

Local Solutions - Promises Delivered

COMPACTED SOILS THIS SPRING?

Brian Denning - Stewart Seed Agronomist

Wet soils this fall while taking out the crop resulted in many fields looking rather ugly and prone to serious problems come next growing season. Soils that have been compacted can produce many effects, and they all take a toll. Reduced root penetration, reduced water and air movement and overall reduced plant growth can cause nutrient stress and slow emergence which ultimately can cause yield loss.

An interesting fact as you look at soil properties and potential compaction issues is that a very wet soil will not compact as much as a moderately moist soil. The reason is because in very wet soils, the pore spaces are mostly filled with water, not air. Water cannot be compressed and as a result, it can "carry" some of the soil load, resisting compaction. A dry soil on the other hand, has mostly air in its pores, which creates friction and resists compaction as well. The trouble lies in soils with both air and water. The water acts as a lubricant and makes the soil easier to compact.

Soil type and structure also plays a role. All soils can compact, even sands. The key is soil particle size. Soil particles of the same size will compact less than those with many different sizes. The smaller particles in these soils can fill pore spaces in between larger ones creating a dense soil. Organic matter helps soils keep structure and can resist compaction. It creates larger and stronger soil aggregates.

For fields that have compaction issues, and were not able to be ripped, what are issues that could arise this coming growing season? Chief among these are rooting problems and stunted plant growth. Shallow, horizontal root growth can result in drought stressed plants earlier. These stunted plants can also be nutrient stressed, especially potassium, because of the inability of water to facilitate movement into the root through diffusion. Nitrogen may also be more prone to denitrification in dense soils because of a lack of oxygen in the soils.

What can I do this spring for fields facing these issues?

1. Fill in any ruts with a light tillage pass at an angle. These areas may not produce as well as non-rutted areas, but there's not much you can do to avoid this.
2. Avoid running deep tillage (12"+) in wetter soils. This will only smear soils and will not break compaction as intended. You will be wasting time and money if you don't wait until soils are dry to perform this function.
3. Vertical tillage has become more and more popular for its soil drying and less compacting features. It can be a good option when you have shallower ruts and just want to level the ground before planting.
4. Address fertility issues. Soils on the low side will show deficiencies even quicker in compacted soils. Pay special attention to potassium levels. Adequate potassium will help with plant stability and stalk integrity which are challenges in dense soils that restrict root depth and spread.
5. Consider selecting hybrids for compacted fields that have above average root and stalk strength.
6. Address nutrient availability issues by possibly banding P&K, using starter fertilizer, and side-dressing nitrogen to reduce denitrification issues if wet soils develop.

The bottom line is these fields have the potential to lose yield depending on the growing environment. Limiting the damage and then addressing any tillage needs next fall will be our best option.

Sources: *Soil Compaction. Problems and Solutions*. 1996. Kansas State University. AF-115

AN INTERVIEW WITH BAUTE FARMS: PART TWO IN A SERIES ON ROW SPACING

Kip Featherston - Stewart Seed Agronomist



American Farmers once again set a new record for the national corn average yields in the fall of 2009. "We've proven to be pretty good at breaking down barriers!" As an Agronomist for Stewart, I recently visited with John and Seth Baute to discuss the new Monosem® planter they purchased this spring, and their impressions on twin rows.

John's first experience with seeing twin rows was on a trip to California in 1984. In that area, sweet corn and several other crops were all planted in twin rows and it peaked his curiosity. In 2005, he saw more twin rows being planted locally. The accuracy they saw was the draw for them purchasing a Monosem® twin row planter. They were quick to tell me "Don't buy it, just because you think it will pay for itself in the short term". Seth showed me his yield maps on some farms where the 16 row 30 inch planter yields were compared to the twin row planter yields. Yield maps confirmed an advantage with twin rows that demonstrated promising results. They want to see more data from next year's yield maps to confirm what looks to be a positive response to twin rows vs. 30 inch rows.

The greatest surprise for them was twin row soybeans. The yield bump was there compared to both 30 inch rows and drilled beans according to field maps. Spacing was great and will allow them to seed lower rates for 2010. Harvesting was nice compared to drilled beans.

There were some challenges. Sidedressing Anhydrous in a wet spring! 18.4 tires were ok at the 4-5 leaf stage. After that, they used 14.9 tires which really made it much easier to run taller corn as the season progressed. Harvesting corn with their 30 inch row head was not a problem.

The twin row plots did help them choose some products for 2010. This past crop year was an unusual season, and John & Seth are looking forward to seeing more data to confirm what looks to be a wise purchase.

In a recently published Monsanto Research Summary based across 20 locations, the twin row system averaged 3 bushels per acre greater yield compared to 30 inch rows. Twin rows had a win percentage of 80%, as a result of higher yields at 16 of the 20 locations.

If you would like a copy of this Research Information please call one of our District Sales Managers.

We salute the American farmer for the many innovative ways to accelerate profit potential on the farm and we at Stewarts are proud to help along the way.

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SEED TREATMENT READY - SET - GO!

Paul Brautigam - Stewart Seed Agronomist



In the 1600's, salt soaked wheat from a shipwreck, was brought to shore. Hoping to salvage some value, it was planted. Surprisingly, the crop showed very little smut compared to nearby fields. Soon, planting wheat soaked in salt water, became common. The "seed treatment" era began!

Today's growers are planting earlier and reduced tillage is common. Cool, wet soils challenge seed survival. Favorable growing conditions rarely arrive as soon as we'd like. What can we do?

Seed treatment is designed to protect the germinating seed, allowing it to produce a healthy, vigorous plant. As soon as the seed is planted, a multitude of pathogens and insects attack. Attacks from seed rots include Phytophthora, Pythium, Rizoctonia and Fusarium. Attacks from soil insects include grubs, wireworms, seed maggots, Grape colapsis, rootworm larva and others. Attacks on emerged seedlings include cutworms, flea leaf beetles, bean leaf beetles, and aphids. It's a fight for survival!

Systemic plant protection is also improving with next generation treatments. Insects, diseases, and nematodes not previously stopped are on this list.

These newer products also boost season long plant health. To "seal-the-deal", polymers to help accurate planting, safety, and targeted delivery of the treatment compounds.

Stewart is a leader in seed treatments. In recent years, PolyKote® and SecureKote® improved plant establishment giving increased yield potential. Now, next generation Acceleron™ seed treatment products give additional disease & insect protection as well as a plant health boost. In 2009, Stewart was part of an independent network, across a wide range of environments, with 70,000 corn and soybean plots. This data will be used to evaluate current and future Acceleron™ seed treatment products.

Years ago, seed treatment was sometimes viewed as "foo-foo" dust with exaggerated claims. Today, it is a known contributor toward consistent, high yield potential. Acceleron™ seed treatment products fit our Stewart goal, "Local Solutions – Promises Delivered".

Acceleron™ seed treatment products . . . to help your seed get the best possible start.

SEED TREATMENT - READY SET GO!

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