Chippewa Valley Agricultural Extension Report

Dunn County - 715-232-1636
Katie Wantoch - Agriculture Agent
http://dunn.uwex.edu

Eau Claire County - 715-839-4712
Mark Hagedorn - Agriculture Agent
http://eauclaire.uwex.edu

Chippewa County - 715-726-7950
Jerry Clark - Agriculture Agent
http://chippewa.uwex.edu

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Inside this issue:

Inserts:
- RCDF Field Day
- Chippewa Valley Farm-City Day

WI Farm Fun Facts
Did you know?

- Wisconsin is the leading cheese producer, making more than 600 varieties.
- Wisconsin harvests 200,000 gallons of maple syrup and 2.8 million pounds of honey annually.
- Wisconsin's egg production generates about $101 million and supplies 1.4 billion eggs.
- Wisconsin leads the nation in cranberry production, growing more than half of the nation's supply.
- Wisconsin Farms raised 5 million trout and produced 1.3 million mink pelts.

Source: *2016 Wisconsin Farm Bureau Ag in the Classroom*

Research and resources in this newsletter are being provided by UW-Extension Agriculture Agents. Some of these articles may not be applicable to all readers. The drought that occurred during August's extended period of warm and dry weather may have affected certain areas while others may have received localized precipitation or have irrigation available. Feel free to contact us with questions

Wisconsin Farm Center Offers Assistance to Farmers

Many farmers balance the needs of their family and farm above everything else, often ignoring their own needs. As farmers continue to endure an extended period of tough economic conditions, services are available to farmers and landowners that is free and confidential.

The Wisconsin Farm Center at the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) is there for farmers to call for guidance on finances, farm succession planning, and other issues they may be dealing with. Farm Center staff work with farmers and their families one-on-one to address each personal situation.

Farmers, whether beginning their career or nearing retirement, can experience challenging situations. Staff are able to walk through options with farmers about how to navigate difficult personal or financial situations. While at times, alternatives may seem very limited, sometimes an outside perspective can help bring light to possibilities.

Just as taking care of physical health is important, so is taking care of mental health. Those in need are encouraged to reach out for help and utilize available resources by calling the Wisconsin Farm Center at 800-942-2474. Staff are available Monday through Friday from 7:45 a.m.-4:30 p.m.

If there is a mental health emergency during non-office hours, farmers should contact 911 or the National Suicide Prevention Lifeline at 1-800-273-8255.

2-1-1 Resources Available in Wisconsin

Farmers can also reach out to a free and confidential resource for all Wisconsin residents. 2-1-1 Wisconsin is an information helpline and website that links people from all communities and ages to essential health and human services they need, 24 hours a day, seven days a week.

2-1-1 provides access to information and resources including utilities assistance, mental health services, financial and tax assistance, and health care information. You can reach the resource by dialing 2-1-1 on your phone from anywhere in Wisconsin or visiting www.211wisconsin.org. From there, residents are linked to information about local resources from both government and nonprofit organizations.

What Happens Within The Corn Plant When Drought Occurs?

By Joe Lauer, UW-Madison Extension Corn Agronomist

Many areas of Wisconsin had reduced rain this summer and corn is showing signs of stress. Many are concerned about how this might affect corn yields. To begin talking about water influences on corn growth and development and yield we must begin with the concept of evapotranspiration.

Evapotranspiration is both the water lost from the soil surface through **evaporation** and the water used by a plant during **transpiration**. Soil evaporation is the major loss of water from the soil during early stages of growth. As corn leaf area increases, transpiration gradually becomes the major pathway through which water moves from the soil through the plant to the atmosphere.

Yield is reduced when evapotranspiration demand exceeds water supply from the soil at any time during the corn life cycle. Nutrient availability, uptake, and transport are impaired without sufficient water. Plants weakened by stress are also more susceptible to disease and insect damage. Corn responds to water stress by leaf rolling. Highly stressed plants will begin leaf rolling early in the day. Evapotranspiration demand of corn varies during its life cycle (Table 1). Evapotranspiration peaks around canopy closure. Estimates of peak evapotranspiration in corn range between 0.20 and 0.39 inches per day. Corn yield is most sensitive to water stress during flowering and pollination, followed by grain-filling, and finally vegetative growth stages.

