



AGRICULTURE



Palmer Amaranth is HERE in Morrow County!

By Mark M. Loux, Horticulture and Crop Science, The Ohio State University

Palmer amaranth has been found in two townships in Morrow County, Lincoln and North Bloomfield both under powerlines. The Palmer amaranth that was found in Lincoln township came in on the big wooden planks that the power company used when working on the powerlines. The other we believe came in bird feces.

What is Palmer amaranth and where is it coming from?

Palmer amaranth is an *Amaranthus* (pigweed) species that has become a devastating glyphosate-resistant weed problem in the South and parts of the Midwest over the past decade. It has caused substantial losses in crop yield and farm income, and a permanent increase in the cost of herbicide programs. Preventing additional Palmer infestations in Ohio is a primary goal of the OSU weed science program, and will require efforts from the entire Ohio agricultural community. There are several mechanisms for the movement of Palmer amaranth into Ohio:

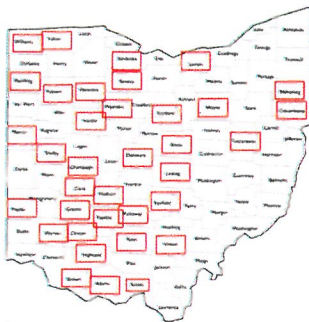
- Movement of equipment from Palmer-infested areas into Ohio
- The presence of Palmer seed in cotton-derived feed products that are transported from the south into Ohio, or in hay from Kansas
- The presence of Palmer seed in cover crop and wildlife seed that originates in areas infested with palmer amaranth, such as Texas and Kansas

What makes Palmer amaranth such a problem?

- Female Palmer plants produce 100,000 to upwards of 500,000 seed
- Broad period of emergence -April to August
- Small seed that is well-adapted to minimum and no-tillage
- Rapid growth -up to 3 inches a day. Post-emergence herbicides must be applied when Palmer plants are less than 3 inches tall
- Readily develops herbicide resistance
- Dioecious reproductive system (male and female plants). Obligate outcrossing results in rapid spread of herbicide resistance

Palmer amaranth distribution-late 2018

Most counties shown on the map as "infested" (red square) have only a few populations



of Palmer amaranth. In some cases only a few plants were found and the "infestation" has been completely remediated. Palmer is more widespread in several areas:

- Near two dairies along the Madison-Fayette county line
- Wayne County east of Orrville
- Highland County east of Hillsboro
- Preble County
- Eastern Mahoning and Columbiana Counties

Herbicide resistance in Palmer amaranth

Most populations of Palmer in Ohio are resistant to glyphosate (group 9) and ALS inhibitors (group 2). Palmer will not be controlled by burndown or postemergence applications of glyphosate alone. The addition of ALS inhibitors such as Classic and Pursuit will not improve control.

- Populations in the South have developed resistance to site 14 herbicides (fomesafen, Cobra, etc), and appear to be developing resistance to glufosinate (Liberty, Cheatah, Interline).
- Diversification of herbicide programs and preventing escapes from going to seed are essential to prevent the development of resistance to additional sites of action -use different sites of action in corn versus soybeans and multiple sites of action in postemergence treatments

Bottom line -steps to take for prevention

- Know what Palmer amaranth looks like and if there is any in the neighborhood.
- When purchasing used equipment, know where it has been previously. Avoid purchase of combines that come from Palmer-infested areas. Know where custom harvesting equipment has been previously.
- Scout recently seeded CREP, wildlife, and similar areas for the presence of Palmer. For any intended seedlings of this type, ODA will test seed lots for the presence of Palmer seed. They must pick it up from your operation (do not mail



or drop off). Contact ODA for information -614-728-6410. Seed can also be tested for a fee by the University of Illinois: web.extension.illinois.edu/plantclinic/downloads/herbicide.pdf

- Avoid use of cotton feed products or hay that might contain Palmer amaranth seed -check with feed supplier for more information. When using manure from another animal operation, know whether they are using cotton feed products or hay from Kansas.
- Include residual herbicides in corn and soybean programs to control the early-emerging Palmer plants.
- Scout fields starting in mid July for the presence of Palmer that escaped herbicide programs. Get help with identification if in doubt.
- Plants without mature seed (black) should be pulled out (uprooted) or cut off just below soil and removed from field, and then burned or buried at least a foot deep or composted. Plants with mature seed should be bagged and removed from field.
- Do not run the combine through Palmer



patches that are discovered during harvesting.

