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Watching Your Fertility Go!

Would you believe farming in 2009?

Man, buying fertilizer since last fall hasn't been easy has it? Gone are the stable markets for fertilizer of the past. Makes a person doubt their sanity, at times doesn't it?

Having been a fertilizer plant manger for 9 years in the past, and a DSM for a couple of other fertilizer companies more recently, and now as owner of LFB Solutions (a consulting organization), I would like to offer my thoughts on the issue of soil fertility and fertilizer use.

For many years, in fact since the mid to late 50's, this country has been into the building of "soil fertility" levels. Or at least that is what we like to call it. Actually, "fertility" doesn't necessarily have anything to do with it. High levels of nutrients in a soil do not necessarily make them fertile soils. High soil test levels in a soil do not necessarily make them productive soils.

On the other-hand, "fertile" soils are almost always productive soils. So what is the difference? One thing "grid" soil sampling has proven to us, the worst yielding area in the field, may be the highest soil testing area in the field. Just backward from what we had always been taught in college, or told by our local fertilizer manager. So it turns out that fertilizer doesn't always make for fertility.

So what makes for Fertility? The proper balance of nutrients in the correct place, at the proper time, the proper exchange of oxygen with the plants root system, and the healthy functioning of the micro-organisms in the soil. There are a lot more items than those to fertile soils, but those are the ones that are easiest for us to control.

A fertile soil doesn't need nearly so much fertilizer to produce the same yield, as does a "Dead" soil. The reason a "dead" soil takes more nutrients is simply that it doesn't produce, so we keep dumping more fertilizer on in hopes it will finally work.

In the last 20 years, I have seen soils producing record yields on soil test levels I was taught were impossible for respectable yields. How is that possible? First of all, let us recognize that hybrid corn produces much better today than in the past. Second the soybean lines and wheat lines are better, also. The weed control

has been better than at any time in our history. So those have all contributed to our success.

I feel a large part of that success has also come because we have paid a lot more attention to proper liming, which helps with oxygen exchange, and therefore, better nutrient availability. There has been a lot more tile put into the ground in recent years. That too has improved nutrient utilization through better oxygen availability to the crop. These improvements in soil aeration keep the soils from tying up so many nutrients in the soil solution. Two of the best ways to improve "Phosphorous" availability are to 1) improve the drainage, and 2) lime the soil to proper levels for the crop being grown.

If those 2 things improve the availability of "Phosphorous" without any further application of nutrients, it only stands to reason, you will either raise better crops, or your need for nutrients will be reduced. It also goes to show you that there is a lot more nutrients in the soil than we have been utilizing.

Let us take this in a little bit different direction. If we have been doing a reasonable job of maintaining soil test levels of nutrients in the past, we can in many cases reduce our applied amounts from time to time. Those nutrient levels do not change quickly under normal conditions. Just as it takes time to build soil test levels, they don't break down quickly, either.

If, as in this year, we find ourselves facing very high pricing of fertilizers, particularly Phosphorous and Potash, it might be prudent to reduce those rates of application this year, and bump them back up when fertilizer prices bear a better ratio to the underlying commodity crop.

If you have been in a build up mode for your fertilizer program, this year could be an excellent time to reduce your program to maintenance quantities, only. If you have been on a maintenance program, now might be the time to reduce the amount to ½ the normal application, or even to reduce it to no further applied P & K, unless in strictly starter fertilizer amounts.

Of course, in this respect, we must recognize that "starter fertilizer" means only amounts to encourage the early growth of the plant, until such time as the soil nutrients take over the function of supplying the plant with the needed nutrients. That usually happens as soon as the soil warms up properly to support a healthy plant.

One of the most efficient ways to get nutrients into the plant is through "banding" of fertilizer. Banding will allow the plant to access nutrients much more readily than if they have been broadcast, just because the banding puts the nutrients where most of the roots are in the soil. That in turn allows the plant to take in a higher portion of those nutrients prior to the soil tying those nutrients up in the soil solution.

Improving upon this efficiency even further is the possibility of seed placing some, or all, of you starter fertilizer. In my replicated yield trials over the 15 years I have done them, we usually see a better yield from 5 gallons with the corn seed, than we did with the same product at 15 gallons just 2 inches away from that corn seed.

Seed placing a few nutrients this year gives a whole lot better chance of showing a paying response this year, than does broadcasting this high priced dry stuff that is still on the market.

Sadly, approximately 75% of the seed placed products I have tested, don't do any better than using no starter at all. Of course, that is no worse than broadcasting P & K on high testing soils that doesn't pay either. At what point do you stop?

My opinion, only: If you have decent soil nutrient levels, and you are toward the south, I would drop the planter in the ground, and plant corn. Apply your nitrogen accordingly. Harvest your crop. If however, you have decent levels, and you are closer to the northern corn-belt, I would put some insurance in there in the form of a good seed placed starter fertilizer (3-5 gallons) with a good micronutrient package, Zinc for sure. Drop the planter in the ground, plant corn, add nitrogen, and harvest the corn.

You may have noticed I did not advise adding broadcast fertilizer. While total nutrients to raise a crop are necessary, most of you already have that if you have been on a good program. The above is my recommendation for a good crop this year with the current pricing, if you have been on a good fertilizer program in the past several years.

If however, you have already been cheating the program, you might want to reconsider my recommendations.

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