Vegetative development

Water stress during vegetative development reduces stem and leaf cell expansion resulting in reduced plant height and less leaf area. Leaf number is generally not affected by water stress. Corn roots can grow between 5 and 8 feet deep, and soil can hold 1.5 to 2.5 inches of available soil water per foot of soil, depending upon soil texture. Ear size may be smaller. Kernel number (rows) is reduced. Early drought stress does not usually affect yield in Wisconsin through the V10-V12 stages. Beyond these stages water stress begins to have an increasing effect on corn yield.

Pollination

Water stress around flowering and pollination delays silking, reduces silk elongation, and inhibits embryo development after pollination. Moisture stress during this time reduces corn grain yield 3-8% for each day of stress (Table 1). Moisture or heat stress interferes with synchronization between pollen shed and silk emergence. Drought stress may delay silk emergence until pollen shed is nearly or completely finished. During periods of high temperatures, low relative humidity, and inadequate soil moisture level, exposed silks may desiccate and become non-receptive to pollen germination.

To assess the success or failure of pollination, two methods are commonly used: counting attached silks and counting developing ovules. Each potential kernel on the ear has a silk attached to it. Once a pollen grain "lands" on an individual silk, it quickly germinates and produces a pollen tube that grows the length of the silk to fertilize the ovule in 12 to 28 hours. Within 1 to 3 days after a silk is pollinated and if fertilization of the ovule is successful, the silk will detach from the developing kernel. Unfertilized ovules will still have attached silks. By carefully unwrapping the husk leaves from an ear and then gently shaking the ear, the silks from the fertilized ovules will readily drop off. Developing ovules (kernels) appear as watery blisters (the "blister" stage of kernel development) about 10 to 14 days after fertilization of the ovules. The proportion of fertilized ovules (future kernels) on an ear indicates the progress and success of pollination.

Silk elongation begins near the butt of the ear and progresses up toward the tip. The tip silks are typically the last to emerge from the husk leaves. If ears are unusually long (many kernels per row), the final silks from the tip of the ear may emerge after all the pollen has been shed.

Another cause of incomplete kernel set is abortion of fertilized ovules. Aborted kernels are distinguished from unfertilized ovules in that aborted kernels had actually begun development. Aborted kernels will be shrunken and mostly white.

Kernel development (grain-filling)

Water stress during grain-filling increases leaf dying, shortens the grain-filling period, increases lodging and lowers kernel weight. Water stress during grain-filling reduces yield 2.5 to 5.8% with each day of stress (Table 1). Kernels are most susceptible to abortion during the first 2 weeks following pollination, particularly kernels near the tip of the ear. Tip kernels are generally last to be fertilized, less vigorous than the rest, and are most susceptible to abortion. Once kernels have reached the dough stage of development, further yield losses will occur mainly from reductions in kernel dry weight accumulation.

Severe drought stress that continues into the early stages of kernel development (blister and milk stages) can easily abort developing kernels. Severe stress during dough and dent stages of grain fill decreases grain yield primarily due to decreased kernel weights and is often caused by premature black layer formation in the kernels. Once grain has reached physiological maturity, stress will have no further physiological effect on final yield (Table 1). Stalk and ear rots, however, can continue to develop after corn has reached physiological maturity and indirectly reduce grain yield through plant lodging. Stalk rots are seen more often when ears have high kernel numbers and have been predisposed to stress, especially drought stress.

Premature Plant Death

Premature death of leaves results in yield losses because the photosynthetic 'factory' output is greatly reduced. The plant may remobilize stored carbohydrates from the leaves or stalk tissue to the developing ears, but yield potential will still be lost. Death of all plant tissue prevents any further remobilization of stored carbohydrates to the developing ear. Whole plant death that occurs before normal black layer formation will cause premature black layer development, resulting in incomplete grain fill and lightweight, chaffy grain. Grain moisture will be greater than 35%, requiring substantial field dry down before harvest.

Table 1 - Estimated corn evapotranspiration and yield loss per stress day during various stages of growth.

