

## *CROP UPDATE*

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Bob Streit  
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2177 200<sup>th</sup> St.  
Boone, Iowa 50036  
(515) 432-0907

So far it has been a spring that has left us guessing about ‘what’s next’? Will it be completely dry? Will we zero, one half or three inches of rain? Will we be wearing short sleeve shirts or winter jackets on Saturday? Meanwhile the forecast for the rest of the week is looking good with a chance that most of the farmers will be able to finish up on corn planting and many can do the same with soybeans. There will also be some spotting in or replanting of areas that either froze out or stands were reduced enough that yield potentials were lowered below what was deemed desirable. Conditions in central and northern Iowa look quite good, while those in NE and SE Iowa are still wet enough that making cropping progress has been challenging.

### The Freeze

Many farmers and agronomists spent time of their knees this past week as they were assessing the impact of the sub freezing temperatures that came over the Mother’s Day weekend. That typically is not a big event, but with the earlier than normal planting and crop development stages it was different this year. When it has happened in recent years the cold air arrived along with a high pressure front and it remained dry. Thus the plants could easily be scouted and stands diagnosed. This year the following week remained wet, cloudy, and cold. That was not the perfect weather in which to examine the crops and for doing any remedial work. As a result it wasn’t until this past Monday and Tuesday that one would make good determinations as to stands and which plants were going to live and contribute to yield.

What we have tended to see is that most of the frost nipped corn plants were going to survive. The little regrowing stumps finally put on the 1” or more regrowth that moved the cut tissue above the soil surface, where they were prone to bacterial invasion. Many of those nipped plants had leaves that were whorled together and still tied up at their tips. In past years continued growth and a few breezes contributed to those leaves unfurling and the plants growing normally. If you are scouting any of your fields and find that the small regrowing plants are now in that 1 to 2 inch of new growth category they should be safe for the near future and will be productive.

I went through picture files taken in previous years and found shots I took in 2005 of frozen plants and what they looked like anatomically. What we found that year is that the fast emerging hybrids placed their growing points closer to the soil surface, thus were more vulnerable to freezing injury, especially if the soils were looser or the seeds had been planted shallower in the soil. If those seeds were planted shallower due to soils that were compacted in spots, making the planter jump, their sprouts were sometimes rotted by the soft rot bacteria that had invaded and moved downward towards the growing point. So theoretically the frost had not killed the corn, but had opened it up to a disease attack.

In some spots and fields we were left shaking our heads as to why certain patterns of injury had occurred. Why in some cases were several feet of row in corn perfect and the next three feet of small plants dead? Must be some sort of micro-climate effect or where the planter jumping had occurred. It would be good case for Sherlock Holmes. Farmers should not stop scouting their fields in that there are fields that look decent from the road, but there are a few problems appearing that may need to be addressed to guarantee that top yields. In a number of those weak spots there appear to be soil type differences that play a role, but it too early to make exact correlations. One thought is that we might be looking at early season micronutrient deficiencies that need addressing.

With soybeans there were very few fields that had emerged. In most of the just emerged bean fields the cotyledons still sheltered and protected the growing points during those cold hours and the plants have survived. In the rare field that had advanced beyond the cotyledon stage the freezing temps turned the growing point crispy. From the road the plants are still green and appear okay. One has to actually inspect the plants closely to document the injury. If a high enough percentage of the plants contain frozen growing points and buds, replanting will be necessary.

What agronomists and farmers have noticed in quite a few fields is that a higher than desired percentage of plants don't seem to show the strength and vigor expected. Many don't show the deep and expanding root system that will have to carry them through the season. Normally it is assumed that the energy in the seed is meant to sustain the seedling for 4 to 5 weeks until the corn plants reach the 4<sup>th</sup> leaf stage. Many of the seeds have now been in the ground for that time amount and they are getting soft and rotting away. What we don't want to start seeing are the reddish brown roots indicative of a Fusarium infection. Last year when that happened it led to plants yellowing up at tasseling time.

### Micro-Nutrient Mixes

I have written and their have been more popular press articles are have dealt with the current micro-nutrient shortages that have been documented in corn and bean fields in recent years. The mix that we will be using this season is one called Defender G. The right ingredients in the right percentages need to be used to solve rather than worsen any problem.

### Weeds Appearing

In fields planted naked the broadleaves are growing and often 1 to 2 inches tall. Thus the first application of herbicide is likely to be made within two weeks. Be sure to be scouting and making plans to procure the planned herbicide. Letting weeds become too competitive and gathering light that should go to plant development is an even bigger drag than previous thought. Work done by Dr Swanton at the Univ. of Guelph has provided more guidance to the thought that early season weed control is very important to maximizing crop yields. Early light gathering and energy loss through reflectance changes how the crop plants grow and function through the rest of the season.

### Soybean Rollers

In the stone-filled flat country of northern Iowa the big rollers are being used in more soybean fields to level the ground and push rocks back into the soil. They were introduced about six years ago and their use has increased dramatically in the last three years. Guys that use them comment that two of the advantages are that they can run in the fall on damp days and that they don't have to contend with any corn root balls. I have scouted some of those fields and wondered what their effects are on the soil, moisture infiltration, and microbial life. I have already had the chance to push a soil penetrometer in the soils ahead of and behind the machines. I want to continue to do so, plus use the moisture infiltration test to see how much the rate of infiltration is changed in those fields. A simple way to do that is to make a 4 to 6" inch hoop out of a piece of pipe, push it into the soil, and dump in an inch of water twice, then time how long it takes for the second inch to drain into the soil. Lengthening the infiltration time typically increases the chance of sheet erosion. So for me the jury is out. The penetrometers tests to far show not much change in soil density occurs in the few inches.

### Insects

Beware of an early appearance of insects this season. The early accumulation of GDUs has moved up their development. June bugs are now out and that means look out for Japanese beetles. The same applies to other root and leaf chewing pests.

Good luck with bean planting and other work.