

Soil Testing on Organic Dairies

Planning for soil tests

Step 1. To decide if and how soil testing could be useful for your operation, you should first identify your “why”. The following questions may help guide you in identifying why soil testing might be a useful tool for management decision making

What operational and/or production challenges are you experiencing at your farm?

What goals do you have for your operation (conservation, production, etc.)?

Are there any additional observations you are making about your farming production that have generated questions for you?

Step 2. Now we can identify potential connections between these goals, challenges, and questions and the soil conditions at your farm. These connections will help us to decide if there are useful soil indicators that can guide management decisions to resolve challenges, achieve goals, and answer production questions.

Your challenge, goal, or questions	How does soil influence and connect to your challenge, goal, or questions?	Potential soil indicators to measure using soil testing

Step 3. After identifying what kinds of soil indicators may be useful for your scenario, you will need to plan out where, when, and how to take soil samples to send in for testing. The following questions and table could help to organize your process.

Are the challenges, goals, and questions you outlined above relevant across the entire farm or are they more localized and specific to areas? Are there certain areas of your farm you'd like to prioritize?

What management practices and seasonal changes might impact your challenges, goals, and questions?

What times of year are relevant to these management practices and seasonal changes and should be considered when deciding when to take your soil samples?

Your challenge, goal, or questions	Where on your farm are these challenges, goals, and questions relevant?	Given your timing considerations, when could you take soil samples?

Step 4. Once you receive test results, you can connect these measured soil indicators back to the challenges, goals, and questions you identified. The following may be useful for providing context, connecting your results to farm outcomes, and guiding management decision making.

What inherent characteristics (e.g., soil texture, local climate) of your farm could influence the soil indicators you selected? How might these inherent characteristics be influencing the results of your soil test?

*Knowing these inherent characteristics is critical for interpreting your results as well as any additional resources you may use.

Given the inherent characteristics of your farming operation, your soil test results, and the challenges/goals you've outlined, what are some observations you are making about the connection between these three things?

Consider how timescale impacts the results of your soil tests. Some indicators of soil health can change quickly (e.g., available soil nitrogen changes often) whereas some may take many years to change (e.g. soil carbon). What frequency of soil testing would help you to achieve the best understanding of how your management decisions impact soil conditions?

What resources (personal knowledge, farmer networks, extension resources, technical assistance orgs) do I have access to that can help with interpretation of how previous or current management practices impact these soil test results?

What additional strategies, like in-field soil health assessments, could you use to compliment quantified soil indicators from soil tests?

Useful resources:

- NRCS Soil Health Assessment resources, found online
- Local Resource Conservation District (RCD) staff
- UC Cooperative Extension farm advisors and county-based staff
- North Coast Soil Hub Resource Library