Growth Stage	Evapotranspiration inches per day	Percent yield loss per day of stress (min-ave-max)
Seedling to 4 leaf	0.06	—-
4 leaf to 8 leaf	0.10	—-
8 leaf to 12 leaf	0.18	—-
12 leaf to 16 leaf	0.21	2.1 - 3.0 - 3.7
16 leaf to tasseling	0.33	2.5 - 3.2 - 4.0
Pollination (R1)	0.33	3.0 - 6.8 - 8.0
Blister (R2)	0.33	3.0 - 4.2 - 6.0
Milk (F3)	0.26	3.0 - 4.2 - 5.8
Dough (R4)	0.26	3.0 - 4.0 - 5.0
Dent (R5)	0.26	2.5 - 3.0 - 4.0
Maturity (F6)	0.23	0.0

Derived from Rhoads and Bennett (1990) and Shaw (1988)

Considerations for Cover Crops

By Matt Ruark and Francisco Arriaga, UW-Madison Extension Soil Scientists; Kevin Shelley, UW-NPM Program; Jim Stute, Michael Fields Institute (former UW-Extension Rock County Ag Agent)

During concerns of drought, it is likely that residual nitrate concentrations in the soil will be high, especially if corn was harvested early as silage or if yields are well below expected. One benefit of planting cover crops after corn silage, small grain, or a processing vegetable crop, or after a manure application is that the cover crop can take up residual nitrate and reduce the risk of nitrate leaching between harvest and planting. Other benefits of cover crops include reduction in soil erosion and weed suppression. This article focuses on using cover crops for nutrient conservation benefits rather than growing cover crops for forage.

Cover crops to trap nitrate. The ideal cover crops for a nitrate trap crop are grass crops that establish quickly, such as cereal rye (aka winter rye), oat, barley, annual ryegrass (aka Italian ryegrass), and sorghum-sudangrass. These cover crops also have a fibrous root system. Brassicas (e.g. radish, turnip, mustard) and legumes (clover, hairy vetch) will also take up residual nitrate, but do not establish as quickly. Radish has been popular cover crop in no-till systems and, if planted early enough, radish can take up as much or more N compared to grass cover crops during the winter, but grass cover crops can scavenge N deeper into the soil profile. The radish will winterkill, while rye will continue to grow (and take up N) in the spring. Oats, barley, sorghum-sudangrass, and annual ryegrass will typically winterkill during Wisconsin winters. However, growers have noted that annual ryegrass can be difficult to control if it survives the winter and is not completely killed with tillage.

The planting timing and seeding density of these cover crops is very important for establishment. Our recommendations for seeding rates (drilled) are 90-112 lb/ac for rye, 15-20 lb/ac for annual ryegrass, and 80-110 for oat, 60-90 lb/ac for barley, and 35-40 lb/ac for sorghum-sudangrass. Apply toward the higher end of the range with later plantings (especially after Sept. 15th), in weedy fields, or if broadcast seeded. Grass cover crops are more likely to establish during the fall months, while legumes and brassicas need to be planted in summer months to ensure a quality stand.

Legume cover crops (i.e. green manure crops) will also take up residual N; high residual nitrate environments will cause nodulation to be delayed. However, if the goal is to trap N or grow a cover crop to provide soil conservation benefits, we would not recommend planting legumes. If the goal is to supply N to the subsequent crop, then legumes would be recommended. The N contribution from a green manure crop is called "nitrogen credits". This N credit means that when you terminate the legume prior to planting, you can reduce your N fertilizer by the value of the credit. The total amount of N in the biomass will be greater than the "credit", as not all of this organic N will be mineralized for the subsequent crop. The credit is based on field research, comparing optimum N rates when using green manures to optimum N rates when not using green manures. Late plantings of legumes are not ideal, as at least 6" of growth is needed to produce a predictable N credit.

