



IOWA

# PROFILES IN soil health

**Dennis Lundy**  
Fontanelle, Iowa  
1,800 acres  
Crops: alfalfa, corn, soybeans, winter wheat  
Planting: no-till  
Covers: radishes, cereal rye



## Premier Hay Grower Discovers Soil Health with No-Till Alfalfa.

Adair County farmer Dennis Lundy began no-tilling alfalfa hay for the first time five years ago to prevent soil erosion on his rolling, highly erosive Shelby soils. Now, he is not only reducing soil erosion but also improving his soil health and achieving better alfalfa stands.

Lundy, who farms north of Fontanelle, is considered one of the premier hay growers in western Iowa. He grows about 1,300 alfalfa acres per year, and rotates another 500 acres of corn, soybeans and winter wheat into his system. He markets hay primarily to dairy producers across the Midwest, but also supplies beef feedlot producers closer to home.



**A new no-till alfalfa crop grows** into harvested wheat residue on Dennis Lundy's farm in rural Fontanelle. Lundy will grow about 1,300 of alfalfa hay this year.

Even though alfalfa takes a lot more management than corn and soybeans, Lundy says it has been more profitable for him throughout the years. "Once you get started with alfalfa, success is measured by how you do your job. It's not like the Board of Trade is determining your price," he said. "If I do a good job managing the alfalfa, I'll get a good price for it."

Lundy has no-tilled all of his corn and soybeans for nearly 30 years, but until five years ago he felt it necessary to till the soil before seeding alfalfa. "It just dawned on me that we had the perfect seedbed before we ever took the tillage tool to the soil, and then we just messed it up," said Lundy. "We've had better stands of alfalfa since we started no-tilling than we ever did before."

By managing crop residue and eliminating soil disturbing activities, farmers often benefit from better plant growth, reduced soil erosion, increased profit margins, and even better wildlife habitat. "I realized I wasn't going to get the full benefits of no-till until I went completely no-till with alfalfa," said Lundy.

### No-Till Alfalfa Uncommon

As an alfalfa no-tiller, Lundy is unique. It is estimated that less than 5 percent of Iowa's hay ground is no-tilled. Rick Sprague, grassland specialist for USDA's Natural Resources Conservation Service (NRCS) in Creston, believes the high cost of alfalfa seed and past success growers have had with tillage are reasons why.

Sprague believes, however, that Iowa hay growers can thrive by growing alfalfa without tillage. To successfully establish alfalfa, Sprague says uniform planting depth, good soil to seed contact, and a firm seedbed are three important factors. "With no-till, you can get a more uniform planting depth and better soil to seed contact, and you can get a way better seedbed with no-till," he said.

Once established, alfalfa typically holds the soil in place better than row crops. Lundy grows alfalfa an average of three years in a row per field. He said it's during the every-third-year establishment period that the soil was most exposed. "It seems like we have bigger rainfall events now, and the timing of those rains often hits in the spring when the soil is most exposed," said Lundy.



**Dennis Lundy's crop rotation** includes winter wheat, which is seen here growing into last year's soybean residue. Lundy follows winter wheat with three years of alfalfa.

After five years no-tilling alfalfa, Lundy says his organic matter levels have increased. "We soil test every acre annually. The tests indicate that our fertility levels are remaining steady, but we are gaining in organic matter levels, which is helping our production," he said.

### Cover Crops

Like many Iowa farmers, Lundy is in the cover crop experimental phase. Cover crops such as rye, wheat, oats, radishes or turnips are typically planted in late summer or fall around harvest and terminated before spring planting of the following year's crops. Each cover crop provides its own set of benefits. For example, deep-rooted cover crops like forage radishes create natural water passages. Legume cover crops serve as natural fertilizers, and grass cover crops scavenge nutrients that are often lost after harvest or during winter.

*First and foremost I want cover crops to reduce erosion on my hilly ground.*

*- Dennis Lundy, landowner*

## profiles in soil health

Dennis Lundy, Iowa

Last fall Lundy planted tillage radishes, and this year he plans to seed cereal rye or a similar cover crop on his corn following harvest.

"First and foremost I want cover crops to help reduce erosion on my hilly ground," he said. "But I also know that cover crops add organic matter to improve soil health and help suppress weeds."

Al Lange, district conservationist with NRCS in Greenfield, says Adair County has some of the most erosive soils in Iowa. "I fully support further cover crops exploration to try to reduce erosion," he said, "but I want to take it to the next level where producers begin receiving economic gains, reducing fertilizer inputs, and more productive soils."

Just in the past year, Lundy grew more interested in how conservation practices like cover crops and no-till help improve soil health. One person he credits for this inspiration is NRCS Conservation Agronomist Ray Archuleta. "His demonstrations on how the soil holds together and what he says about soil life made a big impression on me," Lundy says of Archuleta.

"Every time you put a piece of tillage equipment in the soil you ruin everything that you worked to build," says Lundy. "I think Ray's term was 'burning the house down.'"



**Winter wheat grows** into last year's soybean residue on Dennis Lundy's farm near Fontanelle.

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