



Joe Davis has the data to show his cattle reproduction and performance have improved since he converted his Westminster, S.C., operation to novel endophyte fescue.

# FESCUE DETOX

## Novel endophyte fescue provides the best of both worlds.

Story & photos by Becky Mills, field editor

**H**ang out with Joe Davis for a few minutes, and it's easy to see he's a data man. The desk in his farm office has two laptops, one dedicated solely to data collection and storage. Then there are the two large screens for viewing that data, not to mention his ever-present smartphone. If you ask the retired chemical engineer a question, you might as well sit down, because you're going to get a detailed answer.

"I don't like to deal with 'kinda' or 'it depends,'" he states.

His data is one of the main factors that convinced the Westminster, S.C., cattleman to convert — or in the case of newly cleared land, plant — his entire 460 acres of pasture to novel endophyte fescue.

The turning point was a 2004 visit from Clemson University forage agronomist John Andrae, who was at the University of Georgia–Athens (UGA) at the time, and Carl Hoveland, who is now a professor emeritus at UGA.

"I knew enough to know 65%

preg rates weren't good business, and sent all my data to John Andrae," Davis recalls. "I had just planted Kentucky 31 fescue in my pasture. When Dr. Andrae and Dr. Hoveland asked me what I had planted, they just said, 'Oh, no.'"

### Side effects

Davis definitely called the right men for the job. When Hoveland was at Auburn University, he discovered Kentucky 31 fescue harbors a toxic endophyte that negatively affects cattle health and performance. It puts a whammy on fertility for both cows and bulls,

cuts down on milk production, hits gains, and constricts the blood vessels in cattle. That, along with the rough hair coat it can also cause, means cattle have trouble handling heat in the summer. Cold weather can bring fescue foot. In severe cases, their hooves can actually slough off.

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

### Fescue detox

After Hoveland's research came to light, forage breeders figured out a way to remove the toxic endophyte from the forage. However, they later found that same endophyte gave fescue its hardiness. The endophyte-free version simply didn't hold up under grazing pressure and drought. Fortunately, their next step was finding a way

to take the toxin out of the endophyte while leaving the hardiness factor in place.

Davis is convinced. When all but 190 acres of his operation were in novel endophyte fescue, his conception rates had risen to 75%-80%, but that wasn't good enough.

"I had a group of 50 cows, but some were first-calf heifers," he says. "We were breeding them in April and May, when the Kentucky 31 had seedheads."

That's when Kentucky 31 is at its worst, Missouri's Roberts says. "The toxin is down in the bottom 2 inches of the plant most of the year, which is often grazed, but it is in the seedheads when it has seeds."

Those conception rates, along with data he collected on his stocker and finishing calves, convinced Davis to convert and/or plant the rest of his pastures in novel endophyte fescue.

### Pasture proof

Typically, he and his herdsman, Mike Hall, take the calves from the 164-cow Angus-Brangus-Simmental herd and precondition the heifers and steers after weaning, which is now in April since he has converted to fall calving. They background them on forage and 7-8 pounds (lb.) per head per day of distillers' grain before the steers go to Cow Camp Feedlot in Ramona, Kan., for custom feeding.

The stocker program is a way to use excess forage, and it also functions as a drought-management tool, Davis says. "If we don't get rain, we can send 75 calves off to Kansas. In the drought of 2016, we shipped calves after 45 days."

Typical of Davis, he also keeps meticulous performance data on the stocker calves. He analyzes the numbers, as well as the feedlot and



carcass data from the same cattle.

“With novel endophyte fescue, you are going to get 50 to 75 pounds of additional weaning weight,” he says. “I kept up with every animal and where they were born, whether they were on Kentucky 31 fescue or novel endophyte fescue. After looking at four years of data, I found the steers raised on Kentucky 31 never caught up. The carcass value averaged \$100 more when the steers were born and raised on novel endophyte fescue versus Kentucky 31 fescue.”

This is in spite of the fact all the calves were on novel endophyte fescue during the preconditioning and stocker phase.

Now, his conception rates are also more to his liking, even though he and Hall synchronize and breed the whole herd by artificial insemination (AI) before they turn the bulls in 10 days later. The total breeding season for heifers is 45 days, and for cows, 65 days.

“We got a 93% conception rate overall in 2018. That’s the number of cows that get pregnant that were exposed to a bull. The real question we should look at is how many calves we wean per cow exposed to a bull. We’re learning to do that. It is 84% to 85% now.”

## Converting

Even with all the advantages, converting a pasture from Kentucky 31 fescue to novel endophyte fescue is neither for the cash-strapped nor the impatient. Davis estimates costs per acre at



Matthew Burns (left), Clemson University extension beef specialist, and Joe Davis, Westminster, S.C., cattle producer, can see the benefits of novel endophyte fescue on Davis’s operation.

“Conversion to novel endophyte fescue without good management practices in herd health, managed grazing and controlled breeding is a waste of money.”

— Joe Davis



Mike Hall, herdsman for Joe Davis’s cattle operation, is convinced that the cattle are benefiting from the conversion to novel endophyte fescue.

around \$650. He says \$165 per acre covers the actual inputs, while the replacement forage for the time the field is out of commission runs around \$485 an acre.

“We estimated we got 35% of our usual forage production the

first 12 months and 75% the second 12 months,” he says.

However, for the most part, he was able to convert pastures for less than \$650 per acre because he was in the process of getting more efficient with fertilizer use, weed control and management-intensive

grazing (MiG) on his established pastures, and he was clearing additional land and converting it to pasture. Since he had fewer cows for part of those conversions, his hay bill wasn’t as steep.

If you aren’t in a position to do all your pastures, Missouri’s Roberts recommends converting 25% to novel endophyte fescue and using those acres for your spring-calving cows. However, he jokes, “It is a gateway drug.”

North Carolina State University Beef Cattle and Forage Extension Specialist Matt Poore uses both Kentucky 31 and novel endophyte fescue in his family operation in Virginia.

“The payback for renovating the 25% of your pastures that really need renovating is 1.5 years,” he says. For more than that, it depends on geography. In Missouri, the payback time is

around 4.7 years, but it’s 5.5 years on the East Coast.

Davis estimates his payback time in the piedmont of South Carolina is five to six years at the most, but says, “I really believe it is closer to three to four years.”

As much as Davis hates the phrase “It depends,” Poore says a widespread conversion to novel endophyte fescue comes under that category.

“If you have fescue foot in your herd, or a 75% breeding rate,

it pays quicker. If you have a 95% breeding rate and no fescue foot, it takes longer to pay back.”

Matthew Burns, Clemson University beef specialist, says it is also a case of first things first.

“Producers have to be willing to do the small things right,” he says. “They need to have a defined breeding season, take soil samples and get the basics of grazing and beef management down. Those things can make a bigger impact on their operation.”

Davis agrees: “Conversion to novel endophyte fescue without good management practices in herd health, managed grazing and controlled breeding is a waste of money.”

However, Burns says, “If someone is getting started in the cattle business, or has a pasture that needs renovating, they are much better off planting novel endophyte fescue.”

For Joe Davis, the bottom line is there is no “kinda” or “it depends.”

“No doubt about it. I can’t imagine having to live with Kentucky 31 fescue again,” he says. “I don’t think we know yet what we can do with novel endophyte fescue with good grazing management and fertility.” ■

Editor’s note: Becky Mills is a freelance writer and cattlemaster from Cuthbert, Ga.