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UK Forage News

Keeping Forage-Livestock producers in Kentucky informed
Dr. S. Ray Smith and Krista Lea, MS.~ Editors

April 2018

Featured Publication-Newly Updated: Weed Control in Alfalfa and Other Forage Legume Crops (AGR-148)

Dr. J.D. Green and Dr. Travis Legleiter recently updated this important weed control publication. It overviews the basics of weed control in alfalfa and other forage legumes and outlines the herbicides that will control a wide range of problem weeds in these forage species. It also lists new herbicide products that can make the difference between high value and low value hay such as Prowl H₂O; which is very effective pre-emergent control of crabgrass, foxtail, and other annual weeds in alfalfa and alfalfa/grass hay fields.

~ The full publication can be found at weedsience.ca.uky.edu under the "Forages" tab.

Forage Timely Tips: May

- ✓ Start hay harvests for quality forage.
- ✓ Seed warm season annuals for supplemental forage as needed.
- ✓ Seed warm season perennial grasses.
- ✓ Managing (clip, graze, make hay, etc.) to prevent seedhead formation on fescue and to control weeds as needed. Consider herbicide options.
- ✓ Rotate pastures as needed.

The Value of Cutting Hay Earlier

We all know that cutting hay earlier is almost always better. That is, as long as you can cut it without it getting rained on. The following is taken from a recent article by Dr. Jimmy Henning summarizing the value of earlier hay cutting. His justification comes from the UK College of Ag publication 'Quality Hay Production' (AGR-62) that shows the impact that stage of harvest has on fescue hay

forage quality and animal gain (Table 1).

Tennessee research compared three fescue hays cut May 3, May 14 and May 25 (these dates would be slightly later in KY). The dates corresponded to late boot/early head, early bloom, and early milk stage/seed forming, respectively. These hays were then fed to 500 lb. holstein heifers. The heifers ate more of the early cut hay, 13 lb/day compared to 11.7 and 8.6 for later cut hay.

Early cut hay had the highest digestibility and crude protein. The drop in digestibility was small between May 2 and May 14, but much larger over the next 11 day period. Crude protein dropped about the same (about 3 percentage units) for each 11 day delay.

Gain per day ranged from 1.39 to 0.42 lb/day for the three hays. The earliest cut hay supported the best gains, as expected. The decline in average daily gain was about the same for each 11 day delay in cutting.

Maturity decreased average daily gain much more than forage digestibility. A delay of 22 days dropped digestibility by 17% (68 to 56%). Over this same period, daily gain dropped by 70% (1.39 to 0.42 lb/day). Small changes in quality made big differences in gain.

Although the forage yield was lower in the early cut hay, there were 22 extra days of forage growth compared to the May 25 cutting. Enough growth to virtually guarantee a high quality second cutting or grazing before the heat of summer. Cutting hay early pays, especially for growing cattle. And small differences in maturity can make big differences in gain and your bottom line.

~ Dr. Jimmy Henning from Farmers Pride.

Guide to Successfully Replacing Endophyte Infected KY-31 Pastures with Novel Endophyte Tall Fescue

The previous article discussed the value of cutting early to improve hay quality. An excellent way to further improve both hay and pasture quality is to replace your KY-31 infected pastures with one of the new novel endophyte tall fescue varieties. These varieties contain a

Table 1. Effect of stage of harvest of fescue hay on forage quality and animal gain.*

Stage of harvest, date of cutting	Dry matter intake lb/day	Percent digestibility	Percent protein	Feed efficiency, lb hay fed per lb of gain	Yield, lb per acre	Gain, lb per day
Late boot to head, May 3	13.0	68	13.8	10.1	1334	1.39
Early bloom stage, May 14	11.7	66	10.2	13.5	1838	0.97
Early milk stage – seed forming, May 25	8.6	56	7.6	22.5	2823	0.42

*Holstein heifers were used, average weight – 500 lb.

Source: University of Tennessee, reported in AGR-62, Quality Hay Production, University of Kentucky Cooperative Extension Service.

novel (beneficial) endophyte that improves stand longevity without the livestock toxicity of KY-31 fescue. The first novel endophyte variety, Jesup MaxQ, was released over 10 years ago and now there are 8 varieties that contain novel endophytes. All of these varieties have a two part name: the first is the variety name and the second is the name of the novel endophyte.

If you are considering planting a novel endophyte variety into a field that contains KY-31 toxic fescue, now is the time to get started. Pennington Seed has developed a simple step by step process for successful establishment in the fall. This procedure allows you to eliminate existing KY-31 plants. This system works for establishing any new forage stand. Many producers in Kentucky have used this procedure to establish novel fescue.

