

Farmers use radishes to soften, fertilize fields

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In this Thursday, Sept. 3, 2009 photo, Tony Luthman holds mature oil seed radish in his 40-acre field planted with tillage radishes in Anna, Ohio. He planted the radishes this year after he harvested the wheat from this field. The radishes serve as a cover crop to keep the soil loose for spring planting and they also return nutrients to the soil. (AP Photo/Skip Peterson)

(AP) -- White radishes are taking root on Tony Luthman's farm, the start of what he hopes will create a welcome mat for the corn he plants in the spring.

With taproots that can grow several feet deep, the carrot-shaped tillage or forage radishes bore holes into the ground, loosening the soil. The radishes capture, store and then release nutrients back into the soil, so they also can reduce the need for fertilizer in the spring.

"Some of our ground around here is kind of a tight clay," Luthman said

as he displayed radishes on a bench at his western Ohio farm. "I'm hoping that's where these will come in."

Planting tillage radishes began to take hold a few years ago and appears to be growing in popularity. Researchers recently identified the radishes as a good way to prepare soil for planting, as their main roots are larger than the roots of other fall cover crops such as rye and clover.

The radishes are especially attractive to no-till farmers, who plant without plowing or otherwise turning the soil to enrich it, retain moisture and reduce erosion. For farmers who till, the radishes can reduce how deep they must plow.

The radishes have large green leaves and a long white taproot. They are edible and are used in some Asian dishes, but U.S. farmers use them to soften the soil and don't harvest them. The radishes die in the winter, decay and disappear by spring.

Andy Clark, an agronomist with the U.S. Department of [Agriculture](#), said the radishes appear to break up compacted soil, keep weeds under control, and release nutrients.

"But most researchers and many extension people would say we could still use a little more research," said Clark, who is with the USDA's [Sustainable Agriculture](#) Research and Education program. "All of the story is not in yet."

Radish seed sales have doubled in each of the past five years at Steve Groff SEEDS LLC, based in Holtwood, Pa. CEO Steve Groff now sells enough seeds to plant nearly 100,000 acres.

At Mid-Wood Inc. in Bowling Green, Ohio, sales of seeds for radishes and other cover crops have grown over four years from 750 pounds to

12,000 pounds. Radish seeds account for up to 50 percent of the sales.

Joel Gruver, assistant professor of soil science at Western Illinois University who is conducting research on the radish, said interest is being fueled in part by Groff, a respected advocate of no-till farming. Popularity also is being fanned by discussion among farmers online.

"It's something that farmers are really excited about," Gruver said.

Brian Jones, an agent with the Virginia Cooperative Extension Service, said the radishes were nonexistent two years ago in the Shenandoah Valley, and now about a dozen farmers with large operations are trying them.

George Van Wychen, of KauKauna, Wis., began planting radishes to help ease soil runoff from some of his erosion-prone fields and because the radishes die over the winter. That spares him the expense of having to spray and kill a different cover crop.

"It's like nature's aerator and it relieves a lot of compaction," said Ray Styer, who started planting radishes five years ago to soften the soil and save money on fertilizer. He is putting in 30 acres of radishes this year at his farm near Greensboro, N.C., where he grows corn and oats.

The cost of fertilizer has declined in recent years but remains a major expense for farmers. In Ohio, for example, fertilizer generally is estimated to make up 20 percent to 25 percent of spring-planting costs.

Clark said the radishes store and release nitrogen, the active ingredient in many fertilizers. But he said some of the nitrogen may be lost before farmers can plant spring crops.

Groff said the biggest drawback is that the radish seeds must be planted

in most parts of the country by the middle of September to grow to a reasonable size before subfreezing temperatures arrive. In some places, corn and soybeans haven't yet been harvested from the fields that are to be aerated with radishes.

Gruver said radish seeds cost more than most other cover crops - about two to three times as expensive per acre as seeds for cereal rye, for example. Some farmers plant alternating rows of radishes with other [cover crops](#) to try to save money.

Luthman said he's a little nervous about his first planting of oilseed tillage radishes. If they don't work, he's out the \$1,120 he spent for 40 acres' worth of seeds.

"But I think maybe we're on to something," he said. "If these even come close to my expectations at all, I will definitely put them in next summer."

On the Net:

Ohio State University Extension: http://ohioline.osu.edu/sag-fact/pdf/Oilseed_Radish.pdf

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