Do we get the "trapped" N back? The N taken up by a cover crop is cycled back into the soil during the decomposition of the plant biomass. The release of N into the soil is, in-part, a function of the carbon to nitrogen (C:N) ratio of the plant material. In general, the decay of plant material with a C:N ratio between 20 to 30 results in no net contribution to, nor consumption of, plant available N. Plant material with a C:N ratio less than 20 can result in a net excess of N after microbial decomposition. As the microbes breakdown the material, N is produced in excess of what the microbes need to function, and thus, this N is available for plant uptake. As a result, the termination of a cover crop like red clover, which typically has a C:N ratio of 15, is equivalent to an application of 40 to 80 lb/ac of N fertilizer depending on plant height. However, grasses and brassicas have a C:N ratio of 20 or greater, resulting in no net effect to available N. If the C:N ratio of the plant material is greater than 30:1, net immobilization can occur, meaning that N from the soil is consumed (i.e. immobilized) by microbes during the decomposition process, resulting in a decrease in plant available N. Grasses tend to increase in C:N ratio as they grow. For this reason, we recommend killing rye cover crops as early as possible in the spring to minimize any effect of immobilization.

The low C:N ratio materials (e.g. red clover) also breakdown much more rapidly compared to grasses and brassicas. This results in greater synchrony of N release with periods of high N uptake by the corn crop. Release of N from the grass crops does occur, but often occurs later in the growing season, after peak N uptake rate for corn has occurred. Thus, we do not recommend taking an N credit for grass cover crops. However, the slow breakdown of grass crops, along with their higher C:N ratio, can lead to a greater contribution of organic material to the soil, which can increase the soil organic carbon and soil organic nitrogen content over time. The extensive root system also can lead to an increase in soil organic carbon in the subsurface soil, which can be beneficial for fertility and water retention. These types of soil building benefits will not be realized after only one year of cover cropping, but instead, is a long term effect of using cover crops as part of the cropping system.

There are tremendous benefits to water quality with growing a cover crop after manure application in the late summer or fall. While this trapped N will not likely become plant available the following year, as previously mentioned, there are other long-term benefits of trapping the manure nitrate in plant biomass and incorporating this biomass into the soil. If concerned about the amount of time required for application of both manure and cover crops, slurry seeding of cover crops has been shown to be a viable method. The slurry seeding method creates a one-pass system where cover crop seeds are tank mixed with the manure.

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What about water use? Another reason to kill the rye as early as possible in the spring is to minimize water uptake. After a drought year, severe yield losses on corn are expected on fields where rye was harvested as a forage crop in May (following a previous crop of corn silage). The deep, fibrous root system consumed too much subsurface water and with the drought conditions, this subsurface water was not replenished, thus creating a worse-case scenario for this type of double forage-cropping system.

Popular options for cover crop use:

- If interested in scavenging excess N, plant rye, oats, or ryegrass to get quick establishment and soil coverage. Of these three crops, only rye will survive the winter. Make sure you kill the rye as early as you can in the spring.
- If interested in supplying N, grow a legume. An option that would be recommended through August 15th is planting berseem clover with a companion crop of oats. The oats will establish first and take up some of the excess N in the root zone, and if planted early enough, the berseem clover will establish nicely, outgrow the oats, and provide an N credit for the following crop. Oats/berseem can be planted in August, but good growth will depend on adequate moisture. A recommended seeding rate would be 8 to 10 lb/ac for berseem clover and 40 to 55 lb/ac for oats. Both the oats and berseem clover will winterkill.

Drought Stress Reduces Corn Silage Yield More Than Quality

By Joe Lauer, UW-Madison Extension Corn Agronomist

Farmers trying to decide about using drought affected corn fields must first determine success of pollination. If pollination will affect grain yield, then growers must follow directions given by hail adjusters to ensure insurance payment. If the decision is made to harvest the field for silage, then it must be cut at the proper moisture; the crop is usually wetter than it appears. Yield of drought affected fields is usually reduced. But buyers and sellers of corn silage often ask, "How does drought affect corn silage quality?" Sellers look at drought affected corn and either are disappointed and just try to get what they can for the field, or give up, plow it down, and start planning for next year. Buyers look at a drought affected corn field and wonder how well cattle can produce milk or beef from the silage and what additional feed supplements will be necessary for the feed ration.

Environments with drought stress prior to pollination

Two environments (Arlington-2005 and Marshfield-2006) had drought stress prior to pollination, followed by timely rains during pollination and grain-fill. Plants in these environments were short (i.e. < 6 feet tall), but had average to above average grain yield for the location. Forage yield tended to be reduced slightly in these drought affected environments compared to normal environments. For example at Arlington during 2005, forage yield of 55 hybrids was 8.9 T/A while 2003, 2004, and 2006 forage yield averaged 9.1 T/A. NDF content was lower and starch content was greater resulting in higher than average Milk per Ton. Corn plants were shorter but had a greater proportion of grain in the silage. Thus, quality as measured by Milk per Ton was not affected, and yield as measured by Milk per Acre and forage yield was similar to other environments.