In Spring & Summer Prior to Fall Planting

☐ Prevent toxic KY-31 fescue plants from going to seed by close grazing, haying or clipping. ☐ Apply fertilizer and lime as recommended by a soil test. ☐ Use pasture as normal for grazing and/or hay. ☐ Do not feed toxic fescue hay in fields to be planted.

In Mid-Summer Prior to Planting

☐ Closely graze or harvest excess forage for hay. ☐ Remove livestock and apply 2.0 qts./acre of Roundup WeatherMax® or glyphosate equivalent four to six weeks prior to expected planting date to kill existing weeds and grasses.

In Fall Just Prior to Planting

☐ To kill any weed and grass escapes (even if no green leaf tissue is visible), apply an additional 1.5 qts/acre Roundup WeatherMax® or glyphosate equivalent immediately prior to or just after no-till drilling MaxQ® tall fescue. ☐ Apply fertilizer as recommended for fescue establishment. ☐ Plant by no-tilling novel fescue seed into stubble or by seeding it into a firm, tilled seedbed. ☐ Plant seed 1/4" to 1/2" deep. Deeper planted seed may result in poor emergence. ☐ Do not plant a companion/nurse crop with tall fescue. ☐ Recommended seeding rate is 20 lbs/acre. ☐ Planting dates: late August to mid-September in Kentucky.

(An adjustment to this procedure is to plant an annual grain crop or warm season annual forage in May after an early glyphosate application).

Alfalfa - 3rd Most Valuable Field Crop in U.S.

Alfalfa is the third most valuable field crop produced in the U.S., valued at over \$9.3 billion, \$1.2 billion more than wheat, according to 2017 figures recently released by the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS). "Alfalfa needs to take its rightful position along side corn, soybean, wheat, cotton, and rice which are often referred to as the "Big 5," said Beth Nelson, President of the National Alfalfa & Forage Alliance (NAFA).

NAFA has worked to increase legislators' and U.S. agency officials' awareness of the crop. Last November, USDA's National Institute of Food and Agriculture awarded more than \$2 million in Alfalfa and Forage Research Program (AFRP) funding to study an array of topics affecting the alfalfa industry.

In February, NAFA representatives talked with House and Senate Ag Committee staff about the need for new risk management tools (crop

insurance) providing an adequate safety net for forage farmers. Because alfalfa is not a program crop, current risk management tools contained in the Farm Bill are not available to alfalfa farmers. Senator McConnell helped to get language into last farm bill to pursue development of effective forage crop insurance. NAFA continues to work with USDA-RMA to develop such programs.

Dr. Ray Smith, UK forage specialist, is a NAFA board member. Contact him if you want to learn more about NAFA activities or to give input on NAFA's efforts to promote the value of alfalfa and all forages in D.C.

~ excerpted from NAFA Press Release.

Quote of the Month: My Sources Are Unreliable, But Their Information is Fascinating

In today's world we are bombarded with, and often overwhelmed by, information. We learn about new species and varieties, improved feed supplements, more versatile equipment, market and economic updates, computer programs, smartphone apps and various instruments that can measure, calculate and tell us what we should do, and when. It takes time to learn and to gain experience - which may be time we don't have. Often, information comes with the intent to sell us something. Thus, it is important to be careful about where needed information originates and to develop trustworthy sources. Misinformation, accidental or not, can be disastrous. To purchase a Livestock Quotes and Concepts Book, contact us at ukforageextension@uky.edu.

Featured Publication: Warm Season Annual Grasses in Kentucky (AGR-229)

There is increased interest in warm season annual grasses that are adapted to Kentucky. They range from sorghum-sudangrass to crabgrass. Recently, specialists in Kentucky worked together to write a replacement for "Producing Summer Annual Grasses for Emergency or Supplemental Forage." The new publication "Warm Season Annual Grasses in Kentucky-AGR229" contains an excellent overview of the options available and general information about each one. In addition to this publication a series of 5 individual publications were written covering the specific establishment and management details for the main warm season annual grasses planted in Kentucky.

