South Dakota Farmer Learns Importance of Crop Rotation and its Benefits

Matt Bainbridge explains his family’s recipe for working the land. “My dad’s been farming here since the mid ’70s, and we’ve been no-till farming since as far back as I can remember.” He joined his dad’s operation after college in 2004 and his brother got on board shortly thereafter. “It’s what I grew up with, what I’m familiar with,” he said.

Bainbridge explains, “With our variable sandy and silky loam soils, we could actually have three to six types of soil in one field. No-till and crop rotation is helping us figure out how to best farm that ground.”

The Bainbridges are not producers that stick to just one formula. They like to change it up, depending on each situation. “Depending on the year,” Bainbridge continued, “some fields stay wet, while others are a challenge to keep enough moisture on.” They try to manage field conditions by using what they have learned over the years. For instance, if they discover an infestation of water hemp in a field, they decide to rotate that land to wheat.

“No-till is a major tool we use,” he said. “Ideally, we like to have corn, soybeans, then wheat for our rotation. Then the cover crops follow winter wheat.” Bainbridge also uses cover crops to see if they can ease compaction from heavy grain carts on the ends of fields.
Cover crops use excess moisture when trying to plant into wet conditions. After big rains, he said, it’s nice to have the soil ready to absorb it. “We get good infiltration with cover crops,” he said. “And what runoff we might get on no-till fields is a lot cleaner than what comes off conventional farm ground.”

In spring, they need 4-6 inches of growth of the cover crops to cover any spots that blew bare in winter. “We watch their root systems penetrate the soil and create a channel for the cash crop so they have an easier time putting their roots down,” he added.

After winter wheat, they plant a cover crop to break down wheat straw. It feeds the livestock too during the winter months. They take cattle out in December or even January and graze all those cover crops. “We like to keep our cows grazing as long as we can,” Bainbridge said. “It’s way easier for them to walk and graze than it is for us to bring them hay and then have to haul out manure.”

They also installed solar powered wells in pastures, and when access to water is close to home farm, they use conventional hydrants, water tanks and dugouts.

Bainbridge says, “Our soils are covered with residue all the time so we feel we are improving our soil health.” Bainbridge does soil samples every two to three years. “But even with taking soil samples, we figure that organic matter is probably the most important thing we see.” He concluded, “It’s the most important part of the soil.”

Matt Bainbridge shows how no-till farming and cover crops can significantly improve the soil health on his farm.

“We’re slowly improving,” he said, “we think if we can leave as much residue as we can and use our cattle, we’ll continue to improve.” He also says the worm population has grown. “When I dig to check seed placement in the spring,” he adds, “I find more worms than seed.”

Bainbridge sums it all up. “More producers are trying no-till, but they need to give it a try for a few more years. It’s not a one year system. He says, “more farmers are trying cover crops, too, and some get skeptical, but maybe if they stick with it they’ll see the benefits.”


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