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Forage News [2017-04]

University of Kentucky Department of Plant and Soil Sciences

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Forage News

Keeping Forage-Livestock producers in Kentucky informed

Dr. S. Ray Smith and Krista Lea, MS.~ Editors

April 2017

Dealing with Frost Damaged Alfalfa

With the recent cold weather and always present danger of severe frosts in April, many of you have been concerned with frost damage to alfalfa. Note: the temperature that matters is in the plant canopy, not at the 4-6' height where NOAA usually measures temperature.

Light Frost: temperatures in the range of 27 to 31° F. Leaves may be impacted and some twisting of stems ends when temperatures drop below 28° F. Buds and growing points are rarely damaged. Alfalfa will normally outgrow this damage and no changes in management practices are warranted.

Moderate frost: canopy temperatures in the range of 26 to 27°F. Freezing causes significant injury in the terminal growing point near the end of the stem, however the entire stem is not killed. Axillary and crown buds begin to develop into new stems. Lower stems, not impacted by frost, will continue to grow normally. This results in a mixture of mature and vegetative growth that makes harvest decisions difficult. It is important to avoid cutting moderately frosted alfalfa early, since the stress of early cutting decreases both yield and regrowth rate.

Severe frost: temperatures below 26° F in the canopy for extended periods. Stems that were growing at the time of frost will not regrow. Regrowth comes from crown buds at the base of the plant. Alfalfa stands with sufficient growth to justify harvest should be cut immediately after a severe "killing" frost. This helps to maintain forage quality and allows regrowth from crown buds. When stands are short, frost damaged plant material can be left in place, but leaving damaged or killed plant material may delay regrowth. Severe frost damaged plants can be grazed off. Waiting for frosted alfalfa to begin to dry will significantly reduce the chances of bloat or use a bloat preventative. Since severe frost has the same effect on alfalfa as an early harvest, regrowth will likely be slower. Delay second harvest a week or more to allow the plant to recover its stored carbohydrates.

New Alfalfa Seedlings: Immediately after emergence, alfalfa seedlings have fair to good tolerance to cold injury. Once they reach the 2nd trifoliolate leaf stage, tolerance to cold injury decreases markedly. Four or more hours of exposure to 26° F can kill seedlings at this growth stage. Before reseeding, the extent of damage in new stands should be assessed. The ideal stand density at the end of the first production year is 12-

20 plants per square foot. If this number of healthy seedling per square foot is present following frost damage, then no reseeding is needed. If stands do not consistently have 12-20 healthy plants per square foot, then thickening stands with no-till seeding may be the best option. In most cases, seeding rates in the range of 10-12 lb/A should be sufficient for thickening frost damaged stands. ~Chris Teutsch, Jimmy Henning, Ray Smith, and Tom Keene. Full article on home page of the UK Forage Website. <http://www.uky.edu/Ag/Forage/>.

Featured Publication: Rotational Grazing (ID-143)

Rotational grazing can help Kentucky farmers increase forage productivity, which can increase yield of animal products per acre and may increase profit margins for forage-based farming systems. At the same time, rotational grazing has the potential to:

- Reduce cost of machinery, fuel, and facilities.
- Reduce supplemental feeding and pasture waste.
- Improve monthly pasture distribution and yield.
- Improve animal waste distribution and nutrient use.
- Improve pastures' botanical composition.
- Minimize daily fluctuations in intake and quality.

Allocate pasture to animals more efficiently, based on animal nutritional needs.

For this and over 150 other forage publications go to UK Forage Extension website, www.uky.edu/ag/forage.

Figure 1. The orchardgrass plant on the left was



clipped weekly to 1 inch for one month to simulate continuous grazing. The orchardgrass plant on the right was clipped at the beginning and end of the month to 3.5 inches to simulate rotational grazing. For the plant on the right, the value of rotational grazing is apparent after six days of regrowth.

AFGC Western Hay Tour

Plans are well underway for a western hay production education trip in August of this year for producers and county agents. The full schedule and registration details will be available on the UK Forage Website by mid-April, www.uky.edu/ag/forage.

Grazing School Heads to Western KY

The Kentucky Grazing School will be held on April 25-26, 2017 at the UK Research and Education Center Princeton, KY. This two-day program includes hands-on exercises, such as building temporary paddocks and watering systems, and assessing pasture production. Classroom discussions will cover topics including forages, animal management, and grazing systems. Emphasis will be on spring and summer grazing management for ruminant species. The full program is on the UK Forage Website. Pre-register ASAP as enrollment is limited. Contact our Master Grazer Coordinator at (859) 257-7512 or jacob.brandenburg@uky.edu.

