

FIELD & FEEDLOT



IOWA STATE UNIVERSITY EXTENSION AND OUTREACH—NORTHWEST REGIONS

SEPTEMBER 2013 ISSUE

Extension Web Sites

Ag Decision Maker

www.extension.iastate.edu/agdm/

Beef Center

www.iowabeefcenter.org/

Manure Management

www.agronext.iastate.edu/immag/

Pork Center

www.ipic.iastate.edu/

ISU Extension Dairy Team

www.extension.iastate.edu/DairyTeam/

Preparing For A Late, Wet Harvest

Kris Kohl, ISU Extension and Outreach Ag Engineer

The growing season started late and a cool summer has resulted in corn maturing later than we have seen in several years. The corn kernels should form the black layer during the period of October 1 through 15 at a moisture range of 30 to 32 percent. After that, typical dry downs are two points per week in October and one point per week in November. The lowest harvest loss is at 20 to 22 percent moisture. Above this level the combine will tip the kernels allowing more places for the spoilage to begin.

Corn can be dried with natural air or hot air. No heat is added to natural air and the process is slow and steady with a one to two foot layer that is drying with fully wet corn above and completely dry corn below.

In a wet year, a natural dry bin needs to be layered starting with no more than one-third (1/3) of the bin's capacity to insure that it is dry before it spoils.

Table 1. Maximum Storage Life - Corn

Corn Temp	15.5%	20%	26%	30%
40 F	1012 days	142	41	27
50 F	450	63	18	12
60 F	197	28	8	5
70 F	109	16	5	3

Often the bin can be filled after the first one-third (1/3) has dried because the corn has field-dried further.

Heated air-drying will be most efficient on late-harvest corn when air temperatures are above 120 degrees.

Table 2. Drying Rate for 10 hp Heated Air Bin

Corn Moisture	Bushel points to remove to 14.5% bu	Bushels dried per day @ 120 degrees F	Bushels dried per day @ 160 Degrees F
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

Table 2 shows the capacities of a 10 horsepower fan with 120 degree and 160 degree air temperatures.

Stirring is required at depths greater than four feet and should be initiated when the corn is added to the bin. In all bins, pull the cores to prevent the fines from plugging the air space and causing hot spots. Pulling cores refers to pulling out one or more loads from the center of the bin. Good luck and have a safe harvest!

Palmer Amaranth Confirmed in Western Iowa

Joel DeJong, ISU Extension and Outreach Crop Specialist

In a recent Iowa State University (ISU) Integrated Crop Management Newsletter, the following article was published. I am sharing it in this issue of Field and Feedlot because this is an aggressive form of the amaranthus species – more aggressive than the waterhemp we are fighting each year in Northwest and West Central Iowa. Rich Pope, Harrison County, and Bob Hartzler, ISU in Ames, wrote the article.

The presence of Palmer amaranth was recently confirmed in Harrison County near the Missouri River. The infestation was in two fields that have a history of land application of sludge. Because of the magnitude of the infestation, we believe the weed has been present for at least two growing seasons. We suspect the weed probably has spread to other fields in the area, but at this time we have not verified this.

The confirmation of Palmer amaranth at this site reinforces the need for thorough scouting of fields to make positive identification of the weeds present in individual fields. Although Palmer amaranth has a distinctive growth habit and is visibly different from waterhemp, casual observations are unlikely to differentiate the two species.

Palmer amaranth has received much publicity due to its impact on crop production in other areas of the country. Although it is a difficult weed to manage, we believe that with integrated weed management programs Palmer amaranth should not pose insurmountable challenges for Iowa farmers. Select herbicides that are highly effective against *Amaranthus* species, waterhemp and Palmer amaranth respond similarly to most products. The use of full rates of preemergence herbicides and timely postemergence applications will be the backbone of management programs for most farmers. The use of post-applied residual herbicides (e.g., Warrant, Dual II Magnum, Zidua, etc.) in 30-inch row soybeans will further reduce selection pressure by postemergence herbicides. These are the same approaches we recommend for managing waterhemp.

