



Experts talk soil health—Newsletter article #7

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Expert: Cover crops key in preventing yield losses when converting to no-till

Most farmers with experience in improving soil health have converted from conventional tillage to no-till farming, then over time, added cover crops into their farm operations.

But many farmers have experienced yield drops, at least in corn, in the transition years to no-till. However, that doesn't have to be the case, and there's no need to master no-till before you use cover crops with no-till, says Jim Hoorman, an assistant professor and Extension educator for Ohio State University.

"No-till corn yields typically lag conventionally tilled fields by as much as 10 to 15 percent for five to seven years until the microbial populations recover in the soil," Hoorman says. "That's because in the transition years, as microbes increase in numbers and build organic matter and humus, the corn crop has competition for nitrogen—microbes take up nitrogen faster than plants, so if nitrogen is limiting, the crop will suffer."

But farmers can shorten – or eliminate – a yield drop in the short term while you're on your way to increasing yields long term by using cover crops from the start with no-till, he says.

"The literature says there are 1,000 to 2,000 times more microbes associated with living roots than in soil without live roots," Hoorman says. "If you want to build soil, you need to leave it undisturbed and keep it covered with living plants as much of the time as practical."

For more information on how to "Unlock the Secrets in Your Soil," call or visit your local USDA Natural Resources Conservation Service office or visit www.nrcs.usda.gov.

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