

From the Ground Up



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Recent Study Indicates Yield is Major Component to Profitability

Using crop enterprise data from actual farm producers in the Kansas Farm Management Association for the three years of 2011-2013, Kansas State economists compared high-profit, mid-profit and low-profit farming operations. They compared fixed and variable costs, yields, and pricing to see what factors had the greatest impact on profitability differences among the groups. They found that price, although important, was not the dominant driver as to why some operations were more profitable than others. Yield was the dominant factor as to why some farmers make more money than others. The higher yield was not related to one farmer catching a rain whereas others didn't. The higher yields were just because some farmers did a better job than others at getting higher yields. This may have been from better hybrid selection, better timing of operations, newer technology or other decision making that doesn't necessarily increase the costs of operation, but can greatly increase yield. This study also agrees with the research completed by Fred Below at the University of Illinois. He found that high yield management netted an additional 52 bushels in one location and 66 bushels more in another location over standard management. This was doing things such as adjusting populations, using correct hybrids, splitting nitrogen applications and using fungicides.

Costs are also important and they found that producers can achieve good yields without having excessively high costs. One cost that was lower among the more profitable was machinery cost. This may be economies of scale. The larger farmers tend to spread their equipment costs over more acres. Having bigger equipment may have allowed for better timing of operations also. Also maintaining their existing equipment so that it is ready to go when field conditions are ready is critical to reaching good yields.

We often times focus mostly on costs, but the bottom line is that we need to produce the high yields to reduce our per bushel costs. Soil Solutions want our customers to be all in the most profitable group. We offer many services and products that help improve your yields giving many times more \$\$ in return than \$\$ cost. Give us a call and discuss with us how we can work together to increase your yields.

Gypsum and Tiling Complement Each Other

Researchers from South Dakota State University have noted that based on soil analyses at least 7.6 million acres are affected by high sodium levels. "Soil high in sodium looks like concrete, and water will not flow into the soil profile. So, when an area gets 2 to 3 inches of rain at a time,

water comes off fast and causes extensive erosion”, said one specialist. “The soil is sticky when wet, but forms hard clods and crusts upon drying.”

“Drainage is needed for improved soil health, but tiling alone won’t fix the problem. If producers use tiling, they will need to add amendments to the soil. Adding gypsum can help displace sodium in order for it to be leached into the soil”, they noted

If drainage tiles are installed in soils high in salts without also applying amendments the salt will leach leaving behind the sodium and will cause the soil to become tight and tile drains will most likely quit working. We have found that soils high in magnesium work similarly. By adding gypsum to these soils you increase the calcium level. The calcium will displace the sodium which will react with the sulfate ion and be leached out of the root zone. We like to lower the water table and the salts to a depth below 3 to 4 feet. Once water table is lowered, natural rainfall will leach the salts.

Soil Solutions offers both gypsum and the installation of drainage tiles. One of our customers noted that the tiles we installed did not work properly until we applied gypsum to the surface. Since both operations have occurred, this field has had no water ponding on his fields.....the first time he can recall seeing this. We have also observed that installing drainage tiles require much less horsepower in fields which have a history of gypsum applications. If you have interest in gypsum applications or installing drainage tiles give us a call.



Surface Drainage is also Important!



Internal drainage is critical for maximum production, but equally important is surface drainage. The sooner you can get excess water to drain from your fields the faster you will reintroduce oxygen back into the soil which is critical for root growth, microbial activity and other soil functions. Installing or maintaining

surface ditches in fields is usually the fastest means of getting rid of excess water. Often surface drainage means the difference of producing a crop in low areas of a field or drowning out and having zero production. Soil Solutions does provide the service of surface ditching for producers in the Onawa, Iowa area. Re-shaping terraces and waterways, or simply cleaning out drainage ditches in fields can all be done using our Wolverine Rotary Ditcher. If we can improve your fields give us a call.

Gypsum Helps Keep Phosphorus in The Fields

As expensive as phosphorus fertilizer is, farmers want to keep as much as possible in their fields. Recent research conducted by The Ohio State University and Greenleaf Advisors, LLC has shown that gypsum treated plots reduced the amount of soluble reactive phosphorus leaving the field by 55%. By creating a better soil, gypsum also reduces the amount of sediment phosphorus leaving the field. In other studies, and on our own farm we have seen that water coming from tiles and water from field runoff is much cleaner where gypsum has been applied. See picture to the right. See the difference in the amount of sediment in the jar where gypsum was added to the soil. Gypsum helps clay particles clump together so they do not become suspended in the runoff water.



Less phosphorus leaving fields means more phosphorus available for crop production plus less phosphorus entering streams and lakes causing environmental concerns such as algae blooms. Gypsum benefits not only include increased yields, better soil conditions and less water runoff, but also cleaner water leaving the field.

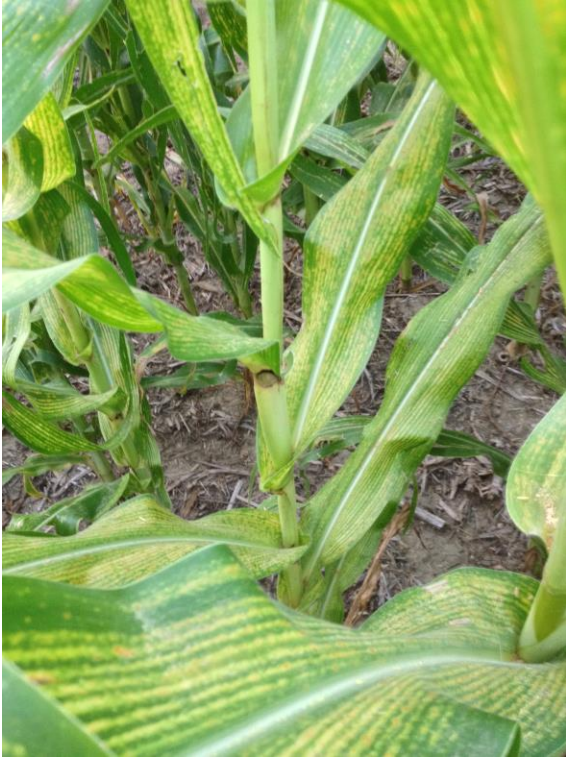
Sulfur and Nitrogen Deficiencies are Showing Up

This is the time of year when we generally see nitrogen and sulfur deficiencies show up on the hillsides in many fields. What causes this? The most common cause of these light green and yellow areas is sulfur deficiency, but it could also be nitrogen or one of the micronutrients.

Usually these are the areas of the field where the organic matter is lowest or the clay content is higher which decreases rooting depth and also aeration. This decreases nutrient



availability. The best way to determine for sure what is causing it is to take a leaf analysis and pull a soil analysis from the same area. If you see a plant with interveinal chlorosis like the



picture below it could be caused by about a half dozen factors so plant analysis usually is best to correctly evaluate the symptoms. Plant analysis of the corn to the left indicated that the sulfur and boron levels were both deficient. Visit with us to discuss fertility programs and soil amendments that can be used to help alleviate these areas in your fields. Give us a call at 712-433-0000.

Fall is Just Around the Corner

It won't be long and harvest will be here. We are beginning to get producers calling to line up their fields for PRO CAL 40 gypsum applications. Every year we have customers who are disappointed because they were not able to get their PRO CAL 40 applied either because we run out of product or out of time. To avoid having this happen to you give your local retailer a call and get your PRO CAL 40 application scheduled so they can plan accordingly. If they do not currently have the capability to apply PRO CAL 40 have them call us and contract with us to have it spread. Remember, high yields begin with the soil. Improve the soil and the yields will follow!!