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Adapting to Wet Spring Planting

Wet springs and planting in June have almost become a "normal" occurrence. The last three decades, rainfall precipitation averaged 32 -36 inches for most of the Midwest (not counting Lake effect precipitation) but averaged over 50 inches the last four years and may be heading towards 60 inches long-term. Good soil structure, well drained soils, and timely planting are critical for getting goods yields. Here are some changes that may improve spring planting.

First, structural soil stability is a key to good planting conditions in wet years. Dr. Sjoerd Duiker, Penn State University conducted a simple soil structural experiment. He filled a grain truck and ran across four fields. The first field was conventionally tilled, and the truck make 6-12 inches ruts. The second field was a 1-year no-till field resulting in 3-6 inch ruts, then a 2-year no-till field (1-2 inch ruts) and finally a long-term no-till field where you could barely see the tracks. No-till farms have structural stability that bear traffic and yet allow the soil to infiltrate water with better drainage.

Some highly "technical" terms may help you understand the difference in soil structure. Long-term no-till soils are "firm" when wet and "soft" when dry. Conventional tilled soils are "squishy" when wet and "hard as a rock" or like concrete when dry. If it started to rain while planting in tilled field, most farmers quit immediately because the mud starts flying and the equipment gets gummed up. In no-till with a grass cover crop, the roots and soil organic matter have greater soil structural stability to allow better equipment traffic. Last year, with almost constant light rains, several farmers with no-till and cover crops at the end of May continued to keep planting. If wet springs continue to persist, this may become the new "norm."

After almost 15 years of using cover crops in the Chesapeake Bay, Maryland farmers noticed they can plant 5-10 earlier than in previous years due to structural stability. Live cover crops through transpiration remove .25 inches of moisture daily and add additional soil organic matter for better water infiltration and improved structural stability. Tillage removes about .5 to 1.0 inches of water per pass, but destroys structural stability, creates hard pans, and reduces water

infiltration and drainage. Tillage also requires more equipment, higher horsepower and takes more fuel and labor to get the soil ready for planting.

Here is a cover crop and no-till challenge! If 2020 results in a wet spring, go out and check your fields for structural stability. To see if fields are fit to plant in clay soils, the old method was to squeeze a ball of soil in your hand and wait to plant until you cannot make a mud ball. Last year, there were opportunities to plant earlier, but soil conditions were not quite "perfect", so many farmers waited. If you have a no-till field with cover crops, you may have an opportunity to plant earlier than you think, so give it a try. Send me all the pictures of tillage farmers who get stuck trying to plant once they see you planting. It happens almost every year!

Wetter springs and fall weather may dictate changing crop maturities, so a second strategy is to plant earlier maturing corn and soybean varieties. Ohio State University research by Dr. Peter Thomison shows that high yields are correlated with moisture at pollination. Planting earlier maturing varieties may result in higher yields (more moisture at pollination) with less grain moisture. Harvesting early may even result in a $.25 to $.30 corn premium for early delivery. Farmers are often reluctant to utilize this strategy because there are a lot of "low yielding early varieties". Dr. Thomison found that the top 10% of early maturity varieties yield the same or better than the top 10% of late maturing varieties. Select only high yielding early varieties with the same characteristics (fast emergence, lodging, pest resistance, etc) as longer maturity varieties. Harvesting 7-10 days earlier allows for earlier planted cover crops with deeper roots to survive the winter. Live roots absorb soluble nitrogen and phosphorus, keep the soil in place, and add soil organic matter for improved soil structural stability, water infiltration and better drainage. While we cannot predict the weather, we can start to plan and take action to improve our chances for successful future planting and harvesting operations.