- Consult OSU and USB Take Action resources for additional information on management of established populations. u.osu.edu/osuweeds/; takeactiononweeds.com

Revised 11/18

FORCING BULBS

Ohio State University
Master Gardener Volunteers

The Morrow County Mast Gardener Volunteers will teach you how to successfully force bulbs in the winter so that you can enjoy bulbs inside during the cold weather.

WHEN: Wednesday, Oct. 23 at 6:30 p.m.

WHERE: Ag Credit Upstairs Conference Room
5362 US Hwy 42, Mt. Gilead, Ohio



AGRICULTURE

Harvesting Very Late Planted Corn for Silage

By Mark Sulc, Peter Thomison,
Bill Weiss, Rory Lewandowski, CCA

We have some very late planted corn this year that will be harvested for silage. Some of this corn was planted early enough to produce grain and will reach normal stages of maturity for silage harvest before a frost. The normal maturity stage for full-eared corn when the whole-plant dry matter content is correct for direct chopping and ensiling (32-36% dry matter, 64-68% moisture) usually occurs shortly after the corn kernels are fully denting and the milk line is in the upper half of the kernel.

But some corn was planted so late this year that pollination will not occur, and the stalks will be barren of grain. Other corn plantings will produce ears but will not reach the proper dry matter content in the dent stage before a frost. How should these two cases be managed? Joe Lauer, Extension Corn Specialist at the University of Wisconsin, addresses these scenarios in detail in the references listed at the bottom of this article, and are available online. Other references listed

provide additional details that apply to these conditions. Below are a few salient points taken from these references.

Corn producing ears with grain has two peaks in forage quality, with the first occurring at pollination (tassling/silking); however, whole plant moisture is too high at this stage for direct chopping and ensiling. After pollination, forage quality of the whole plant decreases until grain content increases sufficiently to begin offsetting the forage quality decline of the forage portion of the corn crop. Forage quality improves with increasing grain fill until reaching the second peak of forage quality, which occurs just after the grain kernels are fully denting and the milk line is about halfway down the kernel.

The median frost date in Ohio ranges from October 10 in the northwest to October 20 in southern Ohio and near Lake Erie and the Cleveland area (Ohio Agronomy Guide, 15th edition).

In Ohio, corn kernels will reach the dough stage 24 to 28 days after tassling/silking (Ohio Agronomy Guide, 15th edition). If corn plants

are severely frosted before dough stage, the whole plant moisture will seldom drop enough to reach acceptable levels for proper fermentation before the plants rot in the field. Therefore, if it is anticipated that corn will NOT reach dough stage before a killing frost (consider median frost dates and current predictions of first frost date) then it is advisable to cut the corn with a mower earlier and wilt it in the field to the dry matter content that ensures good fermentation (see accompanying article in this newsletter "Wilted Corn Silage Before Ensiling").

If frost occurs in the dough stage (at least 24 to 28 days after tassling) but prior to 50% milk line in the dent stage (45 to 52 days after tassling), then the crop should be allowed to field-dry until whole-plant moisture drops to 64 to 68% (see accompanying article "Harvesting Immature Corn as Silage"). The more mature the kernel is prior to frost, the lower the whole plant moisture will be and the shorter the drying period necessary. Be sure to test moisture content before chopping.

Cutting height can also be raised to achieve drier forage, but this occurs at the expense of yield. Based on a meta-analysis of multiple published studies, researchers at the University of Florida (Paula et al., 2019) concluded that a 12-inch increase in cutting height of corn silage would increase the dry matter percentage of the silage by 2.5 – 3.0 units, but decrease forage yield by 0.7 tons/acre (on dry matter basis, not as-fed). The 12-inch cutting height increase caused forage quality to be improved (milk production per ton of silage increased) but milk production per acre of land decreased because of the lower forage yield.

Forage yield and quality of barren and poorly pollinated corn was evaluated in Wisconsin and provides useful information for what to expect with varying degrees of barrenness (see reference article below "Yield and Quality of July Planted Corn"). The planting date and timing of a killing frost will have a big effect, especially on forage yield achieved.

CFAES

Ohio State University Extension

Forage Analysis Class

Join Tim Barnes and Carri Jagger to learn how to get your livestock through the winter on poor quality hay.

