



FIELD&FEEDLOT a monthly agriculture publication for Northwest Iowa

September 2019

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Online References

Ag Decision Maker

www.extension.iastate.edu/agdm/

Iowa Beef Center

www.iowabeefcenter.org

Manure Management Action Group

www.agronext.iastate.edu

Iowa Pork Center

www.ipic.iastate.edu/

ISU Extension Dairy Team

www.extension.iastate.edu/dairyteam

Locate a County Office

<https://www.extension.iastate.edu/countyservices/>

Numbers to Know

AnswerLine 800-262-3804

Beginning Farmer Center 877-BFC-1999

Hortline 515-294-3108

Iowa 2-1-1 211

Iowa Concern 800-447-1985

Iowa Healthy Families 800-369-2229

Teen Line 800-443-8336

Preparing for Fall

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As we head into fall, here are some important reminders for cattle producers:

- We had two weeks where temperatures were high enough to create heat stress and possibly cause bred females to abort. Watch the cowherd closely this fall for cows and heifers returning to estrus. If open and bred now, they will calve early-to-mid summer.
- Wet weather this summer created problems with feedstuffs. I have had a couple of calls about rust on oats. The good news is that the rust will not impact cattle health, but it may reduce palatability; however, avoid feeding rusty oats to horses as it can cause respiratory problems.
- I have also had a couple of calls about ergot fungus in brome grass hay. Ergot is a dark brown body found in the seed head that causes vasoconstriction of the blood vessels and can lead to sloughing of the hoof shell and severe lameness. Be on the lookout for brown seed heads in brome grass hay. If present, the best option is to avoid feeding the hay. If this is not possible, consider limiting the amount of brome grass hay fed or dilute it with other "clean" feedstuffs. More information on ergot poisoning can be found at: <https://store.extension.iastate.edu/product/Ergot-Poisoning-in-Cattle>
- Hay prices will continue to be high this fall and winter. To stretch hay supply, consider early weaning your calves. This will reduce the maintenance requirements of the cow by 25 percent. Also, consider alternative forages, such as green chopped corn or corn silage.
- Although market prices have declined recently, cow-calf producers can add value to their calves by selling in a pre-conditioned feeder calf sale this fall or winter. Calves consigned to a pre-conditioned feeder calf sale must have received a set protocol of vaccines administered by a veterinarian, be treated for internal and external parasites, be dehorned and castrated, and be weaned and started on feed for a minimum of 30 days prior to the sale. Get started now if you plan to sell in a fall sale.
- Be sure to obtain and keep your Beef Quality Assurance (BQA) certification current. You will need a current certificate to sell at local livestock auctions and to major packers. The certificates issued the past two years are good for three years from the date of issue. For those needing to obtain or renew their certificate, there will be a BQA Certification Workshop on Nov. 21, from 10 a.m. to noon, at the Woodbury County Extension Office in Sioux City. There is no cost to attend, but pre-registration is required. Call 712-276-2157 to pre-register.

Preparing for Fall *(continued)*

- And the **LATEST NEWS** is Beef Quality Assurance Transportation! Beginning January 1, 2020, if a farmer feeder or commercial trucker plans to deliver cattle directly to a major packing plant, they will need to have a BQA Transportation card. They will only be allowed to unload cattle one time without their transportation card. Three summer workshops in Northwest Iowa have certified 58 transporters; however, if you are not BQA Transportation certified, you may complete a BQA Transportation training on line at www.bqa.org. There will also be one more workshop early winter in the four-state region. Stay tuned for details as they become available.
- New Publication: Monthly Cattle Feeding Returns in Iowa (B1-36)
<https://www.extension.iastate.edu/agdm/livestock/pdf/b1-36.pdf>

Corn Dry-Down

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It has been an interesting crop production year. Not necessarily a fun one from many perspectives, but interesting nonetheless. I have had a chance to learn from it, because it certainly has not been “normal.” Because of the number of acres along the Minnesota border that were planted very late, and even acres south of there that were planted earlier (but that experienced a very cool early season), I have been trying to review information on corn dry-down lately.

Some “rules of thumb” I have seen for dry-down say that corn dries at a rate of 0.5 to 1.0 percent per day in September; 0.25 to 0.5 percent per day in October; and almost no drying occurs in November. Of course, it usually gets cooler later in the month, so the lower end of the range would be expected for those later dates.

I have also read some research that indicates it takes about 30 Growing Degree Days (GDD's) to dry the mature crop down one percentage point. However, sometimes certain conditions slow that rate so that it might take 45 GDD's to reduce moisture by a point. You can monitor how you are doing compared to normal at the Iowa Mesonet Climodat Station Monitor, found here: <https://mesonet.agron.iastate.edu/climodat/monitor.php>.

- Select a weather station near you.
- Put in the date you think your corn hit black layer as a start date.
- Use that day's date as an end date.
- Click on “Apply table options.”

For example, I looked at what the average GDD's would be for several regional weather stations for the last 15 days of September (using 30 GDD's per point), and most in the Northwest corner of Iowa would accumulate 180 to 200 growing degree days during that time period. If average, we should drop about six points of moisture during that time. That is about the same amount of accumulation we would get, on average, for the entire month of October. Of course, there are things that keep us from being accurate with these estimations.

Bob Nielsen from Purdue, in an article from 2018 titled, “Field Drydown of Mature Corn,” said that researchers have identified the following traits or characteristics as ones most likely to influence grain drying in the field. The relative importance of each trait varies throughout the duration of the field drydown process and hybrid differences for these traits are most influential when weather conditions are not conducive for rapid grain drying.

