Summer Management of Tall Fescue

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Tall fescue came to Georgia in the 1940s and 1950s when it was planted on a massive scale as a "wonder grass" that stayed green in winter, grew over much of the year, and persisted well even though grazed hard. It became the dominant pasture and hay grass in north Georgia and was important for pasture in the central part of the State. We now know that the tolerance of this grass to environmental stress such as drought and hard grazing is closely related to the presence of the fungal endophyte (Acremonium coenophialum) inside the plant. This concept has been utilized in the development of the Georgia 5 tall fescue variety by Dr. Joe Bouton at the University of Georgia as a persistent cool season perennial grass for the Coastal Plain region. Georgia 5 will maintain stands much better in a south Georgia pasture than endophyte-infected Kentucky 31 tall fescue.

Most tall fescue pastures in Georgia are endophyte-infected, favoring persistence under difficult environmental conditions. Unfortunately, presence of this fungal endophyte also may adversely affect animal performance, reducing cow conception rates and calf weaning weights. Endophyte-free tall fescue varieties can eliminate the toxicity problem and greatly improve animal performance. From March-June 1993 at the Central Georgia Branch Station, Eatonton, beef steer gains on endophyte-free tall fescue averaged over 2 pounds per day as compared to less than 1 pound on infected tall fescue. This makes a strong case for planting endophyte-free tall fescue, especially for beef stocker cattle and heifers.

A number of good endophyte-free tall fescue varieties are on the market and can be planted in north and central Georgia. Varieties such as AU Triumph, Forager, Martin, Penngrazer, and Phyter have performed well in university trials. None of these varieties should be planted in south Georgia. Many cattle producers have planted endophyte-free tall fescue varieties in northern and central areas of the State. Some have had excellent success while many others have lost their stands, vowing never to plant any more. Many people have concluded that they should stick with endophyte-infected tall fescue and take the chance of toxicity or attempt to dilute it with clovers or another grass. This is a practical approach and is probably the correct one when dealing solely with a beef cow herd. However, it misses out on the potential excellent gains that can be obtained with endophyte-free tall fescue in a stocker operation.

The severe drought in much of Georgia during 1993 was a good test of how endophyte free tall fescue could survive as compared to infected grass. Pastures of endophyte-free and infected tall fescue were grazed by steers at the Central Georgia Station at high and low grazing pressures. Steers were removed when drought stopped all forage growth in late June and animals remained off the pastures during summer. Stand losses occurred in both types of tall fescue but was somewhat greater in endophyte-free grass. Stands of endophyte-free tall fescue were thinned but were adequate for grazing in 1994. High grazing pressure (higher stocking rate that kept the grass grazed closely all the time) resulted in greater stand losses with both endophyte-free and infected tall fescue. Grazing management appears to have had a big effect on survival of the grass during drought. Another illustration of this occurred in a nearby pasture of AU Triumph, an endophyte-free variety reported by many producers to have poor survival. This pasture was grazed hard until the forage ran out in June 1993, then the cattle were pulled off. Some stand losses occurred but it is still a good pasture.

Similar results were obtained in a clipping study at Athens over a 3-year period where endophyte-free and infected tall fescue were clipped every three weeks at 1.5 or 3 inches in height from late winter to autumn right through the summer. Close cutting at 1.5 inches reduced tiller (shoot) numbers and stands as compared to cutting at a 3 inch stubble height. Similar adverse effects on tiller production were obtained by close cutting even when harvested at hay stage throughout the year. This may be a problem when cutting with a disc mower that has the potential to cut the grass closer than a sickle-bar mower.

Our observations indicate that close continuous grazing in summer is harmful and contribute to loss of stand on endophyte-free tall fescue. However, recent grazing studies at three locations in Alabama on endophyte-free tall fescue did not conclusively indicate that close grazing caused stand decline. The reason for this may be associated with soil differences. In the Alabama study, stands of endophyte-free tall fescue on deep clay soils remained excellent, even under close grazing. In Georgia, we have found that endophyte-free tall fescue stands have thinned much faster on droughty thin slopes than on better soils. This suggests that endophyte free tall fescue should be planted on better soils. In south Georgia, plantings of Georgia 5 tall fescue failed on deep droughty sands in areas with severe drought in 1993 while on better soils it survived.

There is much we do not know about endophyte-free tall fescue but it appears that a few management recommendations should help in maintaining stands:

(1) Plant endophyte-free tall fescue only on better soils with good water-holding capacity. Avoid planting on steep, west- or south-facing slopes that are hotter and drier than north- or east-facing slopes.

(2) Allow endophyte-free tall fescue to become well-established before grazing. Ideally, allow it to grow to hay stage the establishment year so a good root system will become established before grazing.

(3) Do not graze endophyte-free tall fescue closely in summer. Maintain 3 or 4 inches of growth on the grass at this time.