Rademacher Farms Newsletter

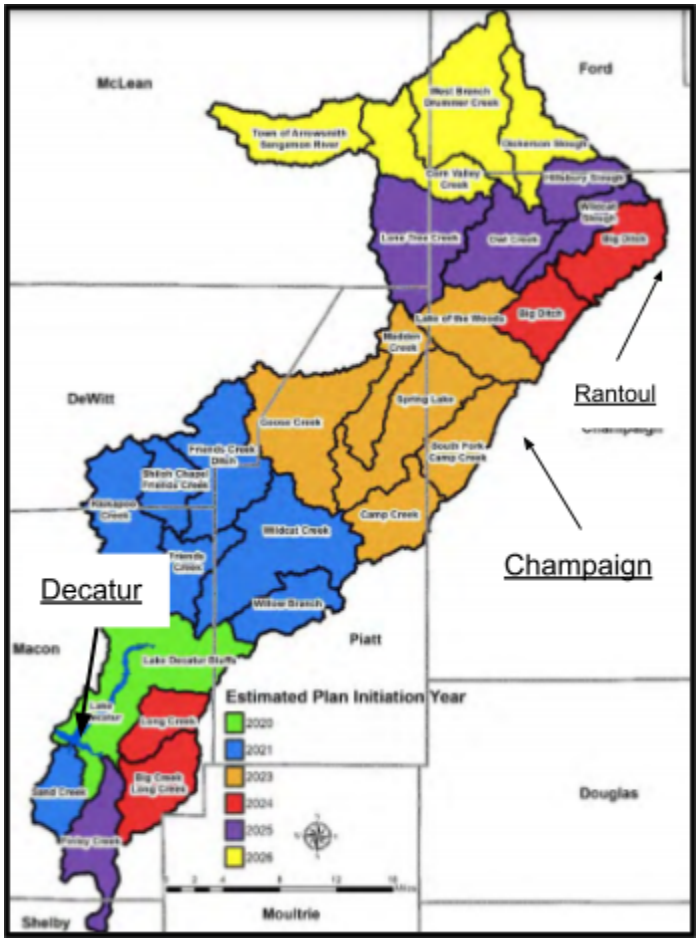
Newsletter 1 - We're Back!

April 2021

Since we haven't planted yet, I thought I'd take this opportunity to explain a part time job I recently started. I've taken up a project consulting role with the Champaign County Soil and Water Conservation District. The project I'm working on involves part of the Lake Decatur Watershed. First, some background:

"Watersheds?"

Most probably aren't familiar with the term watershed. Essentially it's all the land around a body of water. In a watershed, the slope of the land and network of ditches all eventually end up draining into the main body of water for that watershed. Large watersheds, like a lake watershed, can be broken down into smaller watersheds. For example, say 3 rivers drain into a lake. Each river has its own watershed. The lake watershed is a combination of all those smaller river watersheds.



The map at the right is the entire Lake Decatur Watershed plus some cities I added for reference. The colored blocks are all the smaller river watersheds that make up the lake watershed. My territory is the red areas at the upper right by Rantoul. The entire Lake Decatur watershed is 925 sq miles, while my territory is about 40 sq miles.

The Problem

My little corner of the Lake Decatur Watershed has two big issues:

Issue 1) Losing nutrients, which end up in a drinking water supply. As the water supply for Decatur, water is taken from the lake and processed to meet drinking water standards. Part of that process is removing fertilizer that started off in fields, but washed into the rivers and lake. The cost for just this nutrient removal is ~$200,000/year. My small territory needs to reduce Nitrogen loss by ~15% and Phosphorus fertilizer loss by ~75% to meet standards.

Issue 2) Losing a lot of soil, which fills in the lake. Lake Decatur was recently dredged to remove sediment that accumulated since its construction. Removing that sediment increased the lake volume by 30%, but cost over 90 million dollars. The lake is filling back in at a rate that would cost ~$1million dollars worth of dredging per year. My territory is losing an estimated 16,310 tons of soil per year. Which is 32,620,000 lbs of soil lost per year. And just to drive that home a third time...they are estimating my territory is losing over 32.5 million pounds of soil per year. Yikes.

The Solution

Based on analysis from an independent environmental consulting group and the EPA, the primary strategy we have funding for is…*drumroll*...cover crops. Essentially, we will pay a large portion of the cost of seed, planting and maybe even spring termination, of cover crops. Phosphorus, the nutrient we need to reduce by ~75%, is primarily bonded to soil. Unfortunately the soil is leaving fields in this area at a rate of 32.5 million pounds per year. So if we stop the soil, we can stop the Phosphorus. Nitrogen is lost directly dissolved in water, so we need cover crops to take up the Nitrogen and hold it until the crop can use it, or allow more rain to soak into the soil instead of running off the surface.

I'm the "boots on the ground" doing outreach and agronomy support. It's going to be an uphill battle, but I've got a few strategies that'll hopefully encourage more adoption. There's huge costs being shouldered by downstream residents and countless other environmental impacts, not to mention the incredible value of fertilizer and soil that is simply washing away. I genuinely hope producers get on board, because to put it in terms of the "carrot and stick" model, we're in an ocean of "carrots" right now. For those wanting to experiment with conservation practices, there's funding options everywhere. But, if the "carrots" prove unsuccessful, then we'll start to see "sticks" via regulation and lawsuits.

As I drove around the territory yesterday to scope things out, it wasn't hard to see why we're running into some issues. Out of 27,000 acres, roughly 0.8% had cover crops, and almost none was no-till. On the bright side, it's not like there's a shortage of potential fields for our program!

Anyways, it's a great opportunity to help others learn and hopefully help make some positive change both environmentally and for the people affected downstream. Regardless of where you live, it's a topic you'll continue to hear about on the news for years to come since watersheds all over the nation are facing the same problems.

In Other News

Not very much to report other than that. Wheat is coming out of winter reasonably well. It's a bit blotchy, as areas with a bit more freeze damage still need some time to even up a little. The progress over the last 2 days has been amazing though. A bit of rain and continued sun will go a long way.

Cover crops before corn are a bit thinner than I'd like, but like the wheat, are catching up quickly. Cereal rye before soybeans is looking excellent and I think we'll have great results this year. (PS In the 2 days since I've written this newsletter, both wheat and cover crops are looking 100x's better. It goes to show how quickly things come back to life this time of year!)

Next newsletter will cover planting time and include pictures of the different species we had this year. We have high hopes for the season and are looking forward to sharing!

Frank