Good Summer Grazing Management Of Tall Fescue Pays

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Stand losses in endophyte-free tall varieties such as AU Triumph are generally blamed on poor tolerance to hard grazing in summer. Because of this, many cattlemen quit trying to grow endophyte-free tall fescue and switched back to infected grass because it can take hard grazing in summer. Unfortunately, there is a price to pay for this - more problems with fescue toxicity and poorer animal performance.

An experiment on summer treatment of tall fescue

Greg Durham, Joe Bouton, and I just completed a 4-year small plot experiment at the Plant Sciences Farm near Athens to look at the effects of defoliation on stands and productivity of endophyte-free and infected tall fescue. We used endophyte-free (E-) and infected (E+) Kentucky 31 and endophyte-free (E-) AU Triumph varieties, harvesting them all season at hay stage or every three weeks at cutting heights of 3 or 1.5 inches. Nitrogen was applied at 60 lb N/acre each September, February, and April. Seed had been grown in western Oregon with endophyte infection levels of 0% for AU Triumph, 93% for E+ Kentucky 31 and 0% for Kentucky 31 tall fescue. Hay cutting each year was at early bloom stage in spring, midsummer, and again in October. The 3-week cutting interval was harvested 10 times each year until November, attempting to simulate rotational grazing.

What did we find out?

One would expect that any cutting treatment would show its biggest effect during the fourth year. Total forage yields for the fourth year are shown in the table:

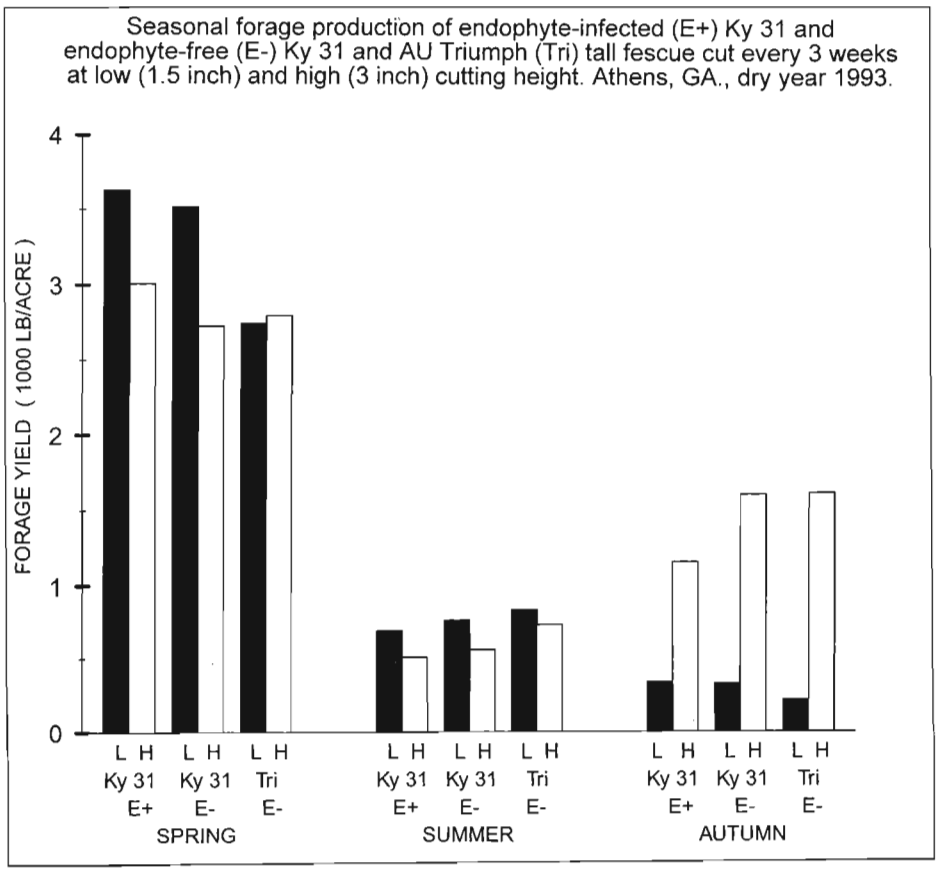
As expected, forage yields when cut every 3 weeks were about one-half of that when cut at hay stage. However, overall the yields were good on this Appling coarse sandy loam soil. The most important result here is that when cut every 3 weeks at a 1.5-inch cutting height, somewhat like in a rotationally grazed pasture, the yields of both E- Kentucky 31 and AU Triumph tall fescue were reduced by 1500 to 2000 lb/acre. That's about a ton more forage per year produced by leaving a stubble height of 3 inches as compared to 1.5 inches! With E+ Kentucky 31, there was no real difference in yield between 3 and 1.5 inch cutting height. When we counted tiller (shoot) numbers, we found that AU Triumph declined more than Kentucky 31 with the 1.5-inch cutting height. This is not surprising since AU Triumph is more erect-growing and has less basal leaves than Kentucky 31, thus being injured more by close cutting or grazing.

