



Hey everyone,

The second update is on corn. I'll talk briefly about planting conditions, current crop conditions, and spend some time on some current and possible research. We're doing some really interesting things that we're pretty excited about.

Planting/Crop Progress

Planting was carried out from May 11th-12th, no-till conditions, into cover crop. Poor weather interrupted our first attempt to kill cover crop, so half the cover crop had been terminated about a week later than the other half. Because of this, half the field was completely dead and flat, and the other half was yellowing and still ~7" tall. Planting conditions were near perfect, and we are incredibly happy with how it turned out. Ground was soft, and moisture was consistent at about 1.5" deep. Corn emerged in less than a week and population counts I've done show that germination/emergence was essentially 100%. I generally try to scout fields at least once/week looking for weeds, disease, and insects depending on crop growth stage. I rely heavily on resources like the U of I Extension, which tracks current pests affecting our area and what issues may be coming soon. This season there was some Black Cutworm pressure but after a couple days of scouting, doing plant/worm counts. I determined we were safely below the economic threshold level for which an insecticide treatment is recommended.

Currently the corn has 5 emerged leaves and is looking great (wouldn't mind some rain though). With ample temperature and moisture, it will generally add a leaf every 3-4 days. Tomorrow, and possibly Thursday, we'll be spraying herbicide and sidedressing (apply the balance of nitrogen the corn needs).

I've attached a pic of a couple root digs from last week, which I like to do every couple of weeks, so long as no issues are found. Now I'm mostly interested in root shape for indicators of soil issues. For example, roots that suddenly change direction do so because of a compaction layer or planting issue. Though these roots were even on an endrow, they showed no signs of compaction. Overall, we are very pleased with how the corn looks.

Research

Seems that on-farm innovation and testing in our area is relatively stagnant...for a multitude of reasons that I won't get into. I basically try to compensate for the entire county because that is the only way you improve. As an important side note, all trials are done with the final goal of increasing profitability...not necessarily yield.

- 1) We put in a non-GMO hybrid test plot with 9 total entries; 3 hybrids from 3 different companies. It will be a diverse line-up that will show which companies are worth looking into further, and those that aren't. I chose smaller companies that specialize in, and intentionally deal in non-GMO products, as opposed to larger seed companies that seem to treat a non-GMO lineup as a happy accident.
- 2) Other than the plot, our one corn field this season, 150 acres, was planted between 3 different hybrids. All are non-GMO. 2 are from Pioneer and have GMO equivalents that we've had good luck with in the past. Another is relatively new to us from a moderately sized seed company, called Wyffels. They appear to have a strong non-GMO lineup. Corn population is an interesting subject and varies by hybrid and by year, and recommendations are all over the board. As the beginning of a multi-year, multi-hybrid study, we started a population trial this year. There are trials for each of the 3 different hybrids (with 2 replications each) at three different populations: Low(28k), Medium (32K), and High (36K). From this, I hope to see a general trend that guides our future planting rates and how they react based on hybrid, soils, and weather.
- 3) We also did a few acres of biological products with our in-furrow starter. I tested molasses, emulsified fish (which is just as pleasant as it sounds), and a combination of the two. I'm looking for early season plant health and germination, and differences in yield. I will be doing a few drone flights soon, and will include those pictures in a future update.
- 4) The final trial we've done is on skip row corn. This is based on the fact that we are really farming energy from the sun and that sunlight reception is very often a limiting factor. We're really just testing out the concept and feasibility. With this method, on a certain interval of rows, a row is omitted to allow for maximal sunlight penetration into the canopy (picture included for clarity.) For example, where there would be 4 rows normally, one is not planted but populations are increased to account for the missing row. The extra plants are easily supported by the extra sunlight. We did a 3 row, skip 1 pattern for a single planter pass. The idea is based on a research company called Cedar Valley Innovation (www.cedarvalleyinnovation.com). They've tested several row configurations and have found that the same yield can be reached even when planting 60" corn. They've utilized the increased space between rows for low height cover crops that could increase nutrient availability and could have a significant impact on weeds, diseases, and insects. We would also consider trials of 15" row corn in the future. Producers on 15" typically only do one herbicide pass at planting and canopy occurs quickly enough that weeds cannot compete negating a second pass. This would be coupled with a slight yield boost from better spacing between plants, so profit could be significant. Obviously however, equipment cost is a huge consideration for this system.

Next update will be in a couple days and cover our new side-dress method and some comments about nitrogen in general. This year we've moved to variable rate nitrogen application, so I'll explain a bit of that.

Frank