Thursday, October 24 at 6:30 p.m.

at the

Ag Credit Building Upstairs Conference Room
5362 US Hwy 42, Mt. Gilead, OH 43338

Topics:

- Forage sampling
- Interpreting the results
- Feed supplement options
- Developing a fee ration

Contact information: Carri Jagger
419-947-1070 or jagger.6@osu.edu



CFAES

Ohio State University Extension

Swap and Sip Event

Morrow County Master Gardener Volunteers
and
Bunker's Mill Winery

**Wednesday, Oct. 30
at 6:30 p.m.**

at Bunker's Mill Winery
102 E. Main St., Cardington, OH 43315

A perennial plant swap and wine tasting. Dig and divide your favorite perennials to bring and share with others. Then we will be tasting wine.

Contact information: Carri Jagger
419-947-1070 or jagger.6@osu.edu





AGRICULTURE



Mineral Supplementation: The Benefits You May Not See

By Caitlin Hebbert, Livestock Consultant
(originally published by the Noble Research Institute, www.noble.org)

It's no secret that good nutritional management is one of the most vital contributions to a profitable herd.

Within the realm of cattle nutrition, protein and energy tend to receive the most hype due to their direct relationships to growth performance and overall body condition. This hype is rightfully placed since the first step to a good nutrition program is to identify and meet protein and energy requirements. The second step involves the lesser-discussed dark horse of the ruminant nutrition world: minerals.

Much of the discussion surrounding minerals is vague, and information is more often accepted by producers than is understood since the world of minerals is complicated and tedious to navigate. As a result, I often find myself on the receiving end of this conversation: "Mineral is so expensive and consumption seems to be hit-or-miss. What will happen if I stop feeding mineral?"

Mineral consumption does indeed vary — from animal to animal as well as from one month to the next. This is often reflective of changing mineral content in forage, fortified winter supplements and the production phase of cattle (growing, lactating, gestating, etc.). These fluctuations should not deter you from making mineral an option to your cattle year-round, as other sources of mineral for grazing cattle are neither constant nor consistent.

It is also important to note that the mineral deficiencies of cattle on an otherwise well-managed nutrition program are often relatively minor. This may be referred to as a subclinical deficiency, a deficiency that presents itself in obscure ways.

Subclinical symptoms, while not always initially obvious, usually become apparent after they've already impacted your bottom line. Most of these subclinical deficiencies make you scratch your head and think "Hmmm, something is a little off," but rarely would you make the connection between a change in or a lack of mineral with the discrepancies you are observing. That is, unless you were aware of those connections existing.

Below are a few such connections that I've observed anecdotally, encountered in conversations with producers and verified in research.

"My conception rates are a little low this year."

Most cow herds in the Southern Great Plains are currently in the midst of calving and are rapidly approaching breeding season. The mineral requirements (and nutritional requirements in general) of cows are at their peak when lactation is also at its peak, 30 to 60 days postpartum. It is critical at this time to make sure your cows are in optimal body condition and that they have all the tools on the cellular level to conceive early in the breeding season.

Some of these tools are minerals that are highly active in various reproductive processes. Selenium, zinc and manganese in particular have been found to have direct effects on reproduction in cattle, significantly affecting processes such as ovarian function, steroidal synthesis, and even testicular development and function in bulls.

It is not uncommon for an extreme mineral deficiency to result in an open cow (as in she doesn't get bred or, just as likely, she suffers early embryonic loss following conception). However, a subclinical deficiency may yield a bred heifer or cow — but one that conceived during second or third service rather than conceiving upon first AI service or exposure to bull. This could lower

pregnancy rates in a short breeding season or extend your calving season.

It is well-documented that cows and heifers that conceive early in the breeding season sustain a longer, more productive herd life. Doing what you can to ensure early conception can help boost your long-term profitability.

"I seem to be treating more calves post-weaning than usual."

Many minerals have dramatic implications in the immune system and its function. Lack of optimal mineral management at the cow-calf level is speculated to be correlated to sickness later on in life — such as incidence of respiratory illness at the feedlot.

When calves are retained at the ranch and pre-conditioned, the consequences or benefits of nutrition earlier in their life often come to light. Adequate mineral nutrition may be just as important as, and may enhance, the viability of a vaccination program.

This is not to say that minerals are the magic bullet to end all morbidity problems, but they are an important part of the equation along with genetics, vaccination and overall management.

