

How to boost your farm's economic sustainability with better soil

Bountiful crops begin below ground

No matter the crop, profitability hinges on getting more out of your crop than you invest to produce it. Unhealthy soils will not produce a profitable crop no matter how many inputs you sink into them.

To promote a return on your investment and improve soil health, independent crop consultant Joel Moor of Greenwood, Mississippi, recommends several cultural and crop protection practices.

Plant cover crops to provide year-round soil protection.

Throughout the winter, cover crops help provide soil nutrients and improve organic matter. Cover crops also offer habitat for beneficial insects through the winter months and into early spring.

Maintain a diverse habitat for beneficial insects and soil microbes.

Beneficial insects help control damaging insects throughout the crop year. The control these natural, helpful predators provide can minimize the need for insecticide treatments.

Manage nutrients to ensure plants' nutritional needs are met.

Soil health issues sometimes aren't easily noticeable. To ensure a healthy soil, Moor recommends regularly sampling soil to test levels of available nutrients, including nitrogen, potash and phosphorus.

"While testing every year may not be economically beneficial for all growers, it is important to get on a three-year testing plan," he says. "That way, you will know which nutrients are readily available to your crop and which nutrients are deficient. You need to supply nutrients to the crop if you want to get out more than what you put in."

Rotate crops for improved yield and pest control.

Making the decision to rotate crops becomes more difficult when crop price fluctuations economically favor one crop over the other, but Moor says it is a worthwhile risk.

"High soybean commodity prices can influence you to grow soybeans every year, but that's not always a good thing when it comes to soil health and your nematode situation," Moor says. "The bottom line is that crop rotation improves soil health and can decrease plant-parasitic nematode populations."

Control plant-parasitic nematodes with nematicides.

Testing for nematodes is an additional cost that may not always be in the budget, especially during times of low crop prices. However, money invested in testing for nematodes is well spent, Moor says.

"Nematode testing lets you know the areas of your field and your farm that have heavy nematode pressure. You need that info to properly combat plant-parasitic nematodes," he says.

Nematode feeding on plant roots threatens both yield potential and overall plant health. Roots damaged by feeding cannot efficiently take up nutrients the plant needs.

"You could spend a lot of money putting nutrients back into the soil with blended fertilizers, but it could be for naught if nematode feeding has damaged those roots and the plant can't access the nutrients," Moor says. "If that happens, you're more than likely not going to have a good yield."

Other steps to ensure you are maintaining healthy soils are:

- Control weeds to minimize competition for water, sunlight and nutrients.
- Plant resistant varieties to minimize disease infections and nematode feeding.



Joel Moor
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