



Experts talk soil health—Newsletter article #10

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Radishes offer advantages in cover crop mix, expert says

Farmers are increasingly discovering the benefits of cover crops. A fairly recent entry into cover crop mixes—radishes—demonstrate some of those benefits. Joel Gruver, a cover crop expert at Western Illinois University, says radishes are “a cover crop with much potential and few residue management challenges.” But, he cautions, they are not a “silver bullet.”

For example, Gruver says opportunities for fitting radishes into corn and soybean cash grain systems are limited compared to cropping systems with crops that are harvested earlier like small grains, vegetables, or corn silage. He says, however, the advantages for using large-rooted daikon-type roots are extensive:

1. Robust roots can extend more than 3 feet deep in 60 days—after radishes winter-kill the channels created by the roots tend to remain open at the surface, improving infiltration, surface drainage and soil warming, as well as improving root growth on following crops.
2. The radish roots are a biological alternative to deep ripping to alleviate soil compaction.
3. A good stand of radishes can eliminate nearly all weed growth during, and for some time after, active radish growth.
4. Because radish residues deteriorate rapidly after winter kill, there are few residues to deal with at planting time.
5. Rapid, deep extension of radish roots makes them excellent scavengers of residual nitrogen following summer crops, both from the topsoil and deeper layers.
6. Because radish residues decompose and release nitrogen rapidly, the crop following may get an early boost in nitrogen uptake and growth, similar to following a legume cover crop.
7. Full canopy closure in as little as three weeks after planting offers rapid soil protection against erosion.
8. Lab tests show radish residues reduce the survival of root knot nematodes and soybean cyst nematodes.
9. On-farm comparisons in four states have shown significant increases in corn and soybean yields following radishes compared to fallow or other cover crops.

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