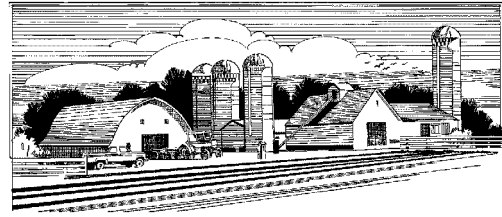


Ag Scene

Polk County UW-Extension Office 715-485-8600
<http://polk.uwex.edu>



August 2007

Inside This Issue

2007 Update

Cow Calf Management Calendar

Upcoming Dates

UW-Research: Limit Feeding Dairy Heifers

Links for Hay for Forage Buyers and Sellers

Potential Nitrate Poisoning from Drought Stressed Forage

Managing Drought Stressed Pastures

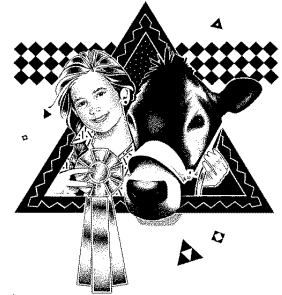
What to do with Drought Stressed Corn?

This information is provided to you through cooperative efforts of the U.S. Department of Agriculture, UW-Extension and Polk County. For more information, contact the Polk County UW-Extension Office at 485-8600.

Ryan Sterry
Agriculture/Horticulture Agent

2007 Update

Believe it or not the summer is already starting to wind down. We just completed a very successful county fair and several youth are off at state fair. Producers have seen higher commodity prices, especially for grains and milk, carry through the summer. At the same time though, many input costs have risen and will need to be monitored to ensure a healthy bottom line. At the beginning of this growing season there were many questions on land rental rates, and I have seen more wheat and non-traditional crops like sunflowers in the country.



While some fields appear to be holding their own, many are once again being stressed by drought conditions. From April 1st to July 31st we had accumulated 1754.5 growing degree days (GDD) as monitored in Luck. This is ahead of the 5 year average of 1423. On August 6th the USDA listed soil moisture conditions in Northwest Wisconsin as being 0% surplus, 10% adequate, 50% short, and 40% very short. For soybeans, 79% are in bloom and 55% are setting pods. On the corn side 86% has silked with 10% in dough. Over the next couple weeks we will learn much more about what to expect at harvest time.

On August 28 we there will be a soil quality field day hosted at the Craig Niemann farm in Turtle Lake. This is an opportunity that doesn't come to our part of the state every year, and it will be a great time to learn more about how to manage soils on your farm.

I hope to see many of you there, and if you have questions please give me a call!

Best Regards,

Ryan Sterry

Cow Calf Management Calendar

Information from Dr. Jeff Lehmkuhler, Extension Beef Specialist

Management practices required for each operation differ based upon calving season and goals. However, one can use the following calendar as a guide for common management practices for the beef cow-calf operation. This calendar utilizes a calving period of mid-March through Mid-May. For additional information related to available vaccines for the prevention of cattle diseases, see UWEX publication A3673 or talk to your veterinarian.



August

- Remove bulls from cow herd after 45-60 day breeding season.
- Monitor heifers and cows for early term abortions.
- Begin thinking about a marketing plan (i.e. pre-conditioning programs, retained ownership, special feeder calf sales, etc.).
- Pregnancy check heifers 45-60 days after AI or the bull is removed. Open heifers should be culled.

September

- Continue to monitor body condition scores. This is especially important with the recent dry weather that has slowed pasture regrowth. It is recommended that producers monitor body condition scores rather than attempting to add a significant amount of weight over a short time frame.
- Pregnancy check cow herd and heifers not checked in August.
- Prepare for weaning based on forage availability and your marketing plan. Consider early weaning if forage is in short supply and cows are low for body condition. Calves are more efficient at converting high quality feeds to gain than cows.
- Consider vaccinating calves for respiratory (IBR, BVD, PI3, BRSV) and clostridial diseases according to label directions.

Upcoming Dates

August 22, Youth Quality Meats Program Wrap-Up Meeting, 7:30 p.m., West Conference room in the Government Center

August 22, Beef Seminar "Pre-conditioning: Adding Value to Your Calf Crop" Burdy's in Weyerhauser, contact UW-Extension Rusk County at 715-532-2151

August 25, Spooner Sheep Dairy Day, UW Ag Research Station, Spooner

August 28, Soil Quality Field Day, Craig Niemann farm, 1218 Hwy 63, Turtle Lake. Registration starts at 9:30 a.m., program runs from 10:00 a.m. to 3:00 p.m.