When cut at hay stage, harvesting at the 3-inch cutting height had no advantage. In fact, yields of Kentucky 31 were less than when cut at 1.5 inch stubble height. With AU Triumph cut at hay stage, cutting height had no effect on yield.

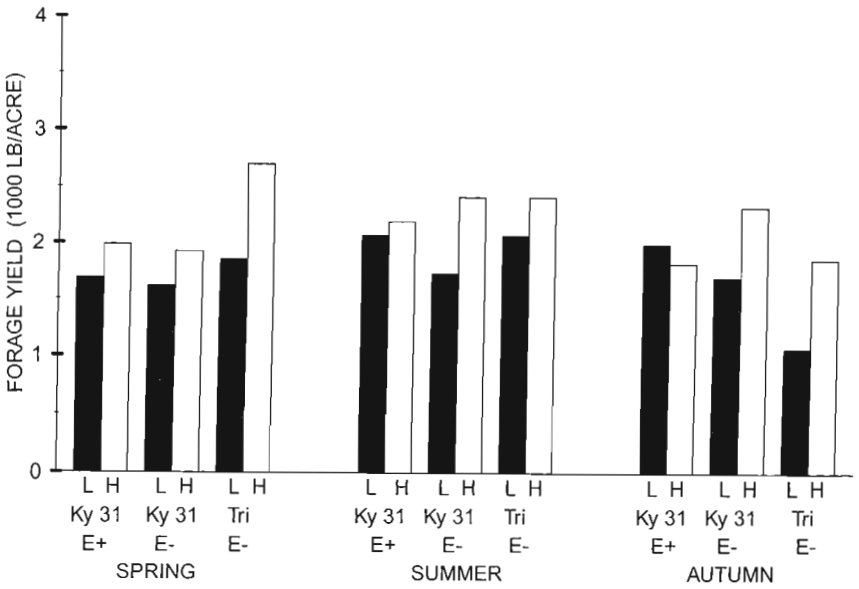
When looking at seasonal forage production of grass harvested every 3

Total annual dry forage yield of tall fescue as affected by endophyte (E+ and E-) and cutting height during the fourth harvest year (1994), Athens, GA.

Variety	Cutting Height Inches	Cut at 3 weeks E+	Cut at 3 weeks E-	Cut at hay stage E+	Cut at hay stage E-
Kentucky 31	3	6030	6600	11790	12510
	1.5	5770	5080	13460	14560
AU Triumph	3	--	7010	11830	--
	1.5	--	5030	12380	--



Seasonal forage production of endophyte-infected (E+) Ky 31 and endophyte-free Ky 31 and AU Triumph (Tri) tall fescue cut every 3 weeks at low (1.5 inch) and high (3 inch) cutting height. Athens, GA., wet year 1994.



weeks in this experiment, we discovered some startling results. Spring production in 1993 (see graph) was excellent. Very hot, dry conditions in summer sharply reduced yields at both cutting heights. In autumn, there was good growth on both tall fescue varieties with a 3-inch cutting height but very little at a 1.5-inch cutting height. Close cutting during summer drought resulted in poor recovery growth with autumn rains. This was true for both E- and E+ Kentucky 31 tall fescue although the difference was somewhat greater for E- grass.

In 1994 (see graph), a wet year, spring growth of E- AU Triumph was better where it had been harvested at the 3-inch cutting height, indicating the beneficial effect of maintaining a higher stubble. During summer, there was a trend toward more forage on E- grass harvested at the 3-inch cutting height. In autumn again, the advantage of the 3-inch cutting height was apparent on E- tall fescue.

What do these results mean in pasture?

Admittedly, clipping results are not the same as grazing. Generally, grazing is harder than clipping on grass. Thus, the results obtained in this experiment indicate that the effects of close grazing a tall fescue pasture during summer are probably going to be more harmful to autumn production than reported here. It helps explain why overgrazing of E- tall fescue varieties in summer weakens plants, reduces yields, and often thins stands. The reduced autumn yield of E+ tall fescue after harvesting at a 1.5-inch cutting height suggests that even overgrazing of E+ Kentucky 31 in a hot, dry summer is harmful.

Moving cattle into bermudagrass during hot summer periods is a good way to rest tall fescue pastures and allow them to be more productive in autumn. Close grazing of mixed bermudagrass-tall fescue pastures all summer can be expected to weaken the tall fescue, allow bermudagrass to dominate the pasture, and provide little grazing in autumn. The conclusion is that for good forage growth in autumn, don't graze tall fescue too closely in summer. Be kind to tall fescue in summer and it will be kind to you in autumn!