



Hey everyone,

This update will be on our wheat crop and our plans following harvest. This is our first wheat crop, so it's a new experience for us. Wheat's early harvest gives several different options for the rest of the growing season, so we're trying several different practices.

Intro

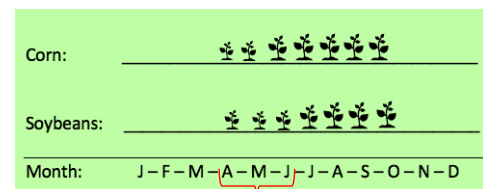
As I've mentioned in a few updates, we decided to grow wheat for this season and currently have 140 acres ready for harvest (provided it stops raining everyday). The crop had the misfortune of several weather extremes; wetter than average fall, colder/longer than average winter, followed by unseasonably hot and dry weather during grain fill. Before this, the wheat was doing exceptionally well...until the hot/dry weather during grain fill. Weather extremes plagued many wheat growing areas and yield reports around the country are incredibly variable...so we'll see. Our area's average yield is about 100, which in the future I think is easily attainable, just not sure what to expect this year.

Wheat can have some huge benefits for the rotation as a whole in terms of soil quality, disease pressure, weed seed bank reduction (see sidebar), pest populations, and a slight yield increase to other following crops in the rotation, as found by U of I research.

Plans after Harvest

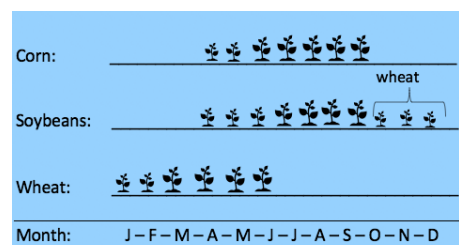
Options after wheat harvest are either double crop soybeans or cover crop mixes. Double crop (DC) soybeans give the option for extra income after wheat, with the added risk of increasing soybean disease and pests over time. Options after wheat harvest are either double crop soybeans or cover crop mixes. Double crop soybeans give the option for extra income after wheat, with the added risk of increasing soybean disease and pests over time.

Rotation and Weeds



The above picture shows our typical rotation. The weeds we struggle with are summer annuals. They emerge with the crop, have the same lifecycle, similar nutrient requirements, and are becoming adept at withstanding herbicides used in those crops. The smaller plant icons indicate that the crop is less competitive at this stage.

When most of our problem weeds germinate



When a winter annual crop is added, it completely changes the weed landscape. During the time when most of the most aggressive weeds are germinating in corn/soybean fields, a full wheat crop is suppressing weed growth, breaking weed cycles.

I tend to shy away from DC soybeans a little due to the disease buildup potential. While DC beans is not always successful due to weather, when conditions are right it can be very profitable.

Another option is cover crop use. While a corn/soybean rotation limits cover crops to shorter season and overwintering options, wheat allows the use of completely different species and lifecycles. They can produce amazing amounts of nitrogen and bring nutrients to the surface for following crops. Following are the things we're trying this year:

Option 1: On one 7 acre piece, we spread red clover into the wheat in early spring. The clover has germinated, was dormant during wheat growth, then will resume growth after wheat cutting. It grows through the rest of summer, overwinters, and grows until we terminate it before planting corn. As a legume, it will produce a lot of nitrogen for the following corn crop. This greatly reduces needed fertilizer.

Option 2: Cover crop mix. On ~100 acres, an aggressive 13 species mix will be planted and help condition the soil. These are by far our toughest soils and would greatly benefit from some diversity, organic matter, and heavy root growth. Since most nutrient availability is driven by soil biology, a diverse plant mix can have an amazing impact on the overall health and productivity of the soil. We'll be sure to include root pictures when it gets going.

A mix will have:

- some nitrogen producing legumes, some of which will overwinter and grow in spring, producing nitrogen.
- deep rooted plants such as radishes and sunflowers are known for breaking compaction and bringing nutrients up from areas unavailable to shallower corn/soybean roots and making channels for easier crop root growth.
- Shallow, fibrous rooted plants to loosen topsoil, support insects, and provide some tilth.

On a related side note, we have virtually stopped erosion (which is incredibly costly) with our rotation and use of cover crops. Terraces are installed in several of our fields by the Natural Resource and Conservation Service (NRCS) in the field to slow water movement and prevent erosion. While they have great benefit when needed, they make field operations awkward, greatly increasing field operation time and cost with overlap of fertilizer, seed, and herbicide. The same environmental engineer who decided our fields needed terraces decades ago still works at NRCS. He informed us recently that our practices have dropped erosion risk so low, that the terraces are no longer necessary. We're terribly excited to get them darn things out.

Frank