nozzle spacing situations. Most nozzle manufacturers have developed Apps for smart phones that provide you the exact nozzle flow rate required for any given set of application parameters, and identify a specific set of nozzle recommendations for the given application parameters. To find these Apps, simply visit the App Store in your smart phone or tablet and do a search under "Spray Nozzle Calculator", or some other key words related to nozzle size selection.

Keep several types of nozzles on the boom

Remember that one specific type of nozzle will not be best for all applications. For this reason, it is best to have several types and sizes of nozzles on the boom so that you can switch to the "best" nozzle choice for a given spraying job. As shown in the pictures below, there are various types of sprayer components and setups you can buy to configure your boom so the new set up allows you to easily switch from one nozzle to another instantly.



Keep spray drift in mind when selecting nozzles

Spray drift (movement of pesticides by wind from the application site to an off- target site) is

a serious problem for many reasons. Extensive information related to factors influencing creation of spray drift, is provided in the Ohio State University Extension publication FABE-525 (http://ohioline.osu.edu/factsheet/fabe-525). After wind speed and other weather-related conditions, choice of nozzles is the second most influential factor affecting drift. Research conducted at The Ohio State University and elsewhere clearly indicate that nozzles labeled as "low-drift" significantly reduce spray drift. If drift is, or becomes a concern, it may be best to switch from a conventional nozzle to a "low-drift" version of the same type nozzle with the same flow rate. This is another good reason to have more than one type of a nozzle on the boom.

Give special attention to choice of nozzles when applying pesticides containing 2,4-D and Dicamba

The labels of 2,4-D or Dicamba herbicides include specific requirements on which nozzle or nozzles must be used when spraying these products. The requirements also include a range of operating pressures for each one of these nozzles. These strict requirements are put on the labels to avoid off-target movement (drift) of spray droplets. Simple interpretation of these requirements is: you would be violating the pesticide label, therefore the law, if you use any other type and size of nozzle and operate these nozzles outside the pressure ranges. Remember, the label is the law! So, it is your responsibility to comply with the requirements on pesticide labels. You can reach a list of currently approved nozzles and their operating pressure ranges on labels of the several commonly used 2,4-D and Dicamba products at this web site: https://pested.osu.edu/sites/pested/files/imce/ApprovedNozzles.pdf

The table at this site is provided mostly for information purposes and may not be up to date. So, check the manufacturers' websites, and read the product label for the most current information. Do not assume that you do not have to worry about checking the label because you had applied the same product in a previous year. A nozzle required for the same product last year may not be on the label this year, or the operating pressures might have been changed.

Some final thoughts

Nozzles are typically the least costly items on a sprayer, but they play a key role in the final outcome from a spraying job: achieving maximum efficacy from the pesticide applied while reducing the off-target (drift) movement of pesticides to minimum. Pesticides work well if the rates on labels are achieved during application. This can be achieved only if the right nozzle type and the proper size of the nozzles are on the sprayer, and the sprayer is operated properly.

Crop Observation and Recommendation Network C.O.R.N. Newsletter is a summary of crop observations, related information, and appropriate recommendations for Ohio crop producers and industry. C.O.R.N. Newsletter is produced by the Ohio State University Extension Agronomy Team, state specialists at The Ohio State University and the Ohio Agricultural Research and Development Center (OARDC). C.O.R.N. Newsletter questions are directed to Extension and OARDC state specialists and associates at Ohio State.

OSU EXTENSION CALENDAR OF EVENTS

MARCH 2021

29 CARTEENS, 6:30 pm – Ag Credit 2nd Floor Conference Room

APRIL 2021

5 Jr. Fair Board, 7 pm

7 Morrow County Cattlemen's Meeting, 6:30 pm, Ag Credit 2nd Floor Conference Room

8 Pork Producers, 7 pm, Ag Credit 2nd Floor Conference Room

12 New 4-H Volunteer Training, 6:30 pm, RSVP Required

15 Horse and Pony Committee, 7:30 pm

19 County Quality Assurance Test-out, see article

19 Livestock Sale Committee, 7 pm, Ag Credit 2nd Floor Conference Room

20 CARTEENS, 6:30 pm – Ag Credit 2nd Floor Conference Room

22 BQA (Beef Quality Assurance) Re-Certification & Certification, 6 pm, Ag Credit 2nd Floor Conference Room **Pre-Registration is required**

30 4-H Project Enrollments Due!!!!!

30 REGISTRATION DUE: Career Exploration Workshop – Construction and Automotive Trades

MAY 2021

3 Jr. Fair Board, 7 pm

5 Morrow County Cattlemen's Meeting, 6:30 pm, Ag Credit 2nd Floor Conference Room

8 Career Exploration Workshop – Construction and Automotive Trades, Tri-Rivers Career Center, 9 am

13 Pork Producers, 7 pm, Ag Credit 2nd Floor Conference Room

20 Horse and Pony Committee, 7:30 pm

31 Happy Memorial Day - Office Closed

31 AIM, Adventures In Morrow, Explore our parks begins.

JUNE 2021

5 Feeder Calves Weigh-In

7 Jr. Fair Board, 7 pm, Fair Grounds Youth Building

7 Jr. Fair Entries Due

8 REGISTRATION DUE: 4-H Illustrated Talk or Demonstration, Health and Safety Speaking Contest, and Public Speaking - LEGO Edition Contest

9 CARTEENS, 6:30 pm – Ag Credit 2nd Floor Conference Room

10 Pork Producers, 7 pm, Ag Credit 2nd Floor Conference Room

11 Early 4-H Project Judging Registration due

12 Horse PAS State Fair Qualifying Show, Fair Grounds

15 4-H Illustrated Talk or Demonstration, Ag Credit 2nd Floor Conference Room, 6 pm

15 Health and Safety Speaking Contest, Ag Credit 2nd Floor Conference Room, 7 pm

15 Public Speaking - LEGO Edition Contest, Ag Credit 2nd Floor Conference Room, 7 pm

17 Horse and Pony Committee, 8 pm, Ag Credit 2nd Floor Conference Room

20 Ohio State Fair Livestock and Dog entries due

21 Early 4-H Project Judging, 6 pm, Youth Building

27 Horse PAS State Fair Qualifying Show, Fair Grounds

30 Writing 4-H Projects due to the Extension Office

JULY 2021

5 Jr. Fair Board, 7 pm, Fair Grounds Youth Building

8 Pork Producers, 7 pm, Ag Credit 2nd Floor Conference Room

9-13 *4-H Camp*

10 Morrow County Dairy Tour, Berg Farms, 10-2 pm (see flyer in newsletter)

15 Agriculture, FCS, Small Animal and STEM 4-H Project Judging by appointment

15 Horse and Pony Committee, 8 pm, Ag Credit 2nd Floor Conference Room

16 Food and Nutrition 4-H Project Judging by appointment, morning

16 Clothing and Quilt 4-H Project Judging by appointment, afternoon, Style Show at 7 pm

16 REGISTRATION DUE: Cloverbud Fun Day

20 CARTEENS, 6:30 pm – Ag Credit 2nd Floor Conference Room

24 Cloverbud Fun Day, location TBD, 9 a.m.1

24 Cattle Hoof Trimming, 8:30 am