We appreciate the watchful eye of the local farmer who suspected the escaped *Amaranthus* species might be Palmer amaranth and contacted us. We encourage continued vigilance for the presence of this weed and will appreciate being contacted when suspect populations are found. Remember, the simplest and most cost-efficient manner of managing Palmer amaranth, or any new weed species, is early detection and eradication before a permanent infestation is established. If found early, plants can be removed from the field before seed production establishes a permanent seed bank and persistent problem.

To see the article in the ISU Integrated Crop Management News, which also has some pictures of Palmer Amaranth, visit this website:
www.extension.iastate.edu/CropNews/2013/0820hartzlerpope.htm.

Farm Employee Management: New Employee Orientation

Melissa O'Rourke – ISU Extension Farm & Agribusiness Management Specialist

You only get one chance to make a good first impression. Employee orientation is the employer's opportunity to make good first impressions on the new employee that set the tone for the employment relationship. Unfortunately, some farm employers neglect this vital step.

All employees need orientation and training as they begin new employment. While training is an ongoing process that continues throughout employment, the orientation phase begins with the first day on the job and is generally completed within the first week or so of employment. A recent article in this series provided tips and guidelines for getting the new farm employee off to a good start on the first day of employment. (See "Getting the New Employee Off to a Good Start on Day One"). That first day on the job will fly by quickly. The smart farm employer will have a plan in place for employee orientation and training. This article outlines the

purposes and key components of an employee orientation program.

Purposes of Farm Employee Orientation. Employee orientation helps employees become socialized to your farm business. This process of socialization helps to reduce a new employee's natural anxiety that comes with starting any new job. A new employee who becomes comfortable in the workplace is more likely to develop and maintain a positive attitude toward the job and the employer. That positive attitude translates into earlier and higher productivity. When the new worker is assisted in becoming quickly familiar with the work environment, the stress level decreases and the individual is more able to learn new job duties, skills and expectations. This socialization aspect of employee orientation prepares a new worker for job training. If a new employee is relieved of general stress and worry, that individual is more able to concentrate and absorb substantive information about new job assignments and tasks.

Planning and Content of Orientation Program. If your farm has not previously conducted an employee orientation program, planning may seem like an overwhelming task. One way to think about orientation is to sit down with current employees and ask for input. Ask current employees what they wish they had been told when they first started working at your farm. Find out what they view as important information for newcomers. Every farm business is different, but some possible content areas to consider including the following:

Background and Overview of Your Farm: Provide new employees with your farm's story – the history and development of the farm business. This should include information about key people in the farm's history as well as present-day leadership. Share your farm's mission statement, goals and objectives. While a farm tour may have been part of the employment process, this should be repeated, perhaps over a series of days as the new employee is introduced to the layout of land, facilities and operations. Throughout the process, emphasize the role and importance of employees in the farm's success.

Employee Policies: Even the smallest farm should consider development of an employee handbook or policy document. (See "Do We Need an Employee Handbook?"). As part of the employee orientation process, all key policies, compensation and benefits information should be reviewed. Do not just present the new employee with pages of documents and instructions to read. Orientation is the employer's opportunity to review the policies, explain rationale and provide opportunities for questions or clarification.

Introductions: While the new employee may have been introduced to some individuals during the pre-employment process, introductions should be repeated. Name badges (or embroidered shirts/apparel) can be very helpful in the farm workplace. Provide the new employee with an organizational chart or list of names. Include names of people who visit the farm on a regular basis such as drivers, veterinarians, suppliers, service personnel, neighbors or relatives.

Job Duty Information: While a position description was most likely discussed during the employment process, this is a key part of the new employee orientation phase. Provide the written position description, and use it as a guide to discuss specific tasks including training that will be provided to the new employee. Emphasize basic safety and indicate the importance of ongoing safety training and consciousness. Help a new employee to understand the relationship and importance of the position to other jobs and functions on the farm.

Who Should Conduct New Employee Orientation? To assure a consistent message to new employees, it is useful to have the same person conduct orientation. However, identifying other supervisors or more experienced co-workers to participate in the process will also assist in the socialization aspect of orientation. All members of the orientation team should be those who will share a positive attitude with the new employee. The new worker needs to hear constructive, upbeat messages during the early days of employment – all geared toward making those good, early impressions.