September 6, Goat Field Day, Robin and David Trott farm, Ladysmith. More information to follow.

September 15, Northwest Graziers Pasture Walk, 1-4 p.m. at the Appa-Lolly Ranch, W1581 Town Hall Rd, Springbrook. Horse focused pasture walk that will also cover boarding, training, and proper winter care.

September 18-20, Farm Technology Days, hosted at the Plain View Stock Farm near Albany, Green County

October 2-6, World Dairy Expo, Madison

UW Research Update: Limit Feeding Dairy Heifers

One of the challenges to raising top notch dairy heifers is that feeding high quality feeds often results in a greater than necessary energy intake for heifers. This can result in over conditioned heifers that can have problems calving and breeding back. Many farmers have gone to adding "fillers" like straw or poor quality hay, but these feeds can be quite expensive when looking at their nutrient value.

To overcome this problem Pat Hoffman at the Marshfield Ag Research Center has been testing limit feeding replacement heifers. Diets were formulated to provide all necessary nutrients, but were fed at 100, 90, and 80% of the heifers' potential intake. The first results from this work

show that heifers on the limited diet bellow more, but only for the first week until they got used to the new feeding schedule. Limit fed heifers grew at the same rate, calved in at a similar height and body condition score, and produced less manure as those with free choice feed. Limit fed heifers also had similar milk production during their first lactation.

It's important to remember that adequate bunk space is key to making a limit feeding program work, because all animals will want to eat at once when fed. Also, limit feeding is intended for use on older, pregnant heifers, where over conditioning is a concern.

Links for Hay and Forage Buyers and Sellers

The Polk County UW-Extension Office will maintain a hay and feed list this year for farmers wishing to buy and sell hay. The list will be posted locally and on our website, www.uwex.edu/ces/cty/polk/index.html under the Agriculture link. If you wish to add hay on the list or wish to put a call out for hay, contact the Extension Office at 485-8600. Be prepared to provide a description of the hay desired or hay to be sold (price, quality, quantity, type of bale, etc.).

Potential Nitrate Poisoning from Drought Stressed Forage

Nitrate poisoning can occur in cattle, sheep, goats, and other ruminants when excessive amounts of nitrate are consumed from feed or water. Under normal conditions, nitrate ingested by ruminant livestock is converted to Nitrite, then ammonia, and then bacterial protein in the rumen by bacteria. When Nitrates is excessive in the diet, it will be converted to Nitrite, but the rumen will not be able to use the Nitrite fast enough to prevent it from building up. Nitrites are then absorbed into the bloodstream where they reduce the bloods ability to transport oxygen.

Under drought conditions some plants, particularly corn and sorghum/sudan grass, will accumulate

greater than normal Nitrate levels in the stalk and leaves, especially the lower 1/4 to 1/3 of the plant. Immediately following a drought breaking event Nitrate levels may spike before declining towards normal. A nitrate test is available at the Marshfield Plant and Soil Analysis Lab, 8396 Yellowstone Dr., Marshfield, WI 54449 for \$9. To sample green chop take several handfuls from different loads or different parts of the same load, mix together, and remove about half a pound to submit. Curing hay or ensiling forage can reduce Nitrate levels by 1/3 to 1/2, so for these feeds you may want to sample after storage to get a more accurate reading.

Managing Drought Stressed Pastures

Dennis Cosgrove, Extension Forage Specialist, University of Wisconsin

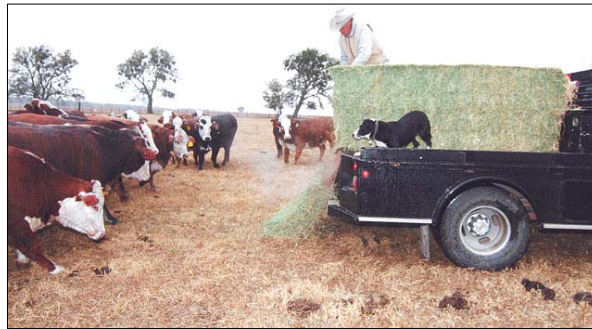
Severe drought has affected pasture growth throughout much of Wisconsin and Minnesota. While little can be done to increase forage pasture growth in the short run, careful management now can minimize long term

stand damage and help maintain forage yields when rains do come. This article will discuss ways in which the impact of drought on pastures can be minimized.

