#FridaysOnTheFarm: A Soil Health Game Changer

From the kitchen table to the boardroom table, USDA brings people together across the nation for: healthier food, natural resources, and people; a stronger agricultural industry; and economic growth, jobs, and innovation.

Each Friday, meet those farmers, producers, and landowners through our #FridaysOnTheFarm stories. Visit local farms, ranches, forests, and resource areas where USDA customers and partners *do right and feed everyone.*

This Friday, meet Kenneth McAlister, a nationally recognized soil health champion from Electra, Texas, who has used no-till and cover crops to diversify his operation and strengthen his bottom line.

A Game Changer

When it comes to farming cotton, Kenneth McAlister has his bases covered – and most of his fields. The third-generation farmer switched to a no-till system 10 years ago. Over the last four years, he has been planting cover crops in the majority of the 10,000 acres he collectively farms with his dad, two sons, and one informally adopted son.

“It’s all about soil health,” McAlister says. “No-till really helped improve our soil health, but when we started planting cover crops and had something growing in our fields year-round, that was the game changer. It’s been a whole new ball game. Soil health has been the key to helping us be more successful.”

McAlister is the first Texas farmer to be named a soil health champion by the National Association of Conservation Districts. While humble about the title, he sees the honor as a platform for opportunities to talk to others about soil health practices.

“Soil health goes back to human health,” he states. “If you have a healthy body, you are going to perform better. The same goes for our soil.”

McAlister grew up as a conventional tillage farmer on his family’s operation in Wichita County, Texas. After graduating from high school in 1982, he married in 1983 and began his own farming operation in 1984.

“In Wichita County in the mid-80s, you just had three options for your fields: cotton, wheat, and cattle,” McAlister says. “That was it. You would harvest the cotton, deep-plow the field, plant the wheat, graze cattle, pull the cattle off and harvest the wheat, then plow to get ready for cotton. Then after you planted, you had to work to make sure your cotton didn’t blow away or burn up.”

New Players in the Game

McAlister and his dad farmed 3,800 acres in a conventional till system for almost 35 years. His sons had been involved all along and expressed interest in joining the family livelihood with their own operations.

“We decided to help each other grow our businesses,” McAlister says. “We went from farming 3,800 to 10,000 acres in a short time. We had to make some big changes.”

McAlister’s neighbor was a no-till pioneer in the area, and his family saw the benefits of moisture retention and yield results next door.

“With the added land, we were going to have to get some additional equipment anyway, so we decided the new equipment was going to be no-till,” McAlister says. “We had been seeing his results, and we felt like we could make it work for us.”

Conservation Assistance

And they haven’t looked back. In consultation with agronomists and soil health specialists with USDA’s Natural Resources Conservation Service, the McAlister fields have flourished with a variety of cover crops over the last several years, including hay sorghum, milo, mung beans, canola, barley, oats, and a wide variety of legume seed mixes.

“I have talked to farmers from all over the United States with various management systems,” McAlister says. “For the no-till farmers, I have consistently heard the same two things: ‘Cover crops and earthworms. If you have those two things, your production is going to go up.’ And they are right.

“That boils down to one thing: soil health. It has been phenomenal to see how much shade the cover crops provide the soil, how the roots of the living plants allow infiltration of rainfall, and how the worms and other microbiology below the soil’s surface create an optimum environment for growing plants.”

McAlister says it takes about three years for no-till farmers to really start seeing a difference in their soil. “If they can bite the bullet and just commit to three years, they will be glad they did."

More Crop Options, Less Weather Vulnerability

Because of soil health practices, McAlister says they can grow crops that have never been grown on the dryland fields in his area.

“We are now looking at growing corn and soybeans,” he says. “That is unheard of in our area. But the climate below the surface of soil has changed so much, it is allowing us to consider lots of options.”

With the improved soil nutrients and water retention properties of his healthy soil, McAlister can now plant crops based on market conditions and profitability windows.

“We are seeing so much more consistency in our row crops grown in no-till cover crop fields,” he says. “We are much more resistant to extremes in moisture.

Managing the Cover Crops

While McAlister now spends much less time on the tractor, he spends more time in his office planning his future crops.

“Record keeping is important,” he says. “You have to constantly be planning for the future – not 30 days, but a year or two or even three years out to figure out what you put where in the fields.”

“We still apply pesticides, herbicides, and fertilizer where we need it,” McAlister says. “We might spend $15 an acre planting cover crops. I think we need to consider that as a cost in our nutrient management package. We are fixing nitrogen and potassium, increasing carbon uptake, and providing the valuable soil microbes something to feed on year-round. Our cover crops are naturally depositing the nutrients our cash crops need.”

Doing More with Less

McAlister firmly believes every farmer needs to take a serious look at how they can improve crop yields.

“There is so much more ground that has become asphalt and concrete now, even compared to just 20 years ago,” he says. “Every day we get closer to having to feed and clothe more people with fewer acres of productive land.”

For him, the answer lies in conservation practices that improve soil health.

“When we till farmed we literally plowed our land to death,” he says. “We killed all the good bacteria and soil health properties. There was nothing there for the soil microbes to live on. As the old story goes – we flat destroyed what God gave us. Now we have to get it back.”

Story and Photos: Dee Ann Littlefield, Natural Resources Conservation Service