Environments with drought stress extending into grain filling

Environments that had drought stress extending into grain filling were Chippewa Falls-2005,2006, Marshfield-2003, 2005, and Spooner-2005, 2006. At Spooner the same hybrids were planted on a dry land silt loam site and under a site with center pivot irrigation.

Drought stressed environments extending into grain filling had 18 to 46% lower forage yield than normal environments (drought v. normal environments: Chippewa Falls= 6.2 v. 7.6 T/A= 18%; Spooner silt loam= 3.6 v. 6.6 T/A= 46%). Usually starch content was reduced. Silage quality, as measured by Milk per Ton, was reduced 3 to 8% in drought stressed environments (Chippewa Falls= 8%; Spooner silt loam= 3%). Milk per Acre was reduced 24 to 50% in drought stressed environments (Chippewa Falls= 24%; Spooner silt loam= 50%).The Spooner irrigated site followed similar trends although the magnitude of the difference between drought stressed and normal environments was not as great.

Summary

Environments where drought stress occurs prior to pollination and is followed by rainfall during pollination and grain filling, produced corn silage with increased NDF and starch content, but no change in forage yield, Milk per Acre or Milk per Ton. Environments where drought stress extends into grain filling, produced corn silage with lower starch content, 18 to 46% lower forage yield, 24 to 50% lower Milk per Acre, but only 3 to 8% lower Milk per Ton. Plant height is reduced in both of these environments. Success of pollination influences grain and silage yield, the proportion of grain in silage, but little impact is measured on silage quality.

Feeding Hay—Do you have enough?

By Adam Hady, UW-Extension Richland County Agriculture Agent

This year has been an interesting year to say the least. In most areas of the state beef producers experienced some level of drought. During the drought many pastures went dormant, so we turned to feeding hay throughout the summer. Hay yields may have also been reduced. Since we may have fed large parts of the winter feed supply during late summer, the question that needs to be answered is "do I have enough hay?" The next question we have to ask is if we don't is," how much do I need to buy?"

We start by taking a feed inventory. In our inventory we account for the amount of hay we have on hand. Part of this calculation is determining the size and type of hay we have and what other forage resources we have on hand. Ideally our inventories will go from some number of bales available to how many tons available. We then compare that to how many tons of hay or similar forage we need to feed our herd. Typically, a beef animal will consume three percent of its weight in dry matter. So for 1,000 pound beef cow that is 30 lbs. of dry matter a day. On average, dry hay is 88% dry matter, which means that the beef cow needs 34 lbs. of baled hay as fed per day to meet her intake. If we look at feeding our cow herd winter feed October through March, which would be about 180 days, each cow will consume about 3.06 tons of hay during that time period. This same process should then be used for calculating how much hay is needed by the other classes of cattle we have. We now know how much hay the herd will eat, but how much is wasted? One area where there could be a possibility of extending your feed on hand is how it is fed and stored. Many beef producers utilize round bales as an effective method for feeding hay. If farmers are still storing their round bales outside and uncovered they are likely throwing close to one third of their hay crop away. Adjusting the way we feed our hay, especially round bales, may also significantly reduce the amount of hay waste. The first way to minimize the amount of hay waste is through the feeding system. Michigan State University looked at using four different feeding systems: a cradle feeder, cone feeder, regular round bale feeder and a wagon feeder, that the cows wasted 4.2, .09, 1.6, and 3.5 pounds of hay per cow a day.

The second way to reduce feed intake and waste may be limit or timed feeding of hay. Research from Minnesota and Illinois, suggest that restricting the amount of time cattle have access to feed will, in fact, reduce the amount of dry matter intake, and reduce feed waste without impacting cow performance. The Minnesota results showed that cows allowed 24 hour access consumed 27.4 lbs. per day and 7.7% DM feed waste. Cattle restricted at 14 hours and 6 hours consumed 24.4 lbs. /day and 21.2 lbs. /day respectively and had feed waste of 4.3% DM and .8% DM respectively. They projected using the 6 hour time frame on a 40 cow herd would save $3,600 a year.

