



“Planting green” is becoming popular in many parts of the United States, including the Northern Great Plains. This is a concept where you plant a cash crop into a living cover crop and then terminate the cover crop. This is primarily done using cereal rye planted the year (fall) before soybean. Some farmers are trying this before corn, but I am NOT recommending this approach yet for this region until we know more about the potential yield response of corn. There are many different reasons that farmers are “planting green”, but the main reasons are to: 1) reduce soil losses to erosion, 2) control weeds, 3) improve trafficability on wet soils and 4) build soil health.

There are always risks, so I want you to consider a couple of things before you hop on board with this concept. Here we go:

- 1) we are still learning about benefits and the potential set-backs
- 2) this is NOT a RMA approved approach and may result in you not being able to claim crop insurance for that field
- 3) in a dry year, cereal rye can be a water hog and use more moisture than you want it to
- 4) pest issues may occur because you just changed the soil environment and made it more habitable

Now that I have talked you out of this approach, let's talk more about what we are seeing that makes a guy want to try this!

Erosion Control – keeping the soil covered with either residue or a crop is the best way to keep your soil in your field. Going into a potentially open winter and commonly observed dry, windy spring with this type of cover will protect the soil much better than leaving it bare.



PLANTING SOYBEAN INTO CEREAL RYE – OBSERVATIONS

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If you are wanting to try “planting green”, here are some ideas for getting started.

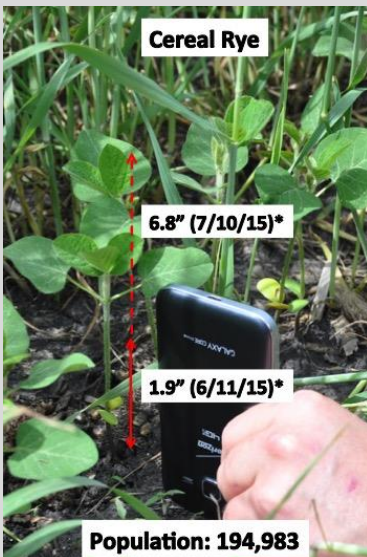
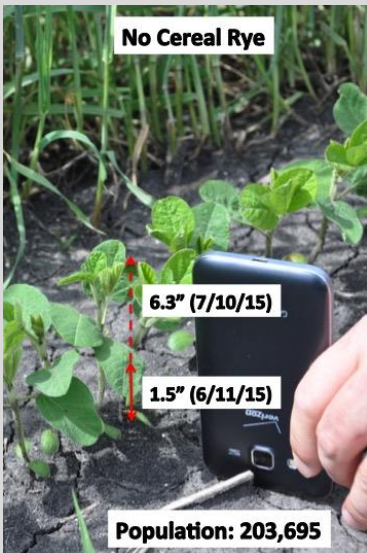
-planting cereal rye after a small grain. Let the volunteer small grain re-grow and plant cereal rye into it.

-flying on cereal rye into corn. Establishment may be an issue, where the rye grows better in wetter parts of the field. But that's a good thing since those are the problem areas. Be careful flying on rye in areas of wheat seed production.

-interseeding into corn. You can include radish when you do this to break up compaction.

-most are using between 30 and 60 lb/ac rates. I have been trying 40 lb/ac as a starting point.

Soybean planted in cereal rye vs. no cereal rye – Soybean parameters were measured for the same field where the weed pressures were measured. In general, we found taller soybean plants with the same population of plants in cereal rye vs. no rye. Yields were also the same between treatments – 38 bu/ac when planted into cereal rye vs. 39 bu/ac without cereal rye.



Weed Control – cereal rye has an allelopathic effect on some weeds and provides competition in the early spring, making it a “mode of action” in addition to herbicides. In 2015, we measured weed pressures on a field with and without cereal rye “planted green” to soybean. On this field, we had 6 cereal rye and 6 non-cereal rye strips that were field scale. Results are in the table below – basically, even though the number of weeds per acre were the same, the biomass was greatly reduced in the cereal rye strips. When the cereal rye was terminated with glyphosate after the soybean, the weeds were also terminated.

	No Cereal Rye	Cereal Rye
Weed Number (per acre)	184,421	182,398
Weed Biomass (lbs/ac)	22.8*	2.6

* indicates significantly higher value

Improved Trafficability – having a living root to drive on in the spring can be a big deal for field access. Think about it – when you are driving down a trail, do you drive on the grass or on the bare dirt when it’s wet? It’s the same for an ag field in a wet spring. Having a living root may make the difference between field access and prevented plant on some of your wetter fields.

Build Soil Health – having a living root in the soil for as long as possible is a key to improving many of the soil properties associated with soil health. For example, the fibrous roots of cereal rye are great for wrapping around soil particles to form aggregates. The roots are also important for creating root channels that help to improve drainage. Microbial communities that cycle nutrients and improve soil function are found in close proximity to roots, so the more roots you have the more microbes you have.

We are getting more information to validate what we are seeing. In 2016, we have two sites we are working on where we have “planted green” and are measuring weed pressures and yield response (Sargent and Richland Counties). Plus another two studies where we are measuring only yield response (Traill and Grand Forks Counties). We continue to setup studies in other counties this year where we will plant green in 2017. We hope to use this information to help refine RMA Guidelines and develop best management practices for North Dakota. Again, information in this fact sheet is based on personal observations.

So, stay tuned...