Managing Spring Grass: Going from 0 to 60!

Spring can often be one of the most challenging times of the year for graziers. Grass growth goes from nonexistent to excessive in a matter of weeks and in many cases grazing livestock have a hard time keeping up with it. This can result in lower quality forage that is less palatable. Continued growth of new forage is also delayed if the growing point (developing seedhead) of season grasses is not removed. The presence of the growing point suppresses new tiller formation at the base of the grass plant. The following suggestions can help you to control spring growth and get the most out of your spring pastures.

- Implement rotational grazing.
- Start grazing before you think the pastures are ready.
- Rotate animals rapidly in the spring.
- Limit use of spring nitrogen to reduce excess growth.
- Remove most productive paddocks from rotation and harvest for hay.
- Increase stocking density in the spring.
- Even out forage distribution - add warm-seasons
- Bush-hog out of control pastures.

~Dr. Chris D. Teutsch, the full article will soon be published in the April Grazing News. Go to Master Grazer website from the UK Forage Website.

Utilizing Frosted Small Grains for Forage

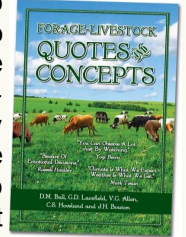
Frost damage in small grains normally occurs when February and March are unusually warm and small grains initiate growth earlier than normal and/or from a unusually late severe frost event. Both were definitely the case this year. Freezing temperatures during sensitive growth stages can significantly impact grain yield because the developing seedhead is damaged.

If the level of damage to a small grain stand is severe enough to warrant termination of the grain crop, one option is to salvage the crop by utilizing it as forage. Frost damaged small grains can be mechanically harvested as hay or silage or grazed by cows and/or calves. Depending on the severity of

the frost damage, plant growth may appear normal, but there may not be a viable seedhead in the stem. In more severe cases, main tillers may lodge and die, leaving secondary tillers to develop normally. In the most severe cases, both the primary and secondary tillers may lodge and die. Understanding the level of damage will help to determine how to manage the crop for forage. ~Chris Teutsch, Carrie Knott, and Roy Burris, full article on the home page of the UK Forage Website.

Quote of the Month: “Green is Good and Brown is Bad: Fact or Fiction?”

Is often used in the turf industry to describe desirable and undesirable lawns. It has also sometimes been used in a similar way to describe hay. Most people would agree that green, early-cut, leafy, soft, pleasant-smelling, dust- and mold-free hay is highly desirable. However, “green” is more related to the curing process than to higher quality. In many dry environments it is possible to produce attractive, green hay that is stemmy and of extremely low quality. Likewise, it is possible to produce high quality, leafy, dust- and mold-free hay that was bleached during the curing process. Color is important to many buyers of hay, but not to animals. A brown bale of hay may be more nutritious and palatable than a green one. Purchase Forage-Livestock Quotes and Concepts books for \$5 each by contacting ukforageextension@uky.edu.



Hay Production: Eastern vs. Western U.S.

Most all of the hay produced in the eastern US is consumed in the area while much of the hay produced in the west is shipped elsewhere. Some of this western hay may travel east to horse markets or dairies and large amounts are shipped to overseas markets. If you include all of the hay produced in the east including tall fescue, orchardgrass, and grass/legume mixtures, the price is quite different than western produced timothy and alfalfa. However, if you look at the alfalfa as a stand-alone crop then eastern alfalfa hay producers can compete nicely with western hay prices.

One of the main reasons for the lower alfalfa prices in the west is the transportation cost incurred when shipping western produced hay to the east or overseas. Sometimes the actual cost of the shipping can exceed the price of the hay received on farm. ~ Tom Keene, 36th Annual KY Alfalfa and Stored Forages Conference. Full proceedings at UK Forage Extension website, www.uky.edu/ag/forage.

Upcoming Events

List of upcoming events at www.uky.edu/Ag/Forage

- APR 25-26 KY Grazing School, Princeton, KY
- JUNE 8 Equine Farm and Facilities Expo, Lexington, KY
- SEPT 27-28 KY Grazing School, Versailles, KY
- OCT 17 KY Grazing Conference, Lexington, KY
- JAN 14-17 AFGC Annual Meetings, Louisville, KY

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