"My cattle aren't keeping or gaining condition as well as they have in the past."

Many metabolic processes in the body are regulated or activated by minerals, including processes vital to sustain physiological systems through periods of high growth.

For example, digestibility can be driven or impeded by availability of minerals. Digestibility in ruminants is largely impacted by the state of the microbial population in the rumen, making microbes the driving force behind utilization of

nutrients. Rumen microbes require a specific environment and substrates in order to thrive and survive, and the availability of certain minerals (depending on the microbe) are part of this specificity.

While you should not expect the presence or absence of a mineral supplement to behave like an ionophore or a growth implant in terms of feed efficiency or pounds of gain, a mineral supplement is a key player in the digestibility and absorption of all nutrients and their subsequent utilization in the body. While any major nutrient deficiency will likely be visibly apparent by way of body condition or average daily gain (or lack thereof), a subclinical deficiency may cost you a pound per week, which really adds up come sale time.

Most mineral supplements are formulated to be consumed at a rate of 2 to 4 ounces per head per day. If your supplement targets 4 ounces, and a cow is "off" supplement about one-third of the year (due to her needs being met through other sources), then she's consuming about 60 pounds of mineral per year. At an estimated \$35 for a 50-pound bag of loose mineral, meeting her mineral needs costs you \$42 per head per year.

Plus \$42 is less expensive than having to replace a cow that fell out of your target calving season. It's also less expensive than the ¼ pound you may sacrifice in calves every day and the cost of just one treatment for respiratory illness.

Though not always immediately evident, being intentional and consistent about keeping mineral in front of your cattle will benefit both your herd and your bottom line in the long run.

Poultry Litter Applications

By Glen Arnold, CCA

Stockpiles of poultry litter can be seen in farm fields across Ohio. While common each year in wheat stubble fields, there are also stockpiles showing up in preventative plant fields. Poultry litter is an excellent source of plant nutrients and readily available in most parts of the state.

Poultry litter can be from laying hens, pullets, broilers, finished turkeys, turkey hens, or poults. Most of the poultry litter in the state comes from laying hens and turkey finishers. Typical nutrient ranges in poultry litter can be from 45 to 57 pounds of nitrogen, 45 to 70 pounds of P₂O₅, and 45 to 55 pounds of K₂O per ton. The typical application rate is two tons per acre which fits nicely with the P₂O₅ needs of a two-year corn/soybean rotation.

Like all manures, the moisture content of the poultry litter greatly influences the amount of nutrients per ton. Handlers of poultry litter have manure analysis sheets indicating the nutrient content.

Poultry manure for permitted operations needs to follow the Natural Resource Conservation Service 590 standards when being stockpiled prior to spreading. These include:



Poultry Litter Pile

- 500 feet from neighbors
- 300 feet from streams, grassed waterways, wells, ponds, or tile inlets
- not on occasionally or frequently flooded soils
- stored for not more than eight months
- not located on slopes greater than six percent
- located on soils that are deep to bedrock (greater than 40 inches to bedrock)

Farmers who want to apply the poultry litter delivered to their fields are required by Ohio law to have a fertilizer license, Certified Livestock Manager certificate, or be a Certified Crop Advisor. Check with your local Soil and Water Conservation District for proper setbacks from streams, ditches and wells when applying poultry litter.

CFAES

Ohio State University Extension

Holiday Wreath Make and Take

Wed., Nov. 20 at 6 p.m. & Thurs. Dec. 5 at 6 p.m.

**5362 US Hwy 42, Mt. Gilead, OH
2nd Floor Conference Room**



Come make a wreath with the
OSU Extension Morrow County Master Gardener Volunteers!
Fresh evergreen wreaths will be provided with an assortment of decorations to create a beautiful Thanksgiving, Christmas or Winter wreath to enjoy all season long.

There is a \$25.00 registration fee to cover the cost of the wreaths and decorations.

Please preregister with OSU Extension - Morrow County by Nov. 15.
The class is limited to 30 participants.

Contact Carri Jagger at 419-947-1070 or email jagger.6@osu.edu



AGRICULTURE



Spring Forage: Looking Beyond Cereal Rye

By Jason Hartschuh, OSU Extension
Crawford County, AgNR Educator

Winter wheat, barley, triticale, and cereal rye planted in the fall can produce high quality forage in the spring when harvest is in the boot stage. These forages are not equal though in there speed of maturity or quality in the soft dough growth stage. Rye grows and matures faster than the other cereals making it the ideal choice for double cropping with corn silage but is also the hardest to manage harvest timing on so that it is not over mature. After this past spring is it time to diversify our spring forage options to spread out harvest timing and risk?

