Alfalfa Works

Alfalfa interseeded into Bermuda grass is a money saver for a South Carolina producer.

by Becky Mills, field editor

After five decades, Neil McPhail's coastal Bermuda grass stand was thinning. "We had hayed it and grazed it and hayed it and grazed it," says the Seneca, S.C., Angus breeder.

McPhail knew he had to act. Fortunately, he had read about Alfagraze 600 RR, a Roundup® Ready variety of alfalfa that is adapted to the South and can handle both haying and grazing. He also knew producers and researchers across the Southeast were successfully interseeding it in Bermuda grass. As a result, he called Clemson University (Clemson) extension forage specialist John Andrae, and Joe Bouton, a retired University of Georgia (UG) plant breeder who developed Alfagraze 600 RR and is now a consultant for America's Alfalfa Got Bermudagrass program.

Alfalfa hay helps Neil McPhail save money on feed costs.

Forage and feed costs

Andrae gave the idea two thumbs up. "Neil was looking for a high-quality forage to compliment his Bermuda grass, and he wanted to cut out some of his supplemental feed costs. Alfalfa was a good option."

Bouton, through Got Bermudagrass, helped with the seed cost for the 16-acre field. In return, McPhail allowed his field to serve as a demo plot and hosted a field day in late August of 2017.

To prepare for interseeding, McPhail took soil tests, which Andrae says is crucial.

"Fertilizing and liming according to soil tests doesn't guarantee success, but it sure goes a long way in establishment and getting a productive stand."

Getting the pH right is a key part.

"The proper pH allows alfalfa to establish a good root system and to access the nutrients it needs," Andrae says. He recommends a pH in the range of 6.4 to 6.7.

In McPhail's case, his soil was more than ready for the alfalfa crop.

"We're in the poultry business so we have plenty of phosphorus and calcium," he notes. "My pH was right on the money."

Next, he mowed the Bermuda grass down close for the October 2015 seeding. Andrae is a fan of fall seeding, especially in the south.

"There is less weed pressure in the fall and it allows the alfalfa to get a good root system established before the summer heat sets in." He adds, "You want the Bermuda grass dormant or near dormant at alfalfa emergence so it doesn't add any additional competition."

To get the seed in the sod, McPhail used a Great Plains no-till drill set on 7.5-inch rows and planted 25 pounds (lb.) per acre.

"Plant no deeper than half an inch," McPhail says.

Bouton shared a rule of thumb on seed depth calibration from University of Wisconsin (UW) forage specialist Dan Undersander.

"Watch the drill row during seeding. If you see no seed on the ground, you're planting it too deep. If you see a lot of seed, you're planting too shallow. If you see a few seed, you're getting it just right."

A solid stand

After planting, McPhail held his breath, because his area of upstate South Carolina was in a drought. Still, he says, "The alfalfa started to come out in a week or two, you could see the rows. We had a solid stand in two months. The November-December

winter rains helped. I told Dr. Bouton that is the growingest stuff I've ever seen for what it went through. The rest of our pastures dried up but it was the only thing that stayed green."

His next step was to leave it alone. He didn't use glyphosate for weed control until early the next spring, after the crop was established. To make the most of his trip over the field, he added Lambdacide® to prevent alfalfa weevil infestations, and a small amount of boron and molybdenum. Along with the cost of spreading broiler litter for fertilizer, he says maintenance costs on the high-quality legume comes to around $20 to $25 an acre.

Yields in field

He didn't have to wait long for a partial payback. His first cutting was in June 2016. However, he says, "The first year was kind of iffy, we were still in a drought.

"The first time we square-baled it, we knew it was going to be slim. We still got ¾ ton an acre, even with the drought. We cut it again eight weeks later. That cutting was much better. We round-baled it." He ended up haying the field four times that summer and fall and got around 1.5 tons an acre, despite ongoing drought and grazing.

"The alfalfa just kept on coming," he says.

He also cut it four times in 2017, with yields around 1.5 tons an acre, as well as grazing it. In 2018, his first cutting yielded close to two tons an acre. Normally he puts his alfalfa up in round bales.

"Instead of making a 1,200-pound bale, though, we make a 600-pound bale. That is the perfect size to go into the mixer. It has made a tremendous feed source for the bull and heifer rations and has cut down on the cost of buying any other protein source." He says the hay samples run around 18% crude protein.

