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The last half of August is here and the weather and insects still have us guessing. We began the season staring at twelve foot drifts and knew they would be here until mid June. Then ten days later they were almost gone. Just when we had gotten used to wearing jackets all summer in 2009 we sweated through one of the warmer summers we care to remember. Now people whose every activity depends on the weather are trying to analyze preseason predictions to figure out which meteorologist came close to predicting a hot and wet summer. Thus we are now wondering how the weather will shape up for the last month or two of the growing season.

### The Condition of the Crops

The condition of the crops varies across the state and Midwest. While the northwest quarter of the state plus spots in southwest and west central Iowa look good there are major problems elsewhere. Still the states of Minnesota, North Dakota, and Wisconsin appear to have the best corn and bean crops for the 2010 season. How would one describe the rest of the state? Maybe by the Seussian statement that "All is not well in Whoville at this time". While we should be driving down the roads and admiring the dark green corn with the large upright ears as well as the 'black green' soybean fields with their rapidly filling pods, that is not the case. For a multitude of reasons we are now driving down the roads or walking those fields and finding corn that yellowed weeks ago and is collapsing across the finish line. Soybeans that should rightfully remain green and filling the pods until mid-September have instead turned various shades of yellow and brown with the coloration of SDS. Each of those fields had a proud farmer doing the hard work and making the investment in time, machinery, and money who is wondering several things: How much money will be lost or profit will they forego due to the fields' problems?; Were the problems due to something they did or was it something out of their control?; What can they do to avoid similar problems next season?; And what person or team will provide believable answers and solutions for next season?

### SDS

The amount of sudden death showing up across the state is at record levels, just as a few of us expected. In southeast Iowa operators who have flown across their respective areas relate that 95% of the fields are near death. Near Ft Dodge it is possible to drive down a five mile stretch of gravel and continuously be next to a field that has half to all of its acreage brown with many of its leaves falling off. As one travels to the north and west onto the Galva Primghar soils where compaction is much less of a problem, the bean fields look excellent. Last week I had listed several factors at play this season and they included having 2.5 years worth of soil compaction, having soils saturated for most of the season and lastly bean planting being one to two weeks earlier than normal. SDS is a Fusarium root infection. What is causing the Fusarium soil dwelling fungal population to be at such high levels? With Iowa typically being the #1 soybean producing state and with cash bean prices inching closer to \$10 per bushel, how much the disease will cost growers within Iowa might be a billion dollar question.

There are several varietal trends appearing. Several families that two or three years ago were winning yield contests are getting hammered worse than they were last year. Several companies that have been overlooked because they have not advertised as much have several of the better looking varieties

with many pleased growers. An increasing number of growers are planning to elevate the importance of SDS ratings when they are making planting decisions.

I have heard growers who state that they intend to plant more second year corn to minimize the damage that soybean diseases could do next season. That may sound good, but the same Fusarium that would cause damage to the bean crop is still going to be in the soil to cause root damage and likely early death to any corn crop planted in the same field. A number of the problematic pathogens such as Fusarium, Anthracnose, Diplodia, and others affect multiple crops. Efforts to improve the health of the seedlings need to be implemented. Foliar micros and the use of biologicals such as the Saber X Trichoderma will be very important.

### The Corn Plants

The last four years have been very wet with a surprising number of three inch or greater rainfall events during May, June and July. Those saturated soils that resulted have made developing a sound nitrogen management program a priority. The corn growers who have the best looking fields this year have typically used two or three forms or application timings to spread the time frame for when their nitrogen is applied and when it might be subject to loss. They may have used 100 to 150 lbs of AMS along with either 82% or 28/32% mixed with a stabilizer. That last liquid went on at planting time or in a sidedressing program. Because of the limited time available in June many growers resorted to using a high clearance sprayer to deliver that nitrogen or never got the trip made.

When an agronomist or grower has been interested enough and takes a personal stake in a yellowed field and wants to determine the root cause of the problem they have taken several different steps. At times digging the root mass and closely examining it has helped to determine that a root rot has been limiting the ability of the plants' roots to feed the top portion of the plant. In other cases getting a tissue analysis run has shown that a shortage of six or eight micro-nutrients important to the physiological processes and plant defense systems played a huge role in the plant's poor condition. In other cases lack of oxygen and poor soil aeration has been a major problem. Tiling helps, but most drainage systems still are not geared to remove as much water as needed this season.

### Disease of the Week

Don't look now but there is a disease which has blown or rained into Iowa which could be monumental in the damage it could deliver and management changes that may be required. Goss's wilt was diagnosed in scattered areas in Iowa last year and the circulars browned spots could be spotted from the air. In the last two weeks it has been diagnosed in the states of Colorado and Nebraska through Ohio. Several of us were in eastern Iowa last Friday scouting fields where 100% of the plants were infected. This past Monday I was in the Ft Dodge area and found the same % of infected plants. On Tuesday it was the same percentage in southwest Iowa. Colleagues have been finding the same level of infestation in the NW and Se parts of the state. In addition university plant path diagnostic labs have received many plant samples where growers wanted confirmation on plants from their own fields.

To formulate a plan of action I called several old colleagues in Nebraska and Colorado who had experience with Goss's wilt. Its presence in NE has been somewhat localized and erratic over the last thirty years. In bad years they saw a big difference between different genetic lines. Growers have paid strict attention to those ratings as it could spell the difference between 220 Bu/A corn and a dead field in the worst case. The wording they used to describe the worst performing hybrids was 'dog meat'. In their description of what the disease could do one has to read up on leprosy and how it works. The Goss's bacteria invades the plants' vascular system and rots plant tissue. When those get numerous enough they plug the plumbing system and the plants wilt down. The tissue that can be rotted can include stalks, kernels and cobs. We have already seen this. 50 to 80 Bu/A yield losses or greater are possible depending on when the infection occurs and how favorable the weather conditions are. We are now working with

several plant pathologists to see if a curative product used in hort crops will be effective in treating infected fields. The trials start tomorrow and we expect success.

Scout your fields now after examining IPM guides and photos of the disease. When one studies the recommendations given for controlling the disease, they generally center on plowing the field to destroy residue and choosing tolerant varieties. How that is received among no-tillers and conservation proponents will have to be seen. And if popular germplasm is deemed very susceptible, how will that be handled?

All of this makes 2008 and 2009 seem like uneventful seasons.