Each of these crops has slightly different management strategies but many are the same. Planting date has been critical for maximizing tonnage with highest yields being achieved with planting dates 10 days sooner than the hessian fly free date but be cautious of hessian fly infestation and barley yellow dwarf virus. Timely planting leads to plants absorbing more nitrogen from last year's crop improving tillering. Variety selection can also be an important factor in yield and rate of maturity. Most of the cereal rye planted is variety not stated but trials from Kentucky, Georgia, and North Dakota show yield variation between varieties to be $\frac{1}{4}$ to 2 tons DM in most planting locations. Triticale also has variability averaging $\frac{3}{4}$ ton DM between varieties. The study from North Dakota compared dry matter

yields of 3 winter cereals, triticale varieties had the highest average yield of 2.66 tons, then wheat at 2.22 tons and finally rye yielding 1.86 tons. The rye was harvested a week before the triticale and two weeks before wheat.

Each of these species matures at a different time but also maintains quality differently as they mature. Crude Protein and Digestible NDF was the highest at the boot stage and decreased as the crop matures. Rye and barley mature the quickest but barley will maintain quality for a few days longer but yields less.

Barley is the least winter hardy small grain, therefore it needs sown earlier in the fall with an ideal planting date in early September and needs planted at a higher seeding rate between 2 and 3 bushels. It should not be planted in wet soils, sandy soils, or low fertility soils. It tends to have lower dry matter yields but is higher digestibility with lower lignin than other small grains when harvested in the boot stage.

Wheat is the most common small grain in the area but not for forage use, it is not even the best option for wet soils. While there are special forage varieties, grain varieties tend to yield more tons than barley. The greatest benefit of wheat is that it matures later than other small grains allowing for a larger harvest window. It also holds quality into bloom much better than rye with yields increasing by 50 percent when cut in bloom instead of boot stage. While some small



grains can be planted earlier than the fly free date, wheat should not be planted before this.

Rye is the most common small grain used for forage but it is also the most early maturing and declines rapidly in palatability and quality from the boot stage on. It is the most winter hardy of all small grains and handles wet soils the best. Rye can also make great fall grazing when planted in early fall. While it is much easier to plant corn on time after rye with the current climate variability, it may not be the best option as your solo spring forage for a dairy ration. There is a new variety of rye on the market that is a hy-

brid developed in Europe, while there is little work done on it in the US it has higher forage quality and grain yield than traditional cereal rye.

The last small grains option to discuss is Triticale which is a cross between rye and wheat. Triticale yield and quality has been increasing with every new variety released. It matures slower than rye but should still be harvested in the boot stage. Planting a week before fly free date has been shown to increase yields in New York by about 20 percent. Studies have shown it respond to higher nitrogen rates without lodging than rye. While rye is still an excellent forage, is it time to move your eggs from one basket into two to better manage spring harvest timing and weather?

In addition to offering high quality forage, the small grains described above can also provide an alternative for creating bedding. One option that has gained some popularity is precur rye straw.

There are two options when making precur straw, both of them take place just after the head emerges in the spring but before pollination and seed formation. The most common process is to spray the rye with glyphosate and let stand in the field as it dries and bleaches yellow. The Pre Harvest Interval (PHI) for cereals on some glyphosate products is 7 days between application and grazing or harvest. The best rye straw comes from having a couple tenths of rain on the rye, removing the wax from the plants. Once plants are dry, mow and leave lay for a day then rake and bale. The other option is to mow and let lay in wide windrows until dry for baling. Usually the rye needs tedded at least twice in order to get it dry.

Average yields for rye straw are 1.5 to 2 tons per acre; it is recommended that you do not use spring nitrogen fertilizer because it causes rye to lodge if rates are too high. Seeding rates of one bushel or less tend to allow for more air movement within the rye, helping it dry faster. While this is becoming a more common practice with rye, it could also work with wheat and allow for earlier soybean planting. Remember, we will be removing some phosphorous and potassium in the straw.

