PROFILES IN

soil health

Mike Zook
Beach, North Dakota
10,000 acres
Crops: spring wheat, winter wheat, corn, grass, lentils, peas, safflowers, sunflowers and sorghum
Planting: all no-till
Covers: multi-species

unlock the SECRETS IN THE SOIL

North Dakota Man Benefits from Principles of Soil Health

Diversity, intensity, and zero-disturbance. When talking about his farming operation, those are the three goals of Mike Zook in Beach, North Dakota. He started farming in 1977 and watched the wind that blows through western North Dakota lift his soils and start small dust storms, eroding the topsoil and displacing valuable nutrients.

In addition, Zook said his conventional-till wheat operation was overly dependent on pesticides. "We knew that if we didn't change, it wouldn't be sustainable," says Zook.

Chickling Vetch is one of the crops Zook plants to ensure his soil is covered year-round.

In 1988, when Zook started to manage his own operation, he learned about the benefits of continuous cropping, and how it affects soil health. The principles of soil health work with natural laws and include growing as many different plants as practical (diversity), keeping the soil covered year-round (intensity), limiting physical disturbance (zero-disturbance) and keeping plants growing throughout the year to feed the soil.

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Spring and winter wheat are just two of the crops planted on Zook's 10,000 acre farm in Beach, North Dakota. Zook grows nearly everything he can in a 14-inch precipitation zone.

> *We knew that if we didn't change, it wouldn't be sustainable.*
>
> *- Mike Zook, landowner*

USDA's Natural Resources Conservation Service (NRCS) works with farmers to manage their operations with these four principles.

To manage his diversity, Zook planted almost everything that would grow in a 14-inch precipitation zone. Spring wheat, winter wheat, corn, grass, lentils, peas, safflowers, sunflowers and sorghum all became part of his operation.

"We spread our crops and harvest dates in the year… by diversifying the growing season, it minimizes risk," says Zook.

This also meant he could apply the soil health principle of intensity—his continuous crop of diverse plants would cover the soil year-round.

In order to limit physical disturbance of the soil, Zook invested in a tillage system with minimal disturbance. He now uses a no-till drill, which uses small disks to "slice" the ground and insert the seeds, without using any tillage. "When the soil is moved, it's exposed to the sun and wind. No-till avoids those things," says Zook.

Want to unlock the secrets in YOUR soil?

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