



Rademacher Farms Newsletter

Newsletter 9 - Soybean Harvest Update

October 27, 2019

We harvested soybeans in late September/Early October, then planted wheat (pictured above). We had a lot going on in this field this season, so here's a quick recap of what we'll cover in this newsletter:

- 1) Non-GMO Beans
- 2) Beans were planted Mid May into 3ft tall cover crop.
- 3) Variety and Treatment trials
- 4) It basically never ever rained, plus herbicide damage from neighboring fields.

Non-GMO Beans

As mentioned in previous newsletters, these were non-GMO soybeans. Basically we have less herbicide options, but we get paid a significant price premium when we sell them. I typically figure a 15% increase in selling price. They get delivered to a crush plant near Gibson City. Soybeans are high in oil, unlike grains, which are high in starch/sugars. Products such as cooking oil and mayonnaise can contain a lot of soybean oil, while the leftover soybean material can be used for animal feed.

Despite having less herbicide options, we're really happy with our weed control. I can think of several local GMO soybean fields, using the latest and greatest herbicides, that had significantly more weed issues than we did. As always, we examine our practices each year and figure out how to improve. In the next section, I'll talk about an improvement in weed control for next year.

Planting Into Living Cover Crops

We planted a low rate of cereal rye for weed control in soybeans and left it standing. Typically for weed control, people will plant twice the rate of cereal rye we used. We were really happy with the control we had, even at the lower rate. Our weediest areas were those that the cover crop drowned out. Next year we'll be planting a normal rate of cereal rye and instead of leaving it standing up, we've invested in an upgrade to our planter that will roll cover crops over into a mat (example at right).

I know of organic and non-organic farms using the same technique for weed control without



herbicides. As weeds develop resistance to more herbicides every year and weed control costs have increased 2-3x's in the last 10 years, everything we can do to rely less on herbicides is a good thing in my book.

Variety and Seed Treatment Trials

Variety trials help us decide what varieties to plant next year. While there are an ocean of retailer plots showcasing their products, as we've pointed out earlier this year, these often have low standards and bias. Every farmer does things different, so the best trials are done on our own farm, under our management style. Despite low yields this year, we were still able to get some good information that will shape next year's seed choices.

We also did large seed treatment trials this year. For the most part, almost every seed planted the US, receives a coating of fungicides and insecticides. While there are sometimes benefits to these practices, there are environmental and human health consequences to broad pesticide use. A recently published, 12 year long study from a collaboration of 14 universities, found that insecticide use on soybeans did not result in consistent yield benefit. It also found that even fungicide use had inconsistent, minimal benefit that generally occurred under specific management practices. **Of the 150 acres**



we planted, half the seed was treated with fungicide, the other half was untreated seed. Over three large scale trials, we had no yield benefit to seed treatment despite stressful conditions the entire season. Sooo why have we been spending money on seed treatments and using pesticides unnecessarily every year? Think of the money spent and amount of pesticides introduced into the environment that may not be actually be providing real benefit.

No Rain and Dicamba Damage

In the 3 hottest months of the growing season, we got about 1 inch of rain. Unfortunately it came in timing and amounts that rarely did more than just wet the surface of the ground. On the hilltops, we had soybeans dying in early August due to lack of water. Drought causes soybeans to abort soybeans. The plant devotes energy to the amount of seed it can develop with the resources it has. It's disheartening when the soybeans look excellent but upon opening pods, you find that most have empty spaces that soybeans simply never developed.

In an earlier newsletter, I explained the Dicamba herbicide and the damage it wreaked on countless acres. With the drought, it's near impossible to quantify how much it damaged our yield, but it certainly didn't help. With an unprecedented amount of herbicide damage complaints this year, the State of Illinois has made serious changes to the legal use of the herbicide and I don't think we'll have issues anywhere on the same level as this year. There should be a two-fold effect. 1) Farmers that continue to use the herbicide have a much narrower window of conditions to use it, and 2) Due to

more restrictions for dicamba use, many farmers will choose to just use different herbicides. Certainly good news!

So How'd We Do?

What a year. Planted in mud and drought later in the season. **The field ended up averaging 36 bushels/acre. Our yield is typically around 65 bushels/acre, so almost a 50% reduction.** It can always be worse however. I've heard reports as low as mid 20's in the area. With the conditions this year, a lot of it is coming down to luck. Right variety, right soil, right planting date etc.

At these yield levels, crop insurance kicks in. Generally speaking, it works as a certain percentage of the average field yield. So if the historical average of the field is 60 bu/acre and we've paid for 70% coverage, we have a guarantee of revenue of 42 bushels. If our yield is lower than that level, we get the revenue difference between what we produce and the 42 bushel guarantee. That formula does not take into account how much money you spent to produce the crop or any premiums, so our low input costs and Non-GMO premiums still work in our favor.



Clearly this year hasn't gone according to plan at any point and I'm glad to have started putting it behind us. I could never figure out how Grandpa remembers all the years that there were floods, droughts, hailstorms, early frosts, etc...but I certainly understand now!

Corn harvest has just finished, wheat is planted, up and looking great, and cover crops have been planted. Corn newsletter should be out soon!

Frank