McPhail was using dried distillers' grain to get the energy and protein

Continued on page 42

Angus and alfalfa at Tokeena

While alfalfa is a relatively new crop at Neil McPhail's family operation, Angus cattle are a mainstay. McPhail's grandfather, John Augustus McPhail, bought the original Seneca, S.C., farm in 1902. McPhail's father, Houla, started farming it in 1922, walking home from Clemson University after a year of school. He and his father started the registered Angus herd in 1936, making it the oldest Angus herd in South Carolina. Those dates also put the farm on the National Register of Historic Places and it is designated as a Historic Angus Herd with the American Angus Association.

Today McPhail runs the 190 cow registered herd with his wife, Gwen, daughter, Meghan, and son and daughter in law, Daniel and Paige. Watson and Gus, Daniel and Paige's toddlers, are hard at play in the middle of the seedstock operation.

While McPhail is expanding the commercial end of the cattle herd, and sheep, broilers and a freezer beef and lamb enterprises are also part of the operation, McPhail says Angus are there to stay.

"My Daddy and Granddaddy started on the right track. Daddy saw right quick Angus could make it on fescue year after year. With the help of improving pastures by planting small grains and adding alfalfa, Angus cattle work even better."

Neil McPhail keeps improving his historic Angus herd with forage innovations.

Alfalfa Works *continued from page 41*

levels up enough for the high-roughage ration, but says alfalfa now takes its place. The exact ration he mixes depends on what stage the bulls and heifers are in, but he generally mixes 6,500 lb. a day. First, he chops up 600 lb. of alfalfa/Bermuda grass hay or haylage in a tub grinder, then adds 4,000 lb. of corn or barley silage. That usually translates into a ration that is 78% TDN and 12 to 13% protein.

"We shoot for three pounds per head per day gains," he comments. He normally develops and sells 30 to 40 long yearling bulls a year, as well as develops and breeds 25 to 35 replacement heifers for his own herd, and 100 more commercial and registered heifers to sell.

"The feed ration is the really good part of having alfalfa," he continues. "I normally buy two loads of dried distillers' grain to last me through the winter. It is $190 to $220 a ton and there are 50 tons in two loads. That is $10,000. Since we have this hay, it has helped us cut back on feed costs. Alfagraze 600 RR is a double plus because we can graze it in the late fall and winter.

"We'll put 50 to 60 pairs out there and start grazing it about the time we put bulls out in November. We'll only graze it when it isn't muddy and the ground is solid because we want that hay for our feed ration."

Andrae says McPhail is right to take it easy on the crop. In addition to not grazing when it is muddy, he recommends giving the stand about a 4-week rest period between grazing.

Since bloat can be a concern with alfalfa, McPhail tries to make sure his cattle aren't hungry when he turns them on so they don't overeat. So far, however, he hasn't had problems.

Keeping an eye out for bloat is a small price to pay for the benefits. Even with the bonus of grazing, not to mention the ability of the legume to fix its own nitrogen, McPhail still says the boost it gives his feed rations is the best part.

At this point, he says there is only one thing he'll do differently when he seeds more. That is to go to 15-inch row spacings rather than 7.5-inch spacings.

"The alfalfa grew so good it almost

shaded out the Bermuda grass," he states.

Bouton says narrower row spacings will work.

"They are a tool to manage the amount of Bermuda grass. I have no problem going with 15-inch rows as it allows more Bermuda grass in the mix and uses less seed during establishment, too."

He says even with 7.5-inch rows, however, Bermuda grass tends to take over in sandier Coastal Plain soils. He also says you can favor Bermuda grass by applying more nitrogen. However, the alfalfa won't last as long if Bermuda grass gets the upper hand.

"The newer alfalfa varieties are pretty aggressive and longer lived, but Bermuda grass is more aggressive and even longer lived," Bouton says. "Everybody is scared they are going to kill the Bermuda grass. It takes a lot to kill it. You might make it mad, but you probably aren't going to kill it."

Although McPhail has lost sight of his Bermuda grass for now, he says, "That isn't a big drawback. Even though we planted the alfalfa thick, the nitrogen we're getting is going to benefit us down the road."

As far as advice for other producers considering alfalfa, he says, "Take a look at it. It is hard to go wrong." AJ

Retired University of Georgia plant breeder Joe Bouton helped develop alfalfas adapted to the Southeast.