After you have calculated how much feed you need per cow, and figured how much she will waste, do you have enough for the winter based off of your inventory? How much do you need to buy and are there areas we can save in our feed waste in times when hay may be a little short in quantities and high in price.

Beef Quality Assurance and Beef Quality Assurance—Transportation Certifications being offered online or at Altoona on Oct. 26th

Beef Quality Assurance (BQA) and BQA-Transportation do more than just help those raising dairy and beef to capture more value from their market cattle: BQA also reflects a positive public image and instills consumer confidence in the beef industry. Implementing BQA best management practices, including how cattle are transported, assures market steers, heifers, cows, and bulls are the best they can be. The stakes are even higher today because of increased public attention on animal welfare. Various markets will be requiring proof of BQA and BQA-Transportation Certifications as of January 1st, 2019.

Online BQA certification is free. Farmers need to register online and pick the training that best matches their operation. Please visit https://www.bqa.org/certification. In response to the demand for in-person BQA training, Equity Livestock Cooperative, UW-Extension and WI Beef Council will be hosting BQA Certification training at the Equity Co-op Livestock Auction barn in Altoona, WI on Friday, October 26th. Contact Mark Hagedorn at 715-839-4712 or mark.hagedorn@ces.uwex.edu for more information or to register.

Drought and Watering of Ornamental Plants

By Dr Laura Jull, Woody Ornamental Extension Specialist, UW-Madison Dept. of Horticulture

Many of our established woody ornamentals can survive periods of prolonged drought. In response to drought conditions, some of our woody ornamentals, both native and exotic, can start the annual fall leaf defoliation a bit early during prolonged drought conditions. Leaves can also turn brown and curl on the edges and drop in mass quantities, particularly on species such as linden, birch, dogwood (red twig, yellow twig, pagoda, and Corneliancherry dogwoods), and hydrangeas. What can we do to help plants handle this dry situation? Water! The recommendation of 1" of water per week per plant is very important, even in the fall. Watering is particularly important for herbaceous perennials, as their root system is not as extensive as woody tree and shrub roots.

For recently planted trees and shrubs (within this growing season or last year's season), watering is crucial for survivability. Since these plants do not have an established root system or adequate water storage potential, they must rely heavily on what is provided to them either from rain or from supplemental watering. If these plants do not receive water, chances are they may suffer severe branch dieback or the whole plant may die. Mulching plants properly can help retain the moisture in the root system and reduce evaporation from the soil. When applying mulch, do not apply more than 2-3" of mulch on top of heavy clay soils or 2-4" of mulch on top of sandy soil. Excessive mulch around a tree will actually prevent good water percolation into the soil. Also, make sure the mulch does NOT touch the trunk of the tree. Keep mulch at least 2" away from the tree trunk and avoid "mulch volcanoes". Mulch volcanoes occur when mulch is over applied and piled against the trunk thereby creating a volcano look. Mulch touching the trunk of a tree or too heavily applied at the base of a shrub can actually invite unwanted pests (insects, voles) and diseases (cankers, basal rot) into the area.

Watering amounts will vary based on soil type. Sandy soils will need more than 1" of water a week (or 1.5-1.75" of water a week in severe droughts) since those types of soils dry out faster than loam or clay-based soils, which require 1" of water a week. When watering, be careful to watch for rate of application, as you don't want all of the water to run off of the ground and into the ditch or sewer. Use of soaker hoses is very beneficial for watering plants in large shrub beds as water is applied over a longer period of time at a slow rate allowing for good penetration into the soil. If mulch is applied, place soaker hoses underneath the mulch to ensure water gets into the soil and not just in the mulch. Trees should be watered out to the drip line, if applicable. If you are just using a hose, don't turn on the water pressure too high as most will simply run off the ground and into the ditch or sewer. At a slower rate, water from a hose will allow for deeper penetration of the moisture into the ground. Arborists can use tree root feeders, that are placed into the ground, for watering without the addition of fertilizers, unless needed, to help plants in drought situations.

