

CROP UPDATE

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So far it has been the wettest drought year in recent history. While early season predictions were for a cool and wet spring, it was warm early and then reverted to cool and wet. Since June 1st it has been warm and wet with most farmers having to sit on the sidelines for most of the last two or three week. At this date most of us are getting tired of that inactivity when we can watch many fields get greener and greener with unwanted vegetation. Ag related people who have visited other states have seen instances or heard similar stories of where those growers are telling that they have been unable to make any progress, sometimes even with planting since late April or mid May. If you travel within our state and or evaluate reports from other part of the Midwest it is easy to conclude that the top end yield potential of many acres has been reduced measurably. Assuming that quite a few acres of corn have lost a portion of their nitrogen and the opportunity to replace it is passing by quickly, there is not much that can be done to rectify the situation.

In the past week more areas within Iowa and neighboring states have had excess rainfall. Flooded corn or soybean fields are common and their condition is regressing. We have been waiting for the battle that occurs when the frontal boundary moves northward and becomes established north of Iowa. The recent episodes of tornadoes in southern Minnesota and northern Iowa signaled that the tussle had moved north and Iowa was now the battle ground. One acquaintance was able to visit his home area near Albert Lea where there were two F3 and one F4 twisters dancing around the area. Several neighbors lost every building and were still trying to locate several tractors. It's tough to imagine cabs being torn off, but that is what happened. Other farmers had fields of corn disappear with only the roots left as evidence that anything had been growing there. We don't need any more of that action.

Watching the 10 PM weather broadcasts on Tuesday evening the residents in and near towns like Eagle Grove, Humboldt, and Manson had to hope and pray that any funnels would remain in the air rather than dropping down and doing damage. By Wednesday morning no damage was reported but the 3 to 5 or 7 inches of rain were problem enough for growers.

When it does quit raining it may switch to the extremely hot weather present in Missouri and Kansas. High 90s is not what our crops or people need or want.

Corn Growth

The state and national ratings for corn actually backed down a few percentage points, which is unusual at this time of year. The next report will likely show a larger decline due to too much rain in the past weeks. In parts of eastern and south east Iowa there are fields losing 15 to 20% of their plant population after they have been replanted once due to *Fusarium* and *Rhizoctonia*. Until recently I had not heard of *Rhizoc* affecting corn. In those fields the infected plants slowly decrease in height and slowly curl up into a yellowed whorl. The dug root is a reddish brown color that has softened and become mushy. When Captan was added to the seed to control *Mucor* it didn't seem to help as it normally does. Having a field test to measure the amount of inoculum in the soils of the affected fields would be a nice tool.

It is possible in corn fields to find both Anthracnose and GLS lesions on the lower leaves. The warm and wet weather has been a perfect environment for the spores to invade new tissue and plants. Both of those diseases invade and affect both corn and soybeans, so rotation is not effective in controlling them. Typically lesions appearing this early are on lower leaves that end up sloughing off. Thus spraying is not recommended.

Yellowed Fields

In other fields where the stands have survived the once green and even stands have regressed to stands where the plants are now uneven in height and entire sections of hillsides and low areas have yellowed. The research done in recent years tell that the daily N loss can be 4 to 5% of what was applied per day. We have to hope that the material that was leached deeper in the profile can be recovered with additional root growth and exploration. Early loss was minimal since the ground stayed cool. This month's warmer soils accelerate potential N loss. Form of N typically has an influence on N loss with 28/32% being most vulnerable to leaching or denitrification. What seems surprising is that fall-applied 82% is showing problems with yellowed plants. The cause has to be divided between anaerobic conditions as well as downward moving nitrogen.

Where 28 or 32% was used along with approved stabilizers the fields look very good and growers are very happy with the early results. The use of the best stabilizers has looked great with Nutri-Sphere fields remaining green and N serve treated fields also showing an advantage over non-treated 28 or 32% applications. Foliar N applied by air or high clearance sprayers is one of the two ways left to apply additional nitrogen to fields showing deficiencies. Dribbling liquid N through a plumbed boom might be possible if fields every get dry enough. In recent wet years spending more money on late N has generally given a good return if the plants were healthy and the roots were still functioning.

Over the past weeks I have advised corn growers to remain vigilant in spotting and curing micronutrient shortages. Those fields or areas within fields turned a bronze color with streaks on the leaves. In a portion of the affected fields the first symptoms showed up in hilly areas where lower organic matter levels and soil erosion tend to indicate lower soil micro-nutrient levels. In each case the investigator needs to see if compacted soils are part of the problem. The plant samples I turned into the lab last week for tissue analysis should help to diagnose any deficiencies. Past experiences by growers who used micro-mixes to combat shortages have reported favorable responses. There is a big body of evidence produced by a major agronomy group that such mixes can help rectify such tissue shortages.

Weedy fields too wet to spray are becoming a sore point. The warm and wet weather is proving great for rapid weed growth. Everyone who applied residual herbicides early enough is glad they completed that task. The poor custom applicators have a very long list of customers who all want sprayed on the first dry days. Yield decreases likely would have paid for pre products several times over.

Yellow Beans

Yellow bean plants and fields seem to be outnumbering green ones. When people who know soybeans well are asked what might be causing the problem, several causes for the severe yellowing are suggested. Iron deficiency chlorosis has to be factored in, but much of this yellowing in is fields that don't have a history of the problem. Lab diagnosing has identified infections with both Rhizoc and Fusarium in fields on the roots and already formed stem lesions.

Those plants have yellowed. Maybe the biggest cause is the degree of soil saturation and lack of oxygen to allow decent root nodulation and nitrogen fixation to occur. As the soils dry the green color should return if the roots are healthy and nodulating bacteria are still present.

On the taller beans one problem that is appearing is bacterial spot. It happens after splashing soil carries soil borne bacteria onto the leaves.

CRW and other Problems

So far problems with rootworms have been few. Strong winds will now sort out which fields supported a population of the root feeding larvae. Since the spring flooding of 2008 the huge populations have been minimized. Corn borer infestations are back with us. Non-Bt fields that I have visited the past two weeks ranged from being 0% up to 20 to 30% infested. Most of the larvae have been in the 1st thru 3rd instar stages. Scout any of those varieties or fields if they are not protected. Their appearance is surprising as they were not expected during this phase of their cycle. Don't let the task of scouting your fields slide. Slugs that skeletonize leaves are also showing up in crop fields. They tend to be a problem in states like Ohio and points east.

Good luck in drying out and getting your work done.

Trichoderma and Pseudomonads