Agronomically Speaking . . .

Improving Agriculture Through Science & Nature

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Understanding Plants and Soils

As I am sitting at my desk writing this article I can safely say this has been the driest growing season that I can remember. We have been in this valley for 25 years and I cannot remember a year like 2015. I recall how exciting it was when we had an early spring and crops were planted pretty much on time. Soon it was obvious that the rain we were happy to avoid was going to avoid us for a long time. Such is farming: if you don't like change, don't farm.

Now we are starting to harvest some crops or preparing them for harvest. I want to examine the soil conditions and crop residue management for the 2016 growing season.

Obviously soil conditions right now are very dry. Even those fields that have irrigation are wet in the root zone only. The concern is when the late summer/early fall rains do come, the water will be more prone to running off the field and not soaking into the soil. It will take quite a few rains to get the soil profile where it should be if you are planning a fall grain crop.

Some of you will be tilling in plant residue from a grass seed crop or grain crop to prep the soil for fall planting or spring planting. It is always best to get the residue broken down as fast as possible for either fall or spring planting.

To aid in this, I would suggest an application of HumaGro's Fertl Humus, formerly known as Lase. Fertl Humus is designed to help break down the plant residue tissue as well as support the soil fungi that do all the work. If nothing is done to support this activity, soil fungi will do all they can but they will utilize residual soil nitrogen in the process. This leaves the grower in a nitrogen deficient scenario without knowing it. If they plant a fall grain crop light green streaks show up where the plant residue was broken down but the soil fungi used the soil nitrogen thereby depleting the nitrogen levels in those areas. This is where the Fertl Humus plays a very important part: with 24% nitrogen and 20% carbon (as Micro Carbon Technology), the soil fungi are promoted a great deal without losing your residual nitrogen. The rate would be one quart per acre if you spray it on grass or grain stubble and two quarts per acre if you are treating corn stalks. You will also notice more vigor in your fall seeded crops as young seedlings love active carbon.

These are just a few ideas to deal with our dry conditions this year and preparing your soil for a fall seeded crop. If nothing else, try splitting a field just to take a look. I think you will like what you see.

Harvesting

Rudy's Corner

I am certain that most people have heard the phrase "Turn out the lights, the party's over" referring to a famous Willie Nelson song. It has a fit in so many ways that life changes occur and I feel it has a fit here. This will be the last issue of Agronomically Speaking written by me. After 11 years of putting my thoughts, ideas, and suggestions on paper it is time to turn out the lights. Maybe down the road someone else may turn the lights back on. Who knows what the future might bring.

Allow me to do a little reflecting from one of our first few newsletters. In 2005 I did an article on the advantages of liquid fertilizer over dry fertilizer. With few exceptions, the local ag scene is still using the same dry products and many of the same formulations from 2005.

Also from 2005, I presented in the potato section the concept of stress, stress related problems, and how various nutrients can reduce stress. Stress in potatoes is still a big factor in potato production today. The cause of the problem is still here as are the methods used to curtail the problem. Some people have adapted to these methods and some have not. There is still time, if not this year maybe next year. Stress isn't going away!

With this being the last newsletter that I write, it doesn't mean that I am retiring. I may have a lot of miles on me, but I've got a lot of miles yet to go. I'll keep on going in this industry as long as it is still fun and I believe I can contribute something positive. Believe me when I say you will know when I decide to hang it up for good and that day is not today.

So last call! This will be the last newsletter written by me, but that doesn't mean a new format won't pop up in the future. Ag Tech Services will always have something to say and when we do you'll hear about it one way or another.

Potato Production

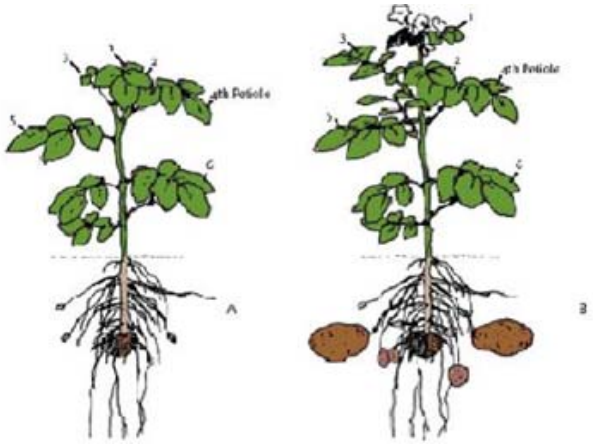
From the first day of the beginning of Ag Tech Services, we have been talking about the importance of petiole sampling. To illustrate why we feel it is important, let's look at the picture of the two potato plants at two different stages of growth.

THE STEM:
In this case this plant has one stem. Normally the plant will have multiple stems. Under the soil line you can see both roots and stolons coming out of the stem. The roots are for obtaining both water and nutrients and the tubers will be formed at the tips of the stolons. Above the soil line, it is easy to see the petioles coming out of the internodes of the stem.

THE LEAFLET:
The leaflet is the individual parts of the leaf. Photosynthesis takes place in the leaflet and then is transferred through the phloem tubes into the roots and into the stolons to fill the tuber. As you can imagine, there are many, many chemical reactions that happen every minute in the leaflet.

THE PETIOLE:
The petiole is the bridge moving the sugars from the leaflet to the stem and then to the roots and tubers. The petiole is also the storage unit for the nutrients that move down from the leaflet. The chemical activity is much slower so defining standards for nutrient levels in the petiole is much more reliable. Whereas you can't look inside the plant and identify every nutrient and the amount of each nutrient, petiole sampling was designed to take out the guesswork of plant nutrition. Some growers have their pet products or secret formulas that they like to use but without sampling how can you tell if you are getting your money's worth? There are those farmers who want to know and want to keep the nutrition level at optimum levels for optimum plant performance. These are the people who want to learn and they want Ag Tech Services to help them learn.

If your petiole analysis shows a deficiency, can you correct it with foliar feeding? It depends on the nutrient in question as some are mobile and some are not. Potassium, magnesium, phosphorus, and nitrogen are the phloem highly mobile nutrients. Iron, zinc, copper, and boron are somewhat mobile, while manganese and calcium have a very low mobility function. The main point here is if your petiole shows a calcium deficiency, a foliar application will only help the foliage not the tuber.



In my opinion not using petiole analysis is like never checking your blood pressure. In the end, it can sneak up and bite you.

Vegetable Seed

To say this has been a tough year for vegetable seed production would be a gross understatement. Between heat and no rain beets, spinach, and cabbage will suffer. You can see from the photos that the spinach looks like it took the hardest hit. But if you examine the beets and cabbage you will find a lot of small seed that will fly out the back of the combine. Maybe next year we will get some rain.



From left to right: spinach seed, beet seed, cabbage seed

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Fruit Production

From the onset of spring, it was easy to see that small fruit season was going to be early. What we didn't totally understand at the time was how good would it be. Because of the early season, spring schedules and fertilizer applications were a challenge but they got done. Then it was time to let them grow and see how it looks.

One thing we can say is that most of our fruit is bigger than expected and firm. These are two attributes you really want to see. There is much more fruit to be picked than has been picked so we can't really say much on yield.

For that only time will tell. But for right now, the overall crop looks very, very good.

As a side note, a very good idea for post harvest is a foliar application of boron or a high boron containing product. This is referred to as a hibernation spray. Basically, while the leaves are still green the plant is moving sugars down the phloem into the crown and roots. The boron treatment accelerates this progress so the maximum amount of sugar can be move before leaf drop.

Harvesting