- **Kernel Pericarp Characteristics.** The pericarp is the outermost layer of a corn kernel. Thinner or simply more permeable pericarp layers have been associated with faster drying rates in the field.
- **Husk Leaf Number.** The fewer the number of husk leaves, the more rapid the grain moisture loss. In fact, modern hybrids have fewer husk leaves than those commonly grown years ago.
- **Husk Leaf Thickness.** The thinner the husk leaves, the more rapid the grain moisture loss.
- **Husk Leaf Senescence.** The sooner the husk leaves senesce (die), the more rapid the grain moisture loss.
- **Husk Coverage of the Ear.** The less the husk covers the tip of the ear, the more rapid the grain moisture loss.
- **Husk Tightness.** The looser the husk covers the ear, the more rapid the grain moisture loss.
- **Ear Declination.** The sooner the ears drop from an upright position after grain maturation to a downward position, the more rapid the grain moisture loss. In particular, husks of upright ears can “capture” rainfall.

Given all of that, I think we can all agree we could use a late frost and a warm October. Additionally, I hope we all have a safe harvest season, too!

Be Prepared for a Late Wet Corn Harvest

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The late planting and cold summer and fall will lead to a much more frustrating harvest time. Studies of hand-harvested corn compared with combine-harvested corn from the same rows show that combine-harvested will test about 3-to-4 points wetter when the moisture is in the 22 to 28 percent range. The reason presented is that the combine often causes much more tipping of the corn next to the cob which is the wettest part of the kernel. This then leads to better electrical conductivity in the moisture tester. The good news is that the corn is not really that wet and the first few moisture points will come off in the dryer without much heat or effort.

Natural air drying will require very special attention this year because of the long time that will be required to dry very wet corn. Corn above 20 percent should be dried in layers with the first one only 1/3 to 1/2 of the bins depth to be sure that the airflow is high enough. The following table is for a 10-horsepower fan with no heat run continuously day and night, rain or shine.

Corn Moisture	Bushel Points to Remove to 15%	Minimum Bushels Dried per Day at 50 Degree High Temps	Maximum Bushels Dried per Day at 80 Degree High Temps	Maximum Bushels in Bin
16	1.5	800	1200	24,000
18	3.5	343	550	10,290
20	5.5	264	350	7,920
22	7.5	160	256	4,800

After the layer is completely dry more corn can be added to the bin. This will work but means a lot of moving of equipment instead of combining.

Heated air dryers should be set at temperatures of 120-to-160 degrees for bin dryers and require stirring or sweep augers to move the dry corn from the floor to the top of the bin preventing it from being over-dried. One common misconception is that if a sample taken off the top of these systems reads dry that the bin is dry. It is not until all of the wet corn has made it to the bottom and circulated back to the top. The following table gives the estimated performance of a 10-horsepower fan heated bin.

Corn Moisture	Bushel Points to Remove to 14.5% per Bushel	Bushels Dried per Day at 120 Degrees Fahrenheit	Bushels Dried per Day at 160 Degrees Fahrenheit
16	1.5	8,000	12,800
20	5.5	2,180	3,490
25	10.5	1,142	1,828
28	13.5	888	1,422
30	15.5	774	1,238

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Iowa Concern Hotline
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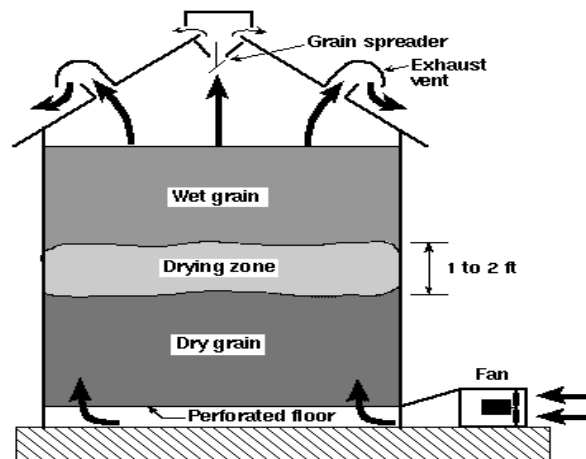
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iowaconcern@iastate.edu

We are here to help!

After the grain is dry, it needs to be cooled below 40 degrees to keep. This is important to prevent spoilage. Very late harvests tend to lead to more condensation on the north and east sides of bins, so make sure they are dry before turning off the fan.



Upcoming Events

- Aug. 29 - Nov. 14 - Master Gardener Training**
- Sept. 4 - Women, Land & Legacy** at Sievers Farm
- Sept. 5 - Homegrown - Food Insecurity Summit at 1:00 p.m.**
- Sept. 5 - Monarch Tagging** at 6:30 p.m.
- Sept 8 - Oct. 13 - Juntos Program**
- Sept. 9 - Fairboard meeting** at 6:00 p.m.
- Sept. 10 - Extension Council meeting** at 5:30 p.m.
- Sept. 12 - ServSafe** at 9:00 a.m.
- Sept. 17 - Master Gardeners meeting** at 5:30 p.m.
- Sept. 17 & 18 - Ag Citing** at Allee Research Farm
- Sept. 19 - Safety Day** at Allee Research Farm
- Oct. 10, 17 & 24 - Healthy & Homemade Series** at 6:00 p.m.
- Oct. 16 - Roadside, Forest & Aquatic Pest Man.** at 9:00 a.m.
- Oct. 19 - Master Gardener Training** in Ames
- Oct. 24 - Mosquito & Public Health Pest Man.** at 9:00 a.m.

Field & Feedlot is published monthly by Iowa State University Extension and Outreach Agriculture and Natural Resources Field Specialists. Inquiries about the publication and/or how you can receive it in your inbox each month can be sent to Kiley Biedenfeld at kkaufman@iastate.edu or 712-957-5045.