



The Watering Hole



Cover crops—big challenges, big rewards

Welcome back! This month's issue of the Watering Hole is going to throw the spotlight on something other than water: Cover Crops. However, believe it or not, cover crops can directly impact the quality of our water in a big way. In short, a cover crop is anything that is grown to protect and enhance the soil in the "off-season", or at a time when a cash crop is not being currently grown. Most of the time in this area that means winter wheat or ryegrass, but there are many other options. These plants can provide a whole host of benefits for soil and water health, while at the same time reducing inputs or providing a secondary food option for livestock. While the payoff of cover crops can be exponential over time, there are also a few cautionary points to take note of before embarking on the cover crop journey. Now, let's dive on in and look at the what, when and how of cover crops.

Whether you are a farmer trying to improve the soil or just an average citizen concerned about our natural resources, cover crops have a benefit that impacts you. The main benefits of cover crops are improved soil health, better water quality, and economic benefits for the farm operation. Cover crops improve soil health by increasing organic matter in the form of plant residue, fixing or adding vital plant nutrients such as nitrogen and phosphorous, and acting as a compaction buster. Research has even shown improvements in beneficial soil microbes when cover crops are used long-term, which can improve soil structure by creating larger soil particles called macroaggregates.

Cover crops improve water quality as well by keeping live roots in the soil to hold it in

place and reduce erosion. These live roots also create air spaces in the soil, so more water soaks into the ground and is filtered through the soil rather than running off and carrying sediment and nutrients into our lakes and streams. We can't say it enough—keeping nutrients out of our water keeps it cleaner and safer and reduces algae and nuisance aquatic weed growth!

Although there is an initial cost to buy the

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seed and plant it, using cover crops can pay off when used consistently in a farmer's rotation. Cover crops provide a source of "green manure" and unlock or fix otherwise unavailable nutrients in the soil, which means less of a reliance on pricey supplemental nutrients and fertilizer. Cover crops can provide an additional economic benefit to many farms in the form of livestock feed. Most producers choose to take advantage of this by grazing their livestock through cover crop fields of anything from ryegrass to turnips, but chopping and harvesting for feed is also an option with many cover crops.

As with everything, there are also potential downsides with cover crops to consider before planting. Timing when to plant a cover crop can be tricky because traditional methods require planting post-harvest of a cash crop but with enough time

for the cover crop to adequately grow. This often leads to limited options of when and what to plant, particularly given the unpredictability of Michigan weather. Even if you get your harvest done in time, it may be too wet to get traditional equipment on the field or too cold/dry for proper germination. Timing the termination of cover crops that don't winter kill can also be tricky because you don't want to terminate them too early but need to allow enough time to ensure successful die-off as well as keep plenty of time open to plant in the spring.

The last limiting factor of cover crops is start-up cost, which can vary greatly depending on what and how you plant. Cover crops reduce inputs and costs in your operation, but you can expect it to take 5-7 years of consistent cover crop rotation before you reap the full benefits.

Certainly there are some challenges with getting started in cover crops, but the great news is that there are new technologies to help overcome some of these hurdles. Stay tuned for next month's thrilling continuation of this cover crop saga as we dig a little deeper on how to meet the challenges of getting these crops in the dirt!

Cover Crop Field Day Summary

(See photo above)

- 42 attendees (28 farmers)
- 433 acres of cover crop aerial seeded
- Practices shown: aerial seeding, crimping (mechanical cover crop termination), soil pit to show root depth, no-till seeder
- Community-building/networking