

MYTHBUSTER

Can Illinois Farmers Manage Fields by Soil Type?



PHOTO BY ISA

Virtually every soil type benefits from cover crops. But not every cover crop performs well in all soil types, as participants learn at ISA checkoff program events.

YES. But Illinois soil types are more complicated than just “good,” “bad,” “loamy” or “sandy.” In fact, the Natural Resources Conservation Service (NRCS) estimates Illinois has more than 600 soil types that differ in slope, surface textures, flooding tendencies and other features. About eight soil regions have been identified based on age and type of material that helped form these soils, which complicates how farmers manage their fields.

“Each soil type holds nutrients differently, which means you have to manage those soils differently to hit yield and fertility targets,” confirms Adam Day, Northern Partners Co-op in Ottawa, Ill., and ISA CCA Soy Advisor.

Day and other consultants bust three common myths about soil type management:

NUTRIENT MANAGEMENT IS INDEPENDENT OF SOIL TYPE.

FALSE. “Soil types have a significant influence on field drainage, erosion and other factors that affect nutrient management, especially nitrogen and nitrates,” says Dan Towery, Ag Conservation Solutions, West Lafayette, Ind. “Certain soils naturally have higher leaching potential.

“Precision ag tools, especially yield maps, help farmers identify areas of the field where plants are more effective at using nutrients,” he says. “This knowledge enables farmers to apply nutrients in a way that works to the advantage of differences in soil types.”

Jim Isermann, Soil Health Partnership Illinois field manager, adds, “When focusing on nutrient loss relief, understanding soil types helps sync nutrient use with crop needs and avert losses.”

COVER CROPS CAN BENEFIT ALL SOIL TYPES.

TRUE. Virtually every soil type benefits from cover crops. But not every cover crop performs well in all soil types.

“The goal of what you want to accomplish with your cover crop is always your first consideration,” says Day. “You need to consider how that crop fits with field properties, including soil type, and how it fits in your overall management plans.”

The key is to determine what soil factors you want to improve, like nutrient retention, erosion control and more. “Then tailor your cover crop program so that it fits into your farm’s cropping system, the weather and the soils you have,” says Isermann.

“While cover crops are versatile, keep in mind that, like any crop, some covers perform better in certain situations than others,” adds Towery. “For example, cereal rye doesn’t like wet feet, so be cautious when choosing which crop to plant in poorly drained soils.”

VARIETY SELECTION CAN OVERCOME SOIL TYPE CHALLENGES.

MAYBE. No soybean variety performs perfectly in all fields. Some varieties prefer heavier soils while others achieve higher yields on lighter soils. In addition, most fields feature several soil types.

“To better manage this variability, we’ve developed a ‘precision’ variety package that includes a blend of soybeans that will help improve performance uniformity across the field,” explains Day.

Soil types become a varietal decision factor as you consider disease management. “Which diseases are a problem for you?” asks Day. “Sudden death syndrome and white mold, for example, are more of a problem in certain soil types. Therefore, if fields are susceptible based on soil sample results, that has an impact on the varieties you plant.”

Soil type knowledge should be a very early, fundamental part of your soybean management decision making process. Crop consultants advise using a whole-farm, comprehensive soil testing program that includes new soil test results every four years to get the best results. ■