A well-planned orientation program takes an investment of time and effort on the part of the farm employer. Providing a positive orientation experience during the early days of employment sets the stage for a satisfying, long-term employment relationship on your farm.

As always, feel free to contact me with any of your farm employee management questions at morourke@iastate.edu, 712-737-4230

Monitoring Dry Matter for Corn Silage Harvest

Kevin Lager, ISU Extension and Outreach Dairy Specialist

Corn silage harvest comes around once a year, but the results of this event are key to setting up the feeding program for the coming year. Issues with harvesting and storing of one of the largest components of the dairy ration will lead to ongoing challenges. The relatively cooler temperatures this summer may have slowed corn maturation, but the recent heat wave may have dramatically changed the maturity and moisture levels of standing corn, requiring close monitoring to ensure timely harvest.

Knowing the moisture level or dry matter content of standing corn is a necessary tool in determining silage harvest. Depending upon the storage method being used, the ideal plant moisture level may vary as seen in Table 1.

Table 1. Optimum moisture content for harvesting corn silage		
Storage Structure	% Moisture	% Dry Matter
Stack or pile	65-72	28-35
Trench or bunker	65-70	30-35
Bags	60-70	30-40
Upright concrete	62-67	33-38
Oxygen limiting	45-55	45-55

On-farm monitoring of whole plant dry matter is a useful method to observe the moisture content leading up to harvest and may be done in multiple ways. Examples of some methods for dry matter testing and their characteristics are noted in Table 2:

Table 2. Methods for on farm dry matter testing of forages

Method	Cost (\$)	Sample Size	Estimated Drying Time	Simultaneous Samples	Supervision Required
Food Dehydrator	75-150	200 grams	8 - 12 hours	Yes	No
Microwave	variable	100 grams	10 minutes	No	Yes
Koster Tester	200-400	100 grams	30 minutes	No	Limited
Vortex Dryer	40	200 grams	20 – 60 minutes	No	No

Samples that are tested for moisture content using the food dehydrator, Vortex dryer, and Koster tester are weighed before they are placed in the drying container and then weighed upon completion of the drying time. Some Koster tester protocols call for an initial 20 minutes of drying, followed by weighing and continued drying at 5 minute intervals until the sample weight stabilizes. Microwave testing requires greater attention as the sample is weighed prior to placing it in the microwave, a half filled glass of water is placed in the back corner, and then the sample is heated for 3-4 minutes. The sample is then weighed. The process of heating and weighing continues after the initial heating for one minute, then at 30 second intervals until the weight stabilizes. It is possible with this method to burn the feed, thus rendering the sample useless and the process must be started over with a new sample.

When performing a dry matter test on forages it is important to record the weights each time they are taken to ensure accurate calculations. After drying is completed, divide the dry feed weight by the wet feed weight to calculate the dry matter of the feed.

It is important to note that using a representative sample of forage, and being precise and consistent with the selected on farm method to measure dry matter are key points in receiving reliable numbers. Repeating the process with additional samples may be beneficial to have an accurate representation of the dry matter content. Using a method that allows for running multiple samples simultaneously, or using additional units of the selected method when not cost prohibitive, may allow for quicker feedback in making a harvest time decision. If a more accurate measure of dry matter is required, submitting a sample to a laboratory will provide this number as well. Whatever method is chosen, the dry matter content of the whole corn plant requires careful monitoring during the changes in weather to ensure a timely harvest and quality feed being stored for the coming year.

SIoux COUNTY

Hotlines Available For All

Iowa Concern (800-447-1985)

Farm On (877-BFC-1999)

Teen Line (800-443-8336)

BETS OFF (800-BETS-OFF) (800-238-7633)

Hotlines Available to Iowa Residents Only

Families Answer Line (800-262-3804)

Hortline (515) 294-3108

Iowa Healthy Families (800-369-2229)

PORKLine (800-808-7675)



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