

Renovating Tall Fescue Pastures

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Kansas (SEK) during late summer and fall in 2022. Most tall fescue went into dormancy early and never broke dormancy. It is difficult to gauge fescue recovery but in cases where tall fescue stands were hit hardest, producers may opt to renovate pasture by replanting with a novel endophyte tall fescue variety.

Kentucky-31, the predominant tall fescue variety in SEK, contains a fungal endophyte that produces ergot alkaloids that are toxic to cattle. These alkaloids depress body condition, reproduction, and milk production in cows, which negatively affects calf rate of gain. It also causes rough hair coats, leading to heat-stressed cattle in the summer months. These symptoms are referred to as “fescue toxicosis.”

This fungus is why tall fescue is tolerant to drought and heavy grazing. For years, these benefits have outweighed the negative impacts on cattle performance, until the development of novel-endophyte fescue varieties. Now, producers can capture the drought and heavy grazing tolerance without encountering “fescue toxicosis.”

Now that we know why converting K-31 pastures can be beneficial, Let’s explore how to best do this without sacrificing an entire year’s forage production.

Planting tall fescue is most successful in the fall when weed pressure is lowest and young plants are less at risk for heat stress. Researchers have found the spray-plant-spray method most effective for fall planting. This method involves spraying the existing stand of fescue/weeds with glyphosate in the spring, planting a summer annual forage crop, and then spraying the pasture again with glyphosate or paraquat to achieve a weed-free and fescue-free pasture prior to planting. The spray-plant-spray method also allows producers to get summer forage. Let us consider a few summer forage options.

Pearl millet is a good option in no-till situations, as it is finer stemmed than other millet varieties, but it still produces substantial amounts of forage. Pearl millet should be planted in early May at ½ -1-inch seeding depth. Pearl millet should be drilled at 15 lb/ac or broadcasted at 30 pounds/acre and fertilized with 30 - 50 lb/ac of nitrogen. Pearl millet can yield 3 - 4 tons of forage/acre and can be grazed or used for hay/silage production. When grazed it is necessary to maintain at least 8 inches of plant height to support regrowth.



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Crabgrass is a less common, but highly productive forage option that works well with tall fescue. Crabgrass is an annual grass, but when managed properly it can reseed itself each year. Crabgrass pairs well with tall fescue as it grows primarily in the summer months when tall fescue is dormant, extending the grazing season for producers. Crabgrass is established best when broadcasted onto the tilled ground. Broadcast at a rate of 50 - 60 lb/ac and then roll. Crabgrass is a highly productive forage, that responds to nitrogen fertilizer very well. Research conducted in Cherokee County by Kansas State Research and Extension has shown Quick-and-Big and Mojo varieties produce upwards of 3-1/2 tons/ac with multiple cuttings and nitrogen applications from 100 - 200 lb/ac. Crabgrass can provide 5 -10 percent crude protein depending on management.

Forage sorghum and sorghum-Sudan grass are options for producers who need large forage amounts. These crops should be planted in early May at 20 - 25 lb/ac. Seeding depth should be ½ - 1-inch and 30 - 50 lb/ac of nitrogen should be applied. Forage sorghum and sorghum-Sudan grass can produce upwards of 5 tons/ac in a good year. Forage sorghum and sorghum-Sudan will leave thick stalks post-harvest, so the ground will need to be worked prior to fall planting fescue. These forages can be grazed after they reach 18 inches in height but are best served as silage/hay crops.

Plant height is important prior to grazing/harvesting. Sorghum contains prussic acid (HCN) and can accumulate nitrates in dry years, both of which are toxic to cattle in high concentrations. These are of most concern to young and/or stressed plants. HCN will dilute to safe levels once it reaches 18-24 inches in height, but levels can spike in drought and after-killing freezes. If there is any concern or high HCN or nitrate concentration, forage tests should be taken prior to feeding.

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Sunn hemp is a lesser-known forage crop that can be highly productive in SEK, producing upwards of 5,000 pounds/ac of high-quality forage (15 - 20% crude protein). Being a legume, Sunn Hemp does not require nitrogen fertilizer and residue can leave



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substantial nitrogen in the soil. Sunn Hemp should be planted in early May at 30 lbs/ac at a shallow depth of ½-inch. Sunn Hemp can be hayed but is best served in a rotational grazing system. Grazing should begin when plants reach 1-1/2 to 3 feet, and cattle should be moved after plants are grazed to 12 inches. Sunn Hemp produces a thick stem, so cattle should be moved periodically to allow for new leaf growth. Sunn Hemp seeds contain a toxic alkaloid, so grazing should stop if the plant were to reach maturity. Being a tropical plant, it is uncommon for Sunn Hemp to reach maturity in Kansas. The thick stem of Sunn Hemp may make it difficult to drill fescue in the fall, so some tillage may be necessary to break the stems.

While unfortunate, poor pasture health could provide an opportunity to producers to convert K-31 pastures to a modern, novel endophyte tall fescue. While preparing a pasture or hay field to successfully plant tall fescue is a yearlong effort, many quality forage options fill the forage gap throughout the grazing season. Contact Chad Guthrie, crop production and forage management agent, or Hunter Nickell, livestock production agent, at any Southwind Extension District office for more information.