Fescue to the Rescue

"Anything I don't want, I get with fescue toxicosis. Anything I do want, I don't get with fescue toxicosis," says Craig Roberts, University of Missouri state forage specialist.

by Becky Mills, field editor

If he sounds like he has a grudge against the endophyte that lurks in most Kentucky 31 tall fescue plants, it is warranted.

Fescue toxicosis narrows the blood vessels in grazing animals, and in severe cases can cause their hooves to slough off, it makes them much more susceptible to heat stress and cold, it causes conception rates to go down, ditto for milking ability, and slows gains to a crawl in growing calves.

"Economically, it hurts," Roberts says of the common forage.

Plant breeders thought they had the answer in the 1980s when they took the nasty endophyte out of fescue. Unfortunately, in real world use, they found the endophyte gave fescue its ability to take a licking through drought and overgrazing.

Making grazing great again

Not to worry. The plant breeders went back to their labs and test plots. They took the toxin out of the endophyte, so it didn't harm animals, but left the part in that keeps the plant from being so fragile. The result is a novel endophyte fescue that can handle less than ideal conditions, but makes grazing great again.

Westminster, S.C., cattleman Joe Davis is a firm believer. In 2004, he ended up with a 65% conception rate in his small herd.

"I knew enough to know that wasn't good business," Davis says.

He also knew enough to ask the right people for help. He sent his records to John Andrae, who is now the forage specialist at Clemson University, but at the time held the same position at the University of Georgia (UGA).

He also sent them to Carl Hoveland, who is now retired but was a forage agronomist at UGA. Fortunately, Hoveland was the researcher who actually discovered the toxic fungus while at Auburn University in the 1970s.

They came to Davis' farm and spied the problem — pastures full

Westminster, S.C., commercial cattleman Joe Davis says novel endophyte fescue has helped his cattle from production all the way to carcass value.

of Kentucky 31 fescue. At the forage specialists' urgings, Davis converted 30 acres to novel endophyte fescue. As he's grown his Angus cross herd to 165 females, he's gradually converted 260 grazing acres to novel endophyte fescue, as well as planting it on another cleared 200 acres.

His overall conception rate is up to 93%, including one round of artificial insemination (AI). That's on a 45-day breeding season for his heifers and 65-days for his cows. Additionally, weaning weights are up from 50 to 75 pounds (lb.).

The bottom line

The good news continues after the calves leave the farm. Davis retains ownership on his cattle. Before he had the whole farm in novel endophyte fescue, he tracked which cow-calf pairs grazed Kentucky 31 fescue, and which ones grazed novel endophyte fescue. At weaning, all steers were moved to novel endophyte fescue until they went to the feedlot.

"The carcass value averaged $100 more when the steers were born and raised on novel endophyte fescue," Davis says. "The ones raised on Kentucky 31 fescue never caught up."

Since transitioning pastures to novel endophyte fescue, Davis says his cow herd's overall conception rate is up to 93%.

After analyzing the data, Clemson University extension beef specialist Matthew Burns says, "It was a pound thing. I couldn't pick up anything on their grades."

Davis, who keeps meticulous records, pegs the conversion costs from Kentucky 31 fescue to novel endophyte fescue at $650 an acre. That includes the cost of hay to replace lost grazing during the conversion process. He says his conservative estimate for payback time is five or six years, but adds, "I really think it is more like three or four years."

For the most part, he was able to convert pasture for less than the $650-per-acre cost because he was in the process of getting more efficient with fertilizer use, weed control, and intensive grazing management. Also, since he had fewer cows for part of those conversions, his hay bill wasn't nearly as steep.

Davis was recently asked if he'd still go to 100% novel endophyte fescue if he had to do it over again.

He didn't hesitate.

"No doubt about it." However, he emphasizes, "If you don't manage for good soil nutrition and efficient grazing management, don't invest in converting to novel endophyte fescue. It will never pay back." AJ

Editor's note: For more information on converting toxic fescue to novel endophyte fescue, including upcoming workshops, see: Alliance for Grassland Renewal at http://grasslandrenewal.org/education.html.