

Soil Management Transition Guide

“Soil health” comes up increasingly in the conversations that financial advisors and agronomists have with their farmer clients. This is complex topic because soil management impacts every aspect of a farm operation. *At the heart of these conversations is the relationship between adviser and producer; knowing when to ask a question and when to listen are key.*

This guide maps out the topics that are part of a soil health conversation. The questions provided are not meant to be asked in a particular order, or even to be asked directly. Rather, they show the considerations a farmer may have.

How to use the guide

There is not a definitive start and end to this guide. Professional relationships and farm businesses are always growing and changing, and the farmer and advisor will know best where to begin.



Discussion Guide

Suggestions are provided for talking points as well as guiding questions below. They are designed to highlight key considerations when planning a change to soil management. Rarely will you have the opportunity to work through them completely and in order. More likely, you will have this guide in the back of your mind when a conversation arises.

Today's concern

What is on the farmer's mind today?

Address this first before broadening the discussion into the next topics.

Purpose

Big priorities: Family, way of life, faith, community, environment, making a living/profitability, legacy (which of these weighs most heavily for the farmer?)

Why do you want to change management?

- Increase resilience to extreme weather
- Correct soil loss, gullies
- Build organic matter
- Improve problematic soils
- Reduce input costs
- Manage equipment costs or other capital costs
- Manage labor
- Solve a weed problem
- Fit livestock into the operation
- Take advantage of government or industry incentive programs
- Avoid regulation
- Other reasons

How can you measure success?

- What objectives do you want to achieve from the list to the left?
- What are the outcomes you want?
- What aspects of your operation are changeable? What changes do you think might help?
- How will you determine if you have succeeded? Is there a way to measure progress?
- Success is sometimes not instant and measures of success have different meanings or are perceived differently with each farmer.

Current situation

Keep in mind: These may not all be appropriate topics for your current discussion, but they all matter to soil management.

Describe your farm and how it currently operates. In particular, consider:

- Soil condition (crusting, tillage pans, infiltration, erosion, amount of residue)
- Water flow paths, and location of dry and wet spots
- Fertility program
- Herbicide program
- Cropping system
- Livestock, or access to livestock
- Labor and management resources

Discussion prompts to use as needed:

- What do you sell?
- What do you like and dislike about your current cropping (and livestock) system?
- Who are the decision-makers?
- What kind of land do you have?
- What is good about your land? What are the problem areas on your land?
- Are there marginal areas on your land that could be opportunities for trying out new practices?
- Where does the water go? Where are the problems with excess water and when does this happen? Where are the problems with droughtiness and when does this happen?
- How would you describe your, and your partners', management styles?
- Describe your financial risk tolerance.
- Describe your agronomic risk tolerance. Do you like to experiment with different practices?
- What is the one piece of your management you are, and are not, willing to take a risk with?
- How do you learn about new practices? Who are you comfortable sharing with and learning with?
- What is your comfort level with looking different from your neighbors?
- When is it important to “look good”, and what does it mean to look good? I.e., who are the farmers who look good to you, and why?

Plan

Develop a reasonable timeframe for actions and changes. It takes time to do the learning and networking to build confidence. It takes several years to see significant changes in soil biology and structure. Plan how to minimize the financial risk during the transition process.

Learn more:

- Decide what you want to learn more about.
- How do you like to get information? Whom would you talk to?
- Learn from other growers' experience. Would you be interested to be part of a group that learns from each other? Are there field days, neighbors, farmer networks where you could learn more?

Set up for success:

- Make a timeline for your planning. What is realistic to accomplish in 3 years, in 5 years?
- Look for ways to measure progress.
- Implement trial strips or plots so you can see if a change is having a meaningful effect.
- How will the proposed change impact your labor or time demands?
- How will the proposed change impact your lifestyle?
- How do you see the change impacting your finances?
- Tools to assess economics: [Economics | MOSH - Minnesota Office for Soil Health](#)
- When assessing soil, think about the whole crop cycle instead of just from planting to harvest. Think about what is going on in the soil from harvest through fall and winter to spring planting.

Next steps

To control risk and give yourself time to learn, start small, maybe in a less visible corner, or on poor ground where the consequences are small. Make a plan with your adviser for what to do if your first trials don't work well.

If you have a corn-soybean rotation:

- Try corn followed by a rye cover crop followed by no-till soybeans. Seek out guidance on which cover crop recipes may be best for your operation. [Cover Crop Recipes - MCCC](#)
- Can you eliminate one tillage pass?
- Look for ways to try new equipment before committing. E.g., If a neighbor has strip till or vertical till, could it be tried out on a portion of your field? Or is there a custom hire for tillage in your area?

If you like to start with the budget:

- Pencil out the budget for current and potential production systems to identify potential impacts on cash flow or budget. ([Economics | MOSH - Minnesota Office for Soil Health](#))
- Evaluate the costs and returns on crop inputs and equipment. Where are opportunities for improvement?

If you have livestock:

- Add cover crops that can be used as forage and consider grazing.

If you want cover crops:

- One of the first considerations is how to make your chemical program compatible with growing cover crops.
- See the MOSH cover crop pamphlet ([MN-Cover-Crop-Guide.pdf \(umn.edu\)](#)) for more cover crop considerations and use the MCCC species selector tool to identify the best species for your goals. [Selector Tools - MCCC \(midwestcovercrops.org\)](#)

If you want to reduce input costs:

- Consider reducing tillage, and select a cover crop system designed to reduce weed management costs. Explore ways to reduce nutrient applications without risking profit.

If your first concern is...

- Weed management, discuss cover crop options.
- Building soil quality or land stewardship, first control erosion. Identify other degradation to address such as salinity, compaction, and crusts.

If you are motivated by avoiding regulation:

- Take baseline measurements and monitor impacts on natural resources. A good resource is the Minnesota Agricultural Water Quality Certification Program. [Minnesota Agricultural Water Quality Certification Program | Minnesota Department of Agriculture \(state.mn.us\)](#)

Find more soil health resources, including all the links on this page, by scanning:
[Educational Training Resources | MOSH - Minnesota Office for Soil Health \(umn.edu\)](#)



Farmers' voices

The farmers who helped develop this guide have years of experience with reduced tillage, cover crops, or other substantial changes to soil management. These are comments and questions that they like to offer when listening to someone considering these practices.

I find it useful to come up with my own rating system for my fields to help me make management choices and to track changes. It also helps me focus on problem areas and successes.

If you were to add a practice, what would you give up?

If you could start anywhere, where would this be?

What is your biggest tractor and why do you have it?
What if you didn't?

How much nitrogen or other fertilizers do you apply compared to your yield goal?

Have realistic expectations. Whatever goal you have, you won't get there right away, and the crops won't necessarily look great at the beginning. As you fix some problems, you may see new weed or soil problems.

Have good advisors who will work with your goals.

I carry a temperature gun around and am constantly checking soil temperatures on fields with different management.

Soil is the foundation of farming. Can you reduce the amount you lose to wind, rain and tillage?

Whose fields do you admire?
Why?