Forage News

Keeping Forage-Livestock Producers in Kentucky Informed

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To cut or not to cut Alfalfa

Alfalfa always seems to look best this time of year. It helps that we are past the evils of the alfalfa weevil, potato leafhopper and hopefully fall armyworm. Alfalfa looks so good in fact that it is tempting to take one last cutting in this season. Yet we know it is good management to give alfalfa a fall rest before winter to allow root carbohydrate reserves to replenish. So how do you decide if it is okay to make a late summer harvest of alfalfa?

First, alfalfa really does need a rest period during the fall to recharge root reserves and survive the winter. The last harvest should come four to six weeks before the date of the first killing frost for your area. For most of Kentucky this will mean taking that harvest before September 15 to October 1. Alfalfa then has the next four to six weeks to regrow enough to replenish the root carbohydrates. After the first hard freeze (24° F or lower), or November 1, a final harvest can be made.

Figure 1. Good fall alfalfa growth can make it tempting to make a late summer harvest and risk depleting root reserves before winter. Under some circumstances, a fall harvest can be justified, such as a severe need for feed.

Cutting alfalfa stands during this critical fall rest period will affect the plant response the following year. It can reduce the speed of regrowth in the spring and may reduce the yield of the first cutting. In the worst case, stands may be thinned. The decision to cut or not is not simple. Here are some situations where cutting alfalfa late in the year may be justified.

1) If you need the feed. If you don't have enough forage for the winter, then taking a late cut is a risk worth taking.
2) Alfalfa well rested and mature. Winter injury from a fall harvest is less if the stand is in bloom at the time of the fall cut, or it has been at least 45 days since the last harvest.
3) The variety has a good disease resistance to the major pathogens of alfalfa like root rot, and wilt.
4) The field has been well managed during the year. Good management would include harvest intervals of 30 days or longer, good weed and insect control, and good soil fertility.
5) To get a companion grass established. Companion grasses such as orchardgrass are often added to alfalfa in the fall. When alfalfa top growth is excessive, the new seedlings cannot compete and establishment is likely unsuccessful. Making a fall cut may be needed to allow for successful grass interseeding.
6) The stands are established but young. Stands that are 18 to 36 months old can withstand fall cutting better because their crowns have less damage due to traffic and root disease.

Deciding whether to cut an alfalfa field in late September or early to mid-October is an individual judgment that should be based on the benefits of the extra yield and quality outweighing the risks of yield and stand loss the following year. Keep in mind that you will never hurt the stand by not cutting during the traditional fall rest period. Happy foraging. ~ Jimmy Henning, for Farmers Pride

Pub of the Month: Managing Frost Damaged Alfalfa Stands

Wide fluctuations in springtime temperature are common in Kentucky. Late freezing temperatures in the spring can cause damage to alfalfa depending on how far along it is in breaking dormancy. This publication provides information on the effect of low spring temperatures on both established and new alfalfa stands that have begun growth, as well as a method of predicting sensitivity to late frosts or freezes. Download this publication from the forage website under the publications tab.

USDA Hay Production Forecast Changes Little

Recently, USDA published its October *Crop Production* report with updates to its August report. Final crop production estimates won't be available until

January's *Crop Production Annual Summary* report. USDA made no adjustment to alfalfa acres for any state from August to October. These will be made in the January summary report. It did drop the U.S. yield of dry alfalfa hay acres by 0.02 tons per acre, which lowered total production by 343,000 tons (less than 1%). Like alfalfa, grass hay (hay other than alfalfa) acres were not changed from August. The U.S. average yield for grass hay was raised by 0.04 tons per acre to 2.04. This resulted in a total production increase of about 1.4 million tons, or 2%. Read the full article in Hay and Forage Grower. ~ Mike Rankin

A Clover Quandary

Planting clover in mixed grazing systems has many benefits, such as adding nutritional value to livestock diets, reducing the effects of toxic endophytes in fescue, and fixing nitrogen in the soil. The latter is arguably clover's most notable attribute, but how much should you seed to meet your pasture's nutrient needs?

