

# Iowa CONSERVATION Showcase

## Greenfield Farmer Succeeds with No-Till

When Randy Caviness of Greenfield began no-till farming in 1988, he had no idea the positive impact it would have on his farm operation 16 years later.

Caviness began farming in 1977 as a conventional-till farmer. He said it was the 1985 Farm Bill that influenced him to try no-till.

“One of the compliance issues of the ’85 Farm Bill was to implement a new practice every year,” he said. “No-till was one of the few choices I had.”

And, according to Caviness, it was a great decision. After trying no-till, Caviness went from owning 160 acres and farming 1,500 acres in 1988 to owning 2,500 acres and farming about 3,000 total acres today, as part of Senivac, Inc., owned and operated by Randy and his wife. They own and rent land in Adair and Cass Counties in Western Iowa.

Caviness no-tilled over half his crops in 1988, but he went complete no-till in just four years. The time and money saved with no-till has allowed Caviness to expand his operation.

“Yields are similar or better than before and costs are much less with no-till,” he said. “Less expense on labor and machinery, along with less time spent in the field because of no-till has allowed us to save money and invest in more land.”



*Randy Caviness*

### Improved Soil Quality

The improvement of soil quality is one of the ways no-till has positively impacted Caviness’ operation.

Results of soil analyses completed on various sections of Caviness’ farmland from 1995 to 1998 indicate organic matter levels increased anywhere from 10 percent to 39 percent.

“People have the tendency to think the ground needs to be ripped every couple years,” he said. “Even I thought that before I went to no-till. That just isn’t the case. After 16 years of no-till, tests here indicate that the soil is in better shape. Organic matter levels have increased substantially.”

Resource Soil Scientist Rick Bednarek from USDA-Natural Resources Conservation Service (NRCS) says that it is important for farmers to be patient

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with no-till--especially when considering improved soil quality.

“Over a period of seven or eight years the soil structure really improves and organic matter levels build,” said Bednarek.

“Organic matter is the storage bin for nutrients. You can no-till for 10 to 15 years and if you till it once, you’re basically starting

over. Tilling affects earthworms, creates a plow pan that restricts the downward movement of water and burns off the organic matter in the form of carbon dioxide.”

### **No-till Controls Soil Erosion, Improves Water Quality**

Another overall benefit of no-till for Caviness is less soil erosion on his land.

Even after damaging storms in May, where Adair County endured some of the heaviest rains, Caviness’ soils held up better than most.

“We had some erosion, but not nearly to the extent of conventionally-tilled farms,” said

Caviness.

Bednarek said that soil infiltration test results from Caviness’ farm indicate findings consistent with other no-till operations.

“Results of the infiltration test show soils in Randy’s fields could withstand four inches of steady rain per hour without severe erosion,” said Bednarek. “A conventional tilled field will typically incur soil erosion when two inches of rain per hour hit the soil surface. Conventional till does not allow water to infiltrate because of the plow layer.”

For Caviness, less soil erosion over the years has resulted in longer lasting erosion control structures. He uses a combination of conservation practices in his fields, including contour buffer strips, filter strips, terraces and grassed waterways.

“With the complete conservation system I have out here, I really don’t have to be as concerned with soil erosion,” he said. Caviness said his conservation practices hold up well and require minimal maintenance, since there is very little sediment runoff.

### **No-till Increases Profits**

With the added expense of machinery and labor associated with conventional tilling, no-till has allowed Caviness to sell off that equipment and expand his operation by buying more and renting less land.

“When I tilled, I owned a 32-foot disc, a 36-foot field cultivator with sprayer, a 250 horsepower International and a 300 horsepower Steiger,” he said. “Now all I need is a good no-till planter and a timely, accurate sprayer and Chaff Spreader on the combine



Former Adair County District Conservationist Marvin Lundstedt worked with Caviness on this contour buffer strip.



No-till soybeans in corn residue.

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to get the job done.”

Caviness said that even though he has gone from farming 1,500 acres to 3,000, it hasn't necessarily meant more work for his family.

“No-till is less labor-intensive. I can farm twice as much ground with the same labor, except during harvest when I hire three extra people to help get the crop out faster,” he said. “More recently, we have done our own spraying and we have our own storage for grain, so I have one full-time employee.”

Like many farmers, Caviness is hesitant to say no-till is the best way or the only way to farm corn and beans.

“Everyone has to run their operation the way they feel is best,” he said. “I feel no-till is a good idea. It works for me, but like anything, you have to be committed to make it work.”

*Jason Johnson, Iowa NRCS  
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