Woody plants, particularly evergreens (needle-leaved and broad-leaved), require adequate hydration to get through winter. Deciduous plant material will usually come through winter, however, if the roots have not received sufficient water in the fall, the plants may die over winter. This can occur on native species as well as exotics. Evergreens need water, even in early and late winter, due to the fact that when the ground is frozen, the tops of the plants are still transpiring (loosing water) through their leaves. There is some amount of water that is stored within the stem itself but not enough to constantly replace the water that has been lost via the evergreen leaves on warmer winter days. When the ground is frozen, replenishment of water from the roots to the leaves is almost impossible. Therefore, watering all plants, especially evergreens and newly planted material, in the fall, up until the ground is frozen, is critical. The water will help hydrate the plant and increase survivability through winter. You can easily tell which evergreens went into winter with a severe water deficit; these evergreens shrubs and trees will have severe winterburn injury, even on plants that normally do not suffer from winterburn such as junipers. We see a lot of this type of injury each spring in Wisconsin.

UW-EXTENSION
AGRICULTURE AGENTS

Dunn County
Katie Wantoch
3001 US Hwy 12 East, Suite 102
Menomonie, WI 54751

Phone: 715-232-1636
Fax: 715-231-6687
Email:
katie.wantoch@ces.uwex.edu

Eau Claire County
Mark Hagedorn
227 1st Street W
Altoona, WI 54720

Phone: 715-839-4712
Fax: 715-839-6277
Email:
mark.hagedorn@ces.uwex.edu

Chippewa County
Jerry Clark
711 North Bridge Street
Chippewa Falls, WI 54729

Phone: 715-726-7950
Fax: 715-726-7958
Email:
jerome.clark@ces.uwex.edu

Local & Statewide Calendar of Events

September 2018

7 Chippewa Valley Farm-City Day, Seibels Organic Dairy, Tours for local elementary school children

8 Chippewa Valley Farm-City Day, 10am-2pm at Seibels Organic Dairy, 10494 157th Ave, Bloomer, WI 54724. Open to the public, admission is free. www.farmcityday.com

21-22 Wisconsin Master Gardener Conference, Eau Claire. Visit https://www.wimgaconferences.com/ or email 2018mgvconference@gmail.com for more information.

26 UW-Extension Red Cedar Demonstration Farm Fall Field Day, 12:30pm-3:30pm, near the corner of Hwy 12/29 East and Stokke Parkway, Menomonie. Visit https://dunn.uwex.edu/ for more information.

28 UW-River Falls Cover Crop Field Day, River Falls WI

October 2018

2-6 World Dairy Expo, Alliant Energy Center, Madison, WI

10 UW-Extension Beef Cow Calf Meeting, Evening at St. Croix County Ag Service Center, Baldwin, WI

13 Kids and Cows Family Day, 8am-5pm at Barron County Fairgrounds, Rice Lake WI

17 UW-Extension Recap of 2018 Horticulture Diseases, Morning in Chippewa Falls. Contact Jerry Clark at 715-726-7950 or Jerome.clark@ces.uwex.edu for more information.

17 UW-Extension Supporting Farmers During Challenging Times Workshop, 9am-12pm, Dunn County Community Services Building, 3001 US Hwy 12 East, Menomonie, WI 54751. Contact Katie Wantoch at 715-232-1636 or katie.wantoch@ces.uwex.edu to register.

26 UW-Extension BQA/BQAT Training, Equity Co-op Livestock Auction, Altoona, WI. Contact Mark Hagedorn at 715-839-4712 or mark.hagedorn@ces.uwex.edu for more information.

TBD UW-Extension Cover Crop Field Day, New Auburn. Contact Jerry Clark at 715-726-7950 or Jerome.clark@ces.uwex.edu for more information.

November 2018

13 UW-Extension Pest Management Update Meeting, 9am-12pm, Lake Hallie Eagles Club, Chippewa Falls. Contact Jerry Clark at 715-726-7950 or Jerome.clark@ces.uwex.edu to

22-23 Thanksgiving Holiday—UW-Extension offices closed

28 UW-Extension Soil, Water, Nutrient Management Meeting, 10am-3pm, Clarion Hotel Eau Claire. Contact Mark Hagedorn at 715-839-4712 or mark.hagedorn@ces.uwex.edu for more information.

University of Wisconsin-Extension