Grazing Management

When drought comes and pasture forage is in short supply it is tempting to continue to graze until all the forage is gone. While this will provide a few more grazing days in the short term, it will delay regrowth and decrease forage yields when rains do come. Leaving green, living leaf area will provide for photosynthesis and more rapid regrowth than if the plants are completely defoliated. Where possible leave an appropriate stubble height to allow for carbohydrate storage and regrowth. For short grasses like bluegrass and ryegrass this is two inches. For taller grasses such as orchardgrass, brome grass, timothy and tall fescue the proper residual height is 4". Of course, if all plant material is brown and dead, grazing this material will not harm the plants.

Another temptation is to remove cattle from pastures, and then put them back for a day or two each time there is a small amount of regrowth. Again, while this allows for some grazing in the short run, it has detrimental affects in the long run. Continually removing regrowth removes root carbohydrates and will reduce the plants ability to regrow when rains resume. Long term pasture yields will be reduced. A better strategy is to allow plants to regrow to appropriate heights before grazing. This allows replenishment of root reserves and will mean healthy plants and higher pasture yields. The appropriate regrowth height is 6 inches for bluegrass and ryegrass and ten inches for orchardgrass, brome grass, timothy and tall fescue.



Animal Management

These recommendations mean that animals will likely need to be removed from pastures and fed stored feed for some time. For those without adequate facilities for this there are three options. One is to establish a sacrifice paddock where feeding will take place.

This limits the damage this practice causes to a discreet area. Forage growth from this area will be minimal this year but will likely recover with minimal inputs next year. A second option is to rotate the pastures where feeding takes place. Leave the feed bunk or wagon in a paddock for only a day or two then move to another. This limits the amount of plant damage in any one paddock. A third option is to feed animals in alley ways and lanes. In all cases make sure animals have adequate access to water.

Increasing Available Forage

There are still options available to increase late summer/fall pasture forage availability. Applications of 50 units of nitrogen have shown to increase late summer forage production by around 1000 lbs of dry matter per acre. Of course, realizing the benefits of nitrogen is dependant on rainfall. Nitrogen sources such as ammonium nitrate and ammonium sulfate will reduce volatilization losses from dry pastures after application. Volatility losses from urea, while greater than other sources are still only about 20% and so urea is also an option.

Forage brassicas are another option to increase fall forage production. Brassicas such as turnips and rape can be seeded in August for fall grazing. These crops provide high quality pasture and can be grazed multiple times beginning within 60 days of seeding. As with nitrogen applications, the success of these crops will depend on late summer rains.

Grazing standing corn is another option for those short of pasture forage due to drought. Corn provides good quality forage and, for some fields where grain yields are low due to poor rainfall, grazing may be the most economical harvest method. Corn should be strip grazed using highly visible electric fence such a polytape.

Remember to Scout for Spider Mites in Soybeans for August

Eileen Cullen, Extension Entomologist, UW Entomology Department

In addition to soybean aphid, include two spotted spider mite in soybean field scouting and treatment decisions. Due to lack of rain in many counties in Wisconsin, coupled with hot temperatures, fields are once again capable of hosting economic spider mite populations. Recall that in 2005 in east central WI, and in 2006 in northwestern Wisconsin spider mite populations started earlier in July and were at very high levels in some fields by early August. Currently, we have not yet seen widespread outbreaks but have had a few reports from drier areas.

To scout for spider mites start at the edges and corners of fields first, pull plants and shake some of the bottom leaves over a sheet of white paper or other relatively light surface and look for 'moving dirt'. That would be mites. If they're on the edge, then check the rest of the field. By the time economically treatable populations are present, stippling (yellow spotting) and general yellowing of leaves will be visible.

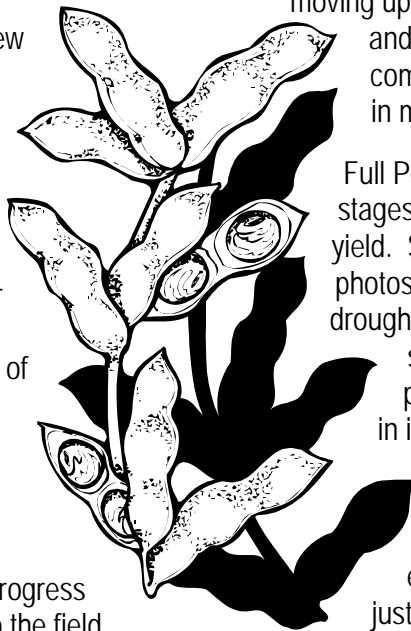
If mite presence is verified, it's time to progress into the field. Move at least 100 feet into the field before making your first stop. Walk a "U" pattern checking at least 2 plants at each 20 locations. Assess mite damage using the following scale:

- 0 – No spider mites or injury observed.
- 1 – Minor stippling on lower leaves, no premature yellowing observed
- 2 – Stippling common on lower leaves, small areas or scattered plants with yellowing
- 3 – Heavy stippling on lower leaves with some stippling progressing into middle canopy. Mites present in middle canopy with scattered colonies in upper canopy. Lower leaf yellowing common.

