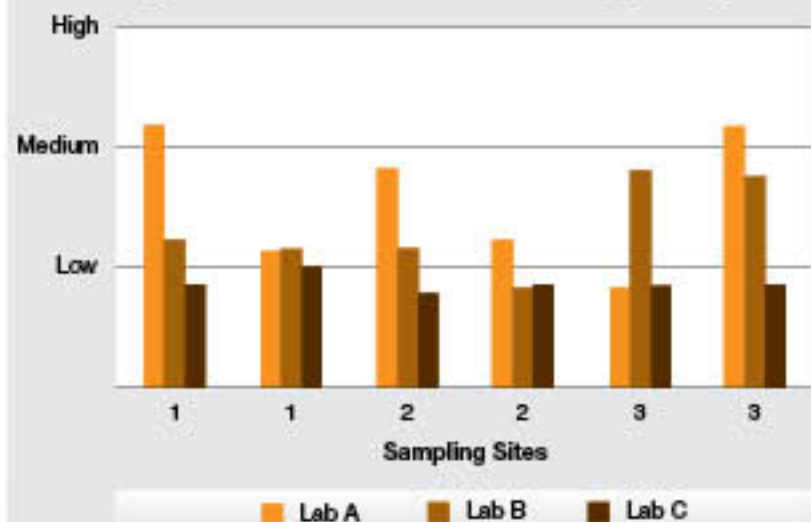


Is Soil Health High or Low?

In this study, two identical samples from three different sites were sent to three soil health testing labs. At Locations 1 and 2, Labs B and C were consistent on scoring both samples. But Lab B rated the soil "medium" for soil health, while Lab C rated it "low." Lab A was inconsistent in rating the two identical samples from Locations 1 and 2, which suggests a lack of standardization in handling the samples.



soil, the farmer chose to correct acidity and soil density first because they are among the easiest problems to fix. After three years, the yield gap between that farm's unhealthy and healthy silty clay loam fell from 70 bu. per acre to 20 bu. per acre.

"From those aspects, soil health testing is a useful tool to help create the best soil health possible," Ferrie says. "We just might not be able to apply numerical scores as precisely as a standard soil test for nutrients and pH."

With soil health testing, as with traditional soil testing, there are factors to keep in mind as you interpret and apply the results:

- It's best to stick with one lab. Understand your lab's testing procedures so you will know if they make a change in the future (which could

affect your soil health score). If you combine results from two labs, make sure you convert their reporting methods to one scale. For example, some labs report nutrients in parts per million, some in pounds per acre and some in percentages or a combination.

Some measure carbon dioxide respiration for a day and some for a week; some report it in pounds and some in kilograms. Labs use different scales for their overall soil health rating, so the standard for good health might be 14 on one scale and 40 on another.

- Separate your soil into management zones based on soil type and on whether the soil is well- or poorly drained. "Drainage makes a big difference in soil health," Ferrie says. When conducting in-field soil health tests or collecting samples for a lab, try to sample the soil at the same time each

year. Be sure to note changes in environmental conditions from year to year (wet versus dry weather, for example.)

- Split some soil samples and submit both of them to your lab to see if their testing produces repeatable results. It will give you confidence in the lab's procedures.

- Think of your numerical soil health ratings as an index between good and poor health, rather than precise numbers that can be compared from year to year. "Because it's a living system, soil is affected by many things," Ferrie says.

- Rather than relying completely on numerical values, use your test results to separate each of your soil types into healthy and unhealthy zones. Just as you do with agronomic practices, use strip trials to compare soil health practices with your normal methods.

"Look at the differences between soil health scores, rather than the actual numbers (to account for differences caused by the seasonal environment)," Ferrie says. "Try to raise the yield of your sickest soil closer to that of your healthiest soil."

- Stay abreast of developments in soil health testing. "More labs are getting into soil health testing every year," Ferrie says. "This means new procedures will be developed, providing more options." **FJ**

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SOIL HEALTH

Building on the Systems Approach, the Soil Health series will detail the chemical, physical and biological components of soil and how to give your crop a fighting chance.

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