

THE IN'S AND OUT'S OF COVER CROPS

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Cover crops have been an integral part on our farm since the 1940's, when my Great grandfather John B. Martin introduced them to the rotation. He would frost seed alfalfa into the winter wheat during the months of January, February or March (weather permitting). They had a Herd seeder mounted on the back of an Oliver 60 and they would spread the alfalfa at a rate of 14 lbs/acre. When the ground would freeze and thaw through the winter months, the seed would get pulled down into the soil and would later germinate in the warmer spring days. The wheat would come out of dormancy and grow much faster than the alfalfa. Once the wheat was harvested in mid July, then the alfalfa would continue to grow for the rest of the season.

From the 1940's up into the mid 1990's, Martin Farms would continue to use this practice in cover crops. There are many different reasons for planting alfalfa, but our main reasons were to break up the compaction layers beneath the soil, add organic nitrogen (up to a hundred units) to the following crop of cabbage, and to build up the humus in the soil (helps retain moisture in dry conditions). For many years we would let the alfalfa grow for almost two growing seasons before we would plow it under.

Today, we use medium red clover in place of the alfalfa. One of the main reasons for switching from alfalfa to clover was that it was getting to be more difficult in leaving the ground fallow for an extra year. Medium red clover can give many of the same benefits as alfalfa at a lower cost per acre. We like to frost seed clover into a wheat crop at a rate of 12 lbs/acre. The optimum months to frost seed clover would be February or March when the ground is not snow covered. Frost seeding clover into icy snow can sometimes blow the seed down the field, before it is pulled into the soil. Frost seeding into April is not a good idea because it gives a 50/50 chance of getting a decent stand. Usually by this time the frost is out of the ground and that can make it that much more difficult for the seed to get beneath the soil in order to germinate.

Some of the challenges in growing clover are making sure to plow under the clover at the ideal time. From our experience it is best to plow under the clover between April 25th and May 15th. Plowing before April 25th can be a problem because the soil can be too wet, which will make the ground stiff and cloddy, making it very difficult to get a uniform seedbed. It can also cause an instant hard pan, which can be a problem for root penetration and water infiltration. Plowing after May 15th can lead to the clover pulling out too much moisture that had been accumulated through out the winter months. Without an ample amount of moisture it is extremely difficult to get the plow into the ground.

Within the last few years, we started trying winter rye as a cover crop. We broadcast the rye with a fertilizer spreader at a rate of 2 to 3 bushels per acre. We like to spread the rye after an early cabbage crop or after we harvest our winter squash in September. Spreading the rye and then chisel plowing it in seemed to work the best. Using winter rye instead of winter wheat as a cover crop works better because it will germinate in cooler soil temperatures and it isn't as sensitive to some of the herbicides that are used in our cabbage and squash crops.

The 2011 growing season gave us some of the biggest challenges in controlling winter rye. Rye not only germinates in cooler weather, it also comes out of dormancy much sooner in the spring months. By the end of March, rye starts growing at a very fast pace. The rye can get out of hand if not killed in April. With the spring of 2011 being one of the wettest on record, it made it impossible for us to get into the fields and kill the rye. We had a small window in the beginning of May to get out in the fields and by this time, the rye was knee high. We did manage to kill it all, but now we faced a big problem. The rye became a rug on already wet ground. Not only did the rye become a rug, it also kept the ground from drying out. Once the weather broke in June, we had to wait five to seven days longer, compared to the ground without rye. On our heavier clay soils, no matter what we did, we couldn't manage to break up the clods. On our lighter soils which were more forgiving, we didn't seem to have the problem of cloddy soil. The rye helped retain moisture which was needed because of very little precipitation in the month of July.

Cover crops have many benefits to the soil and to the crops that follow. Since timing is everything, they take a bit more management, but in return they give healthier, more productive soil. Cover crops, in time, can make the soil like a posturepedic mattress instead of a concrete pad. The sky is the limit when it comes to cover crops.