Small areas with lower leaf loss. (Spray Threshold)

4 – Lower leaf yellowing readily apparent. Leaf drop common. Stippling, webbing and mites common in middle canopy. Mites and minor stippling present in upper canopy. (Economic Loss)

5 – Lower leaf loss common, yellowing or browning moving up plant into middle canopy, stippling and distortion of upper leaves common. Mites present in high levels in middle and lower canopy.



Full Pod (R4) and Beginning Seed (R5) stages are critical in determining soybean yield. Spider mite feeding reduces photosynthetic area and accentuates drought stress. The result is reduced pod set, seed number, and seed size. If plants are killed, pod fill is stopped in its tracks. Pods on mite-stressed plants are more likely to shatter, which compounds yield loss.

Only a 10-15% reduction in effective leaf area, yield losses will justify an insecticide/miticide application. Unfortunately it's not easy to estimate a 15% reduction in effective leaf area. ***Treatment is recommended only if damage and mites are detected throughout the field. Use the previous scale following guide, treat when injury progresses to a rating of 3. Fields with ratings of 5 or worse may not be salvageable. Check fields every 4-5 days if drought persists since damaging infestations can develop quickly.***

Continued.....

Spider Mites in Soybeans, continued.....

The following points are also important to keep in mind when managing spider mites.

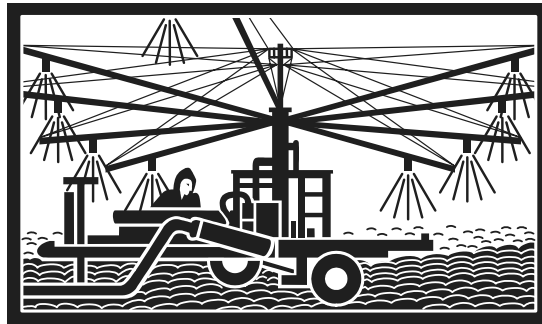
- Do not assume rain will eliminate aphid or mite populations. Heavy rains in the 2-6" range eliminate stress on the plant, but you need to make sure ongoing aphid or spider mite problems do not continue to impact yield.
- Scout now for spider mites, their signs, and damage, especially if you are contemplating a spray for soybean aphid. Spraying for soybean aphid with pyrethroid sprays could aggravate the situation. Pyrethroids perform poorly against spider mites and could even "flare" a mite increase.
- The only products recommended for spider mite control include the organophosphates chlorpyrifos (Lorsban) and Dimethoate.
- Following any August rainfall, relatively cooler temperatures and high humidity can foster the most effective natural enemy of two spotted spider mites - a fungal pathogen, *Neozygites floridana*, that attacks all stages of mites and is host-specific to spider mites. During early infection stages, mites have a discolored, waxy or cloudy appearance and mite death occurs within 1 to 3 days of infection.

What to do with Drought Stressed Corn?

With several stressed corn fields in the area, many producers want to know what to do. Should you chop it now for silage, or take the chance rains will come?

The answer to this question is going to depend greatly on how successful pollination is, because pollination and fertilization determine the end number of kernels in the field. The only yield component after pollination yet to be determined is kernel weight. When the black layer is formed (R6) kernel weight is set.

Two techniques are commonly used to assess pollination success or failure. The most rapid technique to determine pollination success is the "shake test." Carefully unwrap the ear husk leaves and then gently shake the ear. The silks from fertilized ovules will drop off. The proportion (%) of silks dropping off the ear indicates the proportion of future kernels on an ear. Randomly sample several ears in a field to estimate the success of



pollination. The second technique is to wait until 10 days after fertilization of the ovules. The developing ovules (kernels) will appear as watery blisters (the "blister" R2 stage of kernel development). It is important to get out in the field and look at the ears to assess crop potential.

Views from the road based on plant height and appearance can be misleading.

If pollination is good, harvest in a normal fashion for either grain or forage use. If pollination is poor yet some kernels are developing, the plant can gain dry matter and farmers should wait with harvest. If there is no pollination, then the best quality forage will be found a close to flowering as possible. The challenge is to make sure that no potential pollination occurs and that the forage moisture is correct for the storage structure.

