

Cover Crop Corner

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Setting and achieving your cover crop goals

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Successful cover cropping requires planning and setting realistic expectations

Cover crops can be used to benefit multiple aspects of your operation. However, in order to see notable improvement, specific areas you want to progress must be outlined so that a plan of action can be formed accordingly. As we get through the start of the New Year, now is a good time to set goals for cover crop performance and develop a strategic plan to achieve them.

Here are a few ideas to help get you started:

Assess soil samples

A good starting point is to analyze your fall soil samples to assess where your soil is nutrient deficient so goals can be made accordingly. Tailoring nutrient applications and altering management strategy to increase field and pasture soil organic matter percentages will make goals like improving soil fertility and crop profitability attainable.

If you don't have any recent soil samples, be sure to get some into the lab before you start making management decisions for the next planting season this spring.



Grazing livestock on cover crops is one of the most efficient ways to improve soil fertility.

Audit your books

Like any other part to your farming business, your cover crop goals must stack up financially. To get a clear idea of where cover crops can improve your business, audit your books for the last five years for input costs versus yield. This should include all aspects of management practices, including details like the contribution diesel usage made to overall tillage costs to putting a monetary figure against the number of man hours it took to implement your previous management strategy – your time included.

Again, focus on the input costs versus yield, rather than gross profit from yield. Many producers find cover crops to be a useful tool to help pull back on inputs like fertilizer but may not be making 200 bushel corn like they were when everything was thrown at yield. However, if balanced right, the reduced input system can generate greater overall profit.

This leads us to...

Identify how cover crops can be used to make improvements

Cover crops may not be the silver bullet for every management challenge you have, but they often address more than one area of production. Here are a few ways cover crops can be used to improve your profit margin.

Natural Fertilizer: Legumes are well-known for fixing nitrogen into soil as they decompose, making it available to succeeding crops. When selecting a variety specifically bred to fix notable amounts of nitrogen, you can make a dent in synthetic fertilizer costs. In an independent trial in Illinois, an improved variety of balansa clover fixed 50 pounds of nitrogen per acre four weeks after corn emergence (WAE). Based on a rate of \$0.44 per pound for nitrogen fertilizer, this is a cost savings of \$22 per acre. At 10 WAE, 84 pounds of nitrogen per acre was fixed for a cost savings of \$36.96 per acre.

Soil Structure: Cover crops are popular amongst the no-till community for their ability to bust through the hard pan and heal compaction issues and improve nutrient cycling without the use of tillage equipment. Indiana corn and soybean producer Rick Clark saw a reduction of diesel fuel inputs from 30,011 gallons in 2011 to 15,151 gallons in 2018 after transitioning from a conventional system to a no-till system integrated with cover crops. During that time, his corn yield increased an average of 3.9 bushels per acre each year, and soybeans increased 1.3 bushels per acre.

Weed Control: Providing what would be barren fields post-harvest with a cover crop is going to provide weeds with competition and challenge weed germination. In return, this will take a toll on weed seed banks, benefiting the subsequent crop. Certain cover crops also have a strong enough allelopathic effect to inhibit germination of certain weeds. Cereal rye, for example, is an effective tool for weed species like pigweed and crabgrass.

Feeding Livestock: Arguably, one of the best ways to improve soil fertility in fields and pastures is to incorporate livestock. While your soil will cash in on the many benefits of having living roots in the soil, this does come with some trade-offs. On one hand, you're utilizing cover crop biomass as a quality feed source while providing your soil with cover, a diverse root structure and the benefit of manure. On the other hand, some of the nitrogen contributions are being fed to the animal rather than the soil.

Combat Water Issues: Now is the time of year when producers will be seeing the biggest issues with erosion and soil nutrient loss due to runoff. Providing a winter cover is going to help lock soil into place and sequester valuable nutrients for the following crop.

For some producers in the 2019 planting period, cover crops on a no-till system were the difference between getting fields planted in good time and missing planting deadlines. GO SEED heard numerous reports from producers in saturated areas that were able to plant because of the water infiltration and biomass benefits of their systems, while their next door neighbors on conventional systems weren't even able to get equipment into the field.

Invest in the best tools

When it comes to cover crops, the quality of your tools will have a significant impact on how achievable your goals are. One thing I can not stress enough is to select varieties of cover crop species based on traits, rather than opting for VNS (variety not stated) seed. Progressive plant breeding will ensure trait performance and seed quality, rather than gambling with the variability of VNS.



To ensure cover crop performance, it is essential to select varieties based on specific traits rather than VNS (variety not stated) seed.

Set realistic expectations

It is important to note that cover crops don't always drastically improve your operation overnight, let alone in one season. Seeing the full benefits takes time as soil health improves and uplifts other areas of your system.

With that being said, start with small trial plots on your farm before implementing any major management changes. There are a lot of great cover crop success stories floating around, but just because something works for someone else, doesn't necessarily mean it is going to work for you – whether it is someone 100 miles away or just next door. Be flexible and adapt practices to best suit your unique environmental challenges and business model.

Expand your network

Finally, nothing is more beneficial to the success of your cover crop integration than learning from researchers and fellow producers. Particularly at this time of the year, there are many meetings centered around cover cropping from local meetings to national conferences. If you can't make the national conferences, there will be plenty of follow up coverage from them in the media that you can learn from.

There are also countless resources online, like the Midwest Cover Crop Council's website, available to all sectors of agricultural producers wanting to integrate cover crops into their operations.

And remember, you're always welcome to call GO SEED at (503) 566-9900 if you want to discuss novel solutions for your unique growing concerns.