Jimmy Henning with the University of Kentucky referred to this question as "The clover dilemma" at the Heart of America Grazing Conference in Mt. Vernon, Ill. He presented research that examined how clover's ability to fix nitrogen can positively impact grass yields and how to manage this legume to see these effects.

Nutrient transfer

Henning explained that nitrogen fixed by legumes is transferred to grass, but these two processes do not happen at the same time. Grass yields are related to legume content from prior growing seasons.

"There is not much direct transfer of nitrogen from legume to the grass," Henning asserted. "There is some transferred directly, and it's measurable, but it's not the amount of nitrogen we have historically associated with clover in forage systems."

Henning said that the best way to transfer nitrogen from legumes to grass in pastures is via livestock, and this happens over time. Clover fixes nitrogen in nodules on its roots. When animals graze the plant and remove top growth, nodules will slough off and contribute nitrogen to the soil. Additionally, the nutrient will be redistributed to grass as urine and manure.

Therefore, grass yields improve as legume content rises, as well as when mixed stands get older. Henning referenced a study from Iowa State University that examined grass yields of fifth- and sixth-year mixed stands with 11% to 55% legume content. The research showed grass yields rose proportionally with legume percentage, although the average was 33%.

Fixation versus fertilizer

This led to Henning's next question – how much legume is required to boost grass yields instead of applying chemical fertilizers? To answer this, he referred to a study from Virginia Tech that compared the yields of three stands of fescue: one applied with nitrogen fertilizer, one mixed with clover, and one mixed with alfalfa.

"The study was able to duplicate the yield of fescue plus nitrogen with fescue plus clover, and it was actually able to increase yield with fescue plus alfalfa. But the percent of legume in the stands was 53% and 59%, respectively," Henning summarized. "So how much clover is enough? A bunch."

Forage Timely Tips: November

- ✓ Apply 30-40 lb N/A to strengthen cool-season grass sods.
- ✓ Using a plate meter or grazing stick, estimate stockpile available for winter grazing.
- ✓ Adjust animal numbers or purchase additional hay to balance forage-feed supply to livestock needs.
- ✓ Graze crop residues and cover crops that will not overwinter. Be careful to avoid fields that contain johnsongrass.
- ✓ Graze winter annuals that will not overwinter such as brassics and oats.
- ✓ Graze other winter annuals once they are 6-8 inches tall and are well anchored. Do NOT graze closer to 4 inches.
- ✓ Sugar content will rise in tall fescue with the cool temperatures and short days of fall. Alkaloid content of tall fescue can also be high in come years, but will begin decline after a hard freeze.
- ✓ Talk with local conservationist about developing a grazing plan and cost-share opportunities.

Supplementing a mixed stand with nitrogen fertilizer can be beneficial. Henning said administering moderate amounts of nitrogen in the spring can help enhance grass yields. However, he advised against nitrogen application during a legume's establishment year.

"Sometimes applying nitrogen might be one of those options you need to consider," Henning stated. "The clover will just take a break – it will turn down the factory that is making nitrogen and will just take the nitrogen that you give it. When this nitrogen goes away, clover will start fixing the nutrient again."

Herbicide concerns

Another aspect of the clover dilemma producers face is applying herbicides to eliminate broadleaf weeds. This practice would kill legumes, but Henning suggests the consequence might be worth the trade-off. If weeds are taking over clover, it may be more profitable to sacrifice the clover stand temporarily. Grass yields ultimately depend on the productivity of companion legumes. A positive outcome of killing clover by applying herbicide is that there is a burst of nitrogen released to the soil, allowing grass in the stand to have immediate access to it.

Overall, Henning advised producers to maintain 30% to 50% of legume in their mixed stands year after year. Over time, this grass-to-legume ratio has the potential to support yields similar to those of stands where nitrogen fertilizers are applied and contribute to a higher economic return. ~Amber Friedichsen

Upcoming Events (see Forage website for details and to register, click on EVENTS)

Nov 9—KY Fencing School, Grand Rivers
Nov 11—KY Fencing School, Frankfort
JAN 9-12—AFGC Conference, Wichita, KS
Feb 24, 2022—Kentucky Alfalfa and Stored Forage Conference, Bowling Green

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