The decision to chop corn for silage should be made when:

1. You are sure pollination and fertilization of kernels will not or did not occur and that whole-plant moisture is in the proper range for the storage structure so that fermentation can occur without seepage or spoilage losses.
2. If pollination and fertilization of kernels did occur but it was poor, do not chop until you are sure that there is no further potential to increase grain dry matter and whole plant moisture is in the proper range for the storage structure. These kernels may grow some now, if the plant is not dead and in those fields receiving rain. If kernels are growing dry matter is accumulating and yield and quality of the forage is improving.

Green barren stalks will contain 75-90% water. If weather remains hot and dry, moisture content drops, but if rain occurs before plants lose green color, plants can regain moisture and remain green until frost. Drought stressed corn tends to have increased sugar content, higher crude protein, higher crude fiber than normal corn silage.

If the decision is made to harvest the crop for ensiling, the main consideration will be proper moisture for storage and fermentation. The crop will look drier than it really is, so moisture testing will be critical. Last year in Polk and St. Croix counties there were reports of silo seepage when ensiling drought stressed corn, so it is recommended to test whole-plant moisture of chopped corn. Use a forced air dryer (i.e. Koster), oven, microwave, electronic forage tester, NIR, or the rapid "Grab Test" method for your determination. With the "Grab Test" method (as described by Hicks, Minnesota), a handful of finely cut plant material is squeezed as tightly as possible for 90 seconds. Release the grip and note the condition of the ball of plant material in the hand.

- If juice runs freely or shows between the fingers, the crop contains 75 to 85% moisture

- If the balls holds its shape and the hand is moist, the material contains 70 to 75% moisture
- If the balls expands slowly and no dampness appears on the hand, the material contains 60 to 70% moisture
- If the ball springs out in the opening hand, the crop contains less than 60% moisture

The proper harvest moisture content depends upon the storage structure, but is the same for drought stressed and normal corn. Harvesting should be done at the moisture content that ensures good preservation and storage (Table 1)

Table 1. Recommended moisture content (%) for corn stored in various types of storage structures

Horizontal bunker silos	70-65
Bag silos	70-60
Upright concrete stave silos	65-60
Upright oxygen limiting silos	60-50

Derived from Roth et al., 1995

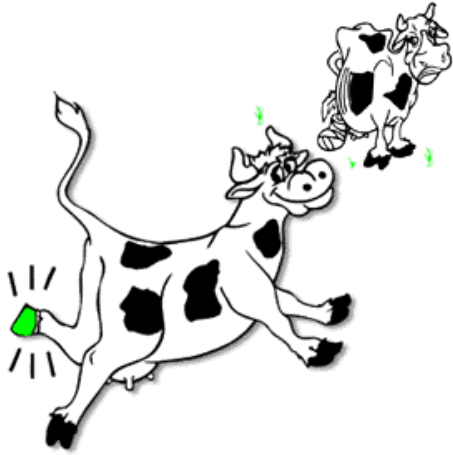
Finally, consider raising the cutting bar if you haven't already. Depending upon farm forage needs, raising the cutter-bar on the silage chopper reduces yield but increases quality. For example, raising cutting height reduced yield by 15%, but improved quality so that Milk per acre of corn silage was only reduced 3-4% (Lauer, Wisconsin). In addition the plant parts with highest nitrate concentrations remain in the field (Table 2).

Table 2. Nitrate nitrogen of corn plant parts harvested for silage

Plant Part	N03N (PPM)
Leaves	64
Ears	17
Upper 1/3 of stalk	153
Middle 1/3 of stalk	803
Lower 1/3 of stalk	5524
Whole plant	978

University of Wisconsin – Extension
Polk County Office
100 Polk County Plaza, Suite 210
Balsam Lake, WI 54810

Presorted Standard
U.S. Postage Paid
Nonprofit
Permit No. 9



Ag Scene



or parental status,

The University of Wisconsin-Extension provides Title IX requirements which include affirmative action and equal opportunity in education, programming, and employment for all qualified persons regardless of race, color, gender, creed, disability, religion, national origin, ancestry, age, sexual orientation, pregnancy, marital

arrest or conviction record or veteran status.

Requests for reasonable accommodations for disabilities or limitations should be made prior to the date of the program or activity for which it is needed. Please do so as early as possible prior to the program or activity so that proper arrangements can be made. Requests are confidential (ADA requirements).