AGR-234: Sudangrass and Sorghum-sudangrass hybrids

AGR-230: Forage Sorghum

AGR-233: Foxtail Millet

AGR-231: Pearl Millet

AGR-232: Crabgrass

Look under the "Forage Species" icon on the new UK Forage Website for these publications: forages.ca.uky.edu

Upcoming Events

MAY 31 - Equine Farm/Facilities Expo, Harrodsburg, KY

SEPT 6 - KFGC Field Day, Morehead, KY

SEPT 20 - Beef Bash, Morehead, KY

SEPT 25-26 - KY Grazing School, Versailles, KY

OCT 23-25 - KY Grazing Conference, 3 locations

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www.forages.ca.uky.edu

see blue.

Thin Grass Stands: Causes and Remedies

Chris Teutsch, UK Research and Education Center at Princeton

Our forage extension team has had a number of calls on hay stands that appear to be thinner than normal this spring. There are a number of reasons that stands could appear thin. In this short article we will discuss potential causes and management strategies for thin stands.

Causes of Thin Stands

Low carbohydrate reserves going into fall. What we did last summer and fall can sometimes come back to haunt us the following spring. Close, frequent, and late fall cutting or grazing can result in low energy reserves in the plant. This can cause stands to regrow slower and become thinner overtime. When you combine this with a long and cold winter, grass stands can struggle to get started in the spring.

Poor soil fertility. Hayfield and pastures need adequate soil fertility to remain strong and vigorous. Adequate soil fertility means more than 60 units of nitrogen once in a while. Soil fertility programs need to be based on a current soil test and ALL required nutrients including lime need to be applied in a timely manner. In hayfields, potassium is often deficient. This is due to the removal of relatively large quantities of potassium compared to phosphorus (Table 1). Potassium is involved water regulation in the plant, translocation of sugars produced during photosynthesis, disease tolerance, and winter survival. So poor potassium fertility combined with a hard winter can weaken forage stands.

Table 2. Approximate nutrient removal in pounds per acre for several commonly grown hay types at specified yield levels.

Nutrient	Species and Estimated Yield (tons/acre)			
	Alfalfa @ 5	Tall Fescue @ 3.5	Orchardgrass @ 3	Sorghum-Sudan @ 4
	pounds of given nutrient removed per acre			
Nitrogen (N)	280	135	150	160
Phosphate (P2O5)	75	65	50	60
Potash (K2O)	300	185	185	288
Calcium (Ca)	155	30	30	35
Magnesium (Mg)	22	12	15	20
Sulfur (S)	25	14	13	14

Data from Ball et al., 2007, Brown, 1996, Robinson, 1996, and NRCS Animal Waste Management, NEH-651, 1999.

Cool and late spring. In some years, we just can't seem to warmup in the spring. Cold springs can limit early vegetative growth. Since reproductive growth in cool-season grasses is a function of both day length and temperature, the result is that grass plants will tend to produce a seedhead about the same time each year. In cold springs this results in a higher seedhead to leaf ratio and ultimately lower yields that have more stem and less leaf.

Managing for Thin Stands in the Spring

Soil test and apply needed nutrients. Applications of lime and fertilizer should be based on a recent soil test. Maintaining adequate soil fertility at all times allows for the development of strong and vigorous sods. It is important to remember that fertility programs need to be balanced according to the soil test and end use. So if you are making hay, you will need to add back more phosphorus and potassium because it is being removed in the forage tissue. In contrast, nutrient removal from pastures that are being grazed is minimal.

Clip or harvest stands at the early heading. It is very tempting to delay harvest and allow stands to “thicken up” before the first harvest. The presence of the seedhead can actually delay the development of vegetative tillers at the base of the plant by acting as a sink for sugars made during photosynthesis and shading vegetative tillers. This can actually slow vegetative regrowth in pastures. By clipping or harvesting the seedhead, regrowth from the base of the plant can be stimulated and leafy second cutting can be made.

Apply nitrogen to after clipping or harvesting. Combined with a timely first harvest, application of 40-60 lb N/A immediately after harvest can stimulate regrowth of pastures resulting a leafy second cutting. It also can help to thicken stands and exclude summer weed pressure.

Rest hayfields and pastures going into summer. After the second hay cutting or as we get into June in our pastures, rest fields and allow them to go into summer with about 6 inches of regrowth. This will allow pasture plants to accumulate stored carbohydrates that will be used to adapt to the hot and often dry conditions of summer and at the same time buffer the temperatures that plant crowns are exposed through shading. The best way to rest cool-season pastures during the summer months is to incorporate warm-season grass into your grazing system. This will provide grazing during summer the months when cool-season pasture growth is limited by high temperatures.

For a more information on hay and grazing management, contact your [local extension office](#) or visit the [UK Forage Extension webpage](#).