Considerations for 2019 Wheat Planting

By Andy Michel, Laura Lindsey, Pierce Paul

With the autumn rapidly approaching, wheat planting is likely to begin soon. Planting after the Hessian fly free date remains the best chance to avoid issues with insects and diseases, as well as helping ensure good agronomic quality. Some benefits of the fly free date:

Hessian Fly: Adults of the Hessian fly lay eggs in emerging wheat. These eggs then hatch into small larvae that feed before spending the

winter as a flaxseed. The early autumn feeding will stress the young wheat plant right before the winter, resulting in stunted and wilted plants. Very little egg laying occurs after the fly free date, which helps to limit infestation. Wheat varieties with resistance against the Hessian are available, in addition to seed treatments, which can help limit damage.

Aphids: Two main aphids infest wheat in Ohio: the English grain aphid and the bird

cherry-oat aphid. These aphids rarely cause economic injury on wheat from feeding. However, they can transmit several viruses that can severely impact wheat including Barley Yellow Dwarf virus. These aphids do not only feed on wheat, but several other grasses that serve as natural sources of viruses. If wheat is planted too early, and emerges before the aphids overwinter or stop feeding, they can be early transmitters of viruses. Although seed treatments could help kill the aphids, they may survive long enough to transmit the virus to the plant. Any transmission in the autumn would likely serve as a local source in the following spring.

Other foliar diseases: Although not directly related to the Hessian Fly, planting after the fly free date also helps to reduce the early establishment of leaf diseases like *Stagonospora* leaf blotch and powdery mildew. Planting date is indirectly linked to spore production by fungi that cause these diseases and infection of young plants. The earlier you plant, the more spores are available, and the more suitable (warmer) conditions are for infection. Fall infections often leads to more damage and greater yield loss in the spring, especially of susceptible varieties are planted and not protected with a fungicide at Feeks 8 (flag leaf emergence). As conditions become cooler after the fly free date, pathogens that cause leaf diseases become less active, and as such, are less likely to infect plants.



OSU EXTENSION CALENDAR OF EVENTS

OCTOBER 2019

- 2 Cattlemen's Meeting, Ag Credit Building Conference Room, 6:30 p.m.
- 7 Jr. Fair Board, Fairgrounds, 7 p.m.
- 7 Dairy Board Meeting, Ag Credit Building Conference Room, 12 noon
- 6-12 National 4-H Week
- 10 Pork Producers, Ag Credit Building Conference Room, 7 p.m.
- 17 Horse & Pony Committee, Ag Credit Building Conference Room, 7:30 p.m.
- 22 Walk With A Doc – 12 noon, Mt. Gilead Cherry Street Administration Building
- 23 Forcing Bulbs Class, 6:30 p.m., Ag Credit Building Conference Room
- 24 Forage Analysis Class, 6:30 p.m., Ag Credit Building Conference Room
- 24 Sr. Fairboard, Fairgrounds
- 28 Jr. Leaders, 7-8 p.m., Extension Office
- 30 4-H Teen Opportunities Application Due
- 30 Dining With Diabetes – Take Charge During The Holidays, 6:30 p.m., Ag Credit Building Conference Room
- 30 Swap & Sip Event, 6:30 p.m., Bunkers' Mill Winery

NOVEMBER 2019

- 4 Jr. Fair Board, Fairgrounds, 7 p.m.
- 4 Dairy Board Meeting, Ag Credit Building Conference Room, 12 noon
- 6 Cattlemen's Meeting, Ag Credit Building Conference Room, 6:30 p.m.
- 11 Veterans Day – Office Closed
- 14 Pork Producers, Ag Credit Building Conference Room, 7 p.m.
- 19 CARTEENS, Extension Office, 6:30-8:30 p.m.
- 20 Holiday Wreath Make & Take Workshop, 6 p.m., Ag Credit Building Conference Room
- 21 Horse & Pony Committee, Ag Credit Building Conference Room, 7:30 p.m.
- 21 Sr. Fairboard, Fairgrounds
- 25 Jr. Leaders, 7-8 p.m., Extension Office
- 28-29 Thanksgiving Holiday – Office Closed

DECEMBER 2019

- 2 Jr. Fair Board, 7 p.m.
- 5 Holiday Wreath Make & Take Workshop, 6 p.m., Ag Credit Building Conference Room
- 14 Market Beef Pre-Fair (2020) Weigh-In, 8-11 a.m., Fairgrounds
- 19 Sr. Fairboard, Fairgrounds

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