

August 27, 2018

“Accessing Innovation”

On the Lookout From the Field: Jeff Williams

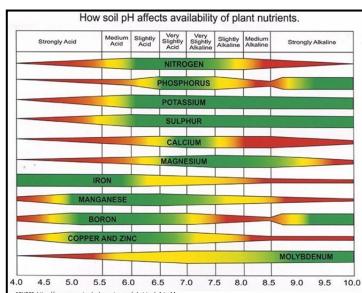
Recent field visits have raised the prevalence of stalk rot showing up in the area lately, found in both corn and beans.

In Corn: Extended hot and dry periods followed by abrupt weather changes have created a perfect environment for stalks to deteriorate. Doing a simple push or stalk pinch test will reveal the risk of lodging, showing which fields should be a harvest priority. Plant responses to hot and dry stressors allow the mobilization of sugars from the stalk to the ear, thus reduced sugars contained in the stalk cause disintegration of the pith cells. Earlier planting dates and higher planting rates seem to be at a higher risk of lodging (this fall) due to timing and duration of dry conditions. Another concern is grain storage – getting the stored crop dried and cooled down to minimize losses in the bin.

In Beans: Charcoal Rot (Dry Weather Wilt) — Heat and drought stress, in most severe cases, will visually exhibit yellow stunting. This can be mistaken for sudden death syndrome, brown stem rot, or other stresses at times too. Foliar fungicides are often ineffective with Charcoal Rot, as the infection occurs at seeding stage — until environmental stress occurs (R1-R7 stages), then symptoms start appearing. Genetic resistance is also limited, with a prevalence ranging between 3.7 and earlier maturing beans, due to later flowering in soybeans.

Nutrient Availability & Importance of Soil Fertility: Clayton Hora

pH is an integral part of nutrient availability to plants. Every nutrient has a different optimal range where it is most available to the plant. This is why managing pH through grid sampling and liming is so impactful on yield. Soil pH has several direct and indirect factors on plant growth and nutrition such as:



- Al and Mn can dissolve in rates that are toxic to plants if pH is lower than 5.5. Al is solid and not harmful to crops, but Al dissolves 1,000 times more at 4.5 than 5.5 so a small shift below 5.5 can quickly cause Al toxicity.
- At higher pH some nutrient availability decreases. Phosphorus can revert to less soluble calcium phosphate. Zinc, copper, and boron availability also decreases in high pH soils.
- Many soil microorganisms are also affected by pH, these microbes decompose organic matter and release N, P, and K. The microbes that can carry plant diseases and breakdown herbicides are also affected by pH change. Generally, fungi are active in acidic soils and bacteria are more active in neutral or alkaline soils.

- In acidic soils the bacteria that help soybeans fix N can be impaired
- Root growth and development also are affected by pH and can prevent the plant from physically accessing the nutrients and water in the soil

Precipitation and parent material, among other factors outside our control, are all influenced by pH. Though some of these factors are uncontrollable, here are a few points we can control including the following:

- Crop removal of Ca and Mg causes acidity to develop. 180-bushel corn removes 18lbs of Ca and 16lbs of Mg while 20-ton corn silage removes 35lbs of Ca and 40lbs of Mg per acre. Legumes remove more alkaline nutrients than grass crops do.
- Nitrogen from fertilizer, decomposing organic matter, manure, and N Fixation by legumes all produce acidity. Each pound of N requires 1-2lbs of lime to neutralize the acidity. Nitrogen won't usually cause a rapid decrease in soil pH but over a period of time it can be significant.

Principles of Crop Nutrients. WinField Solutions, 2000.



Grain Market Update: Lincoln Hillyer

Grains reacted negatively this week as we confirm a large crop is on the way and export business fades away. The ProFarmer tour was this week and impressive crops were found in the much of the corn belt. Their final yield estimates for corn and soybeans came in relatively close on corn and surpassed the USDA's bean number. Do not expect the market to react positively to these results.

Other big news this week was the bean basis. Gulf values plummeted to levels not seen in recent memory, and that has backed numbers into the interior. The lack of Chinese business is really starting to show, something we don't need, as we most likely are looking at record production. If the ProFarmer results are correct, based on the current demand, we are looking at a carryout of 900 million bushels. That is definitely not a friendly basis.

As we enter harvest, please remember to inform us of any new splits you have. Also, please make sure to check tickets as you deliver, to make sure the information is correct.

It is a lot easier to fix mistakes when they happen as opposed to later. We hope everyone enjoys a safe harvest!

Click here to view Grain Bids!

Click here to check out our website!

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