

PLANTING COVER CROPS – THINGS TO CONSIDER BEFORE PLANTING IN YOUR NO-TILL SYSTEM



What's Inside:

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“ Though integrating cover crops into a no-till system is a fairly straightforward process, it’s important to do your homework before beginning the process.”
– Trey Hill - Rock Hall, Maryland, no-till farmer

FACTORS TO CONSIDER

What should I consider before planting cover crops in my no-till system?

Though no-till and cover crops have both been common practices for some farmers for several decades, the soil health and regenerative properties of the two systems combined are just beginning to reach fruition in fields around North America.

Integrating the two practices into a single system — one that includes owning a sprayer to apply herbicide at exactly the right time — can help producers realize their benefits more efficiently, namely in fostering conditions that can yield strong crop output and sustain soil health for the long term.

Cover crops are all about soil health, one of the primary benefits of no-till. Though integrating cover crops into a no-till system is a fairly straightforward process, it’s important to do your homework before beginning the process. Cover crops are comprised of a variety of different species with specific effects on soil health. Determining the right cover crop mix for your no-till system requires a lot of homework. Ask the following questions when selecting cover crop species for your operation.

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What are my soil types? What do I want my cover crops to accomplish?

Though they have a common goal of sustaining ground cover and mulch on the soil surface, there are different cover crop types that have specific soil health benefits. Knowing what your soil needs most is of utmost importance in selecting your specific cover crop mix on your no-till acres. It's best to consult a local agronomist familiar with which cover crop types and species will function best in a specific geography. Consider the following issues: determine which of these factors — erosion, soil nutrition or weed control — is your greatest concern, then select your cover crop mix accordingly.



Nutrient deficiencies

If your soils have nutrient deficiencies, a cover crop mix including legumes, for example, will help accomplish ground cover needs and build soil nutrition. Legumes are adept at fixing nitrogen, making it available for uptake by cash crops at key times during the growing season.



Hydraulic conductivity and compaction

If soil hydraulic conductivity or compaction are issues in your fields, tillage radishes can help reduce spring tillage needs by breaking through compacted subsoil layers. Some tillage radishes have taproots that penetrate the soil as much as eight inches, and when those roots decompose in the spring, the remaining gaps help reduce spring tillage needs by alleviating soil compaction.



Weed control and erosion

If your soils allow for weed growth or erosion on no-till acres, brassica and mustard can produce ground cover to stifle future weed growth and prevent soil erosion. These crops quickly yield high biomass levels to provide strong ground cover and “choke out” weeds. They can also produce chemicals that are toxic to the weeds, fungi and pathogens that are harmful to rotated cash crops.

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What are my rotational crops? How will I manage my cover crops?

Competition with cash crops and overall management are two big reasons to select your cover crop mix carefully. For example, if preceding soybeans, nutrient availability is not a concern — the crop is itself a legume that fixes nitrogen in the soil and doesn't have the nutrient needs other crops have. When selecting a cover crop mix for well-drained, lighter soils where compaction is less of an issue, tillage radishes aren't important to include.

Trey Hill farms in the Chesapeake Bay region where he's faced years of heavy rainfall and soil loss from erosion. When the Rock Hall, Maryland, farmer selected his cover crop mix, he prioritized brassicas and radishes to offset these and other threats to his soil health.

"It's a matter of planting the right cover, which complements the crop and doesn't compete with it. We plant cereal rye, barley or wheat, mixed with clover, rapeseed and radish. We plant the radish for compaction and rapeseed for a pollination feeder," said Hill, whose family has managed Harborview Farms for nearly a century. "We have had a lot more large rainfall events in the last few years. It's pretty well-documented that the changing gulf stream has led to some very, very wet years. We need to build resiliency in our soils so they can better absorb more of these 4- and 5-inch rains we've been having more often. We need to lessen erosion potential and increase soil organic matter."

Your sprayer is a key cover crop management tool

Though stand establishment is, like with all crops, a critical time period for cover crops, how and when you terminate them are just as important. Many rely on Mother Nature to terminate cover crops via winterkill, but perennials and even some annual plants need to be eliminated as well. Often, this is accomplished through an herbicide application with a sprayer or a light tillage pass immediately prior to planting. Especially when spraying, it's important to time the application so it knocks down the cover crop and provides weed control.

"We still apply full rates today to prevent weeds from building resistance. Particularly with soybeans, this mix of cover crops and herbicides helps prevent marestail and Palmer amaranth," Hill said. "If you can knock it down when you terminate your cover crop around emergence, you won't get it all year."

"Timing is critical, especially with soybeans. Sometimes we can wait until our corn has emerged," he said. "It just depends on the situation. Typically, we'll chase the planter with the sprayer and try to do it in the same day."

Ownership of a self-propelled sprayer is a key component to managing a no-till production system with cover crops, especially pertaining to the control the sprayer provides in managing potentially costly weeds. After you've confirmed your specific agronomic and soil needs, it's important to find which self-propelled sprayer is right for your operation.

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APACHE 
SPRAYERS

Let's review:

1. Cover crops are comprised of a variety of different species with specific effects on soil health. Determining the right cover crop mix for your no-till system requires a lot of homework.
2. Knowing what your soil needs most is of utmost importance in selecting your specific cover crop mix on your no-till acres. Consider issues such as nutrient deficiencies, hydraulic conductivity and compaction or weed control to help guide your decisions.
3. When choosing the right cover crop, be sure to find a plant that complements your primary crop and doesn't compete with it.
4. Timing is critical in a no-till system. Owning your own sprayer can be extremely beneficial in timing of application of pesticides or fertilizers.



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