



## **The Chem Gro Crop Watch, Issue #10, 10/7/09**

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**A Slow Go.** About a month and a half ago, I gave myself the prediction that there would not be much corn harvested until October 15<sup>th</sup>. Unfortunately, it will be all of that date, and much latter before the masses begin to harvest corn. The delayed May through June plantings of corn, cool temperatures which did not provide many heat units, and the many cloudy days which reduced starch accumulation has taken its toll on the corn crop. Unless we get an Indian summer, I would only expect that we will loose 1.5-3% points in moisture per week. With the day time highs in the 50-60s, and lows in the 30-40s, plus there is a great deal of moisture in the soil that creates a lot of humidity in the air; I just don't see the right conditions necessary for a lot of air field drying to occur.

**Corn Ear Rots.** Everybody is talking about it, and more than likely you probably even have some moldy ears yourself. The last two years have been ideal conditions for ear rots, this year has been even more favorable than last (cool, cloudy, heavy dews, frequent rains). Diplodia ear rot seems to be the most common ear rot in the majority of the fields (as in the picture to the right). All ear rots are bad, as they increase the amount of damaged kernels in your grain, but if there anything good about Diplodia, it does not cause mycotoxins that Fusarium, Gibberella, and Aspergillus ear rots can. My view on ear rots is that it is 20% hybrid specific, and 80% environmentally triggered. There tends to be a few trends that show up more occasionally when it comes to corn ear rots that we have been experiencing:



- Corn on corn with heavy residue tends to be worse just because many of the fungal diseases that cause ear rots survive on old dead corn residue. However, corn that is planted on soybean stubble can still be infected since the spores that cause the ear rots travel very easily during wind/rain storms.
- It seems like the earliest planted corn has a higher chance of ear rot infection (at least this has happened for the last two growing seasons now). I think this is more of a situation of dumb luck since most infections occur during the time period of when the silks are still alive. Planting date and silking date determine in many cases if a hybrid is prone to ear rots during a given growing season.
- Physical damage to the husks and ears. Deer feeding, bird feeding, corn earworms, etc that expose the developing ear to the air can be infected with ear rot spores. These damaged areas can turn into moldy kernels or whole moldy ears. The earliest planted corn fields have been reported with substantial bird feeding this year, which in turn resulted in many moldy ears of corn. Again, it is one of those dumb luck timing things. Just as it is with the first sweet corn that gets planted usually gets ravaged by raccoons. When mother-nature gets hungry, she will find the first available food source that is in quantity.

**Viable solutions to ear rots?** The majority of the farmers are men. When us men are presented with a problem, we sit and stew over it until we find solutions for the given problem. Some are better solution providers than others; but none the less, it is engrained into our DNA to provide most logical and economical solutions for the given problem. Below are a few solutions that have been provided to me from a few of the locals to minimize ear rots.

1. **Select hybrids with a closed, tight husk?** The argument being, hybrids that open and loosen up the husks while in the field allow rain to keep the exposed kernels moist which favor ear rot development. Although there is some truth to this, long term I don't think this would be a good management plan. When we get back to more of an average year of precipitation when ear rots like Diplodia are not a problem, those closed and tight husked hybrids will be very poor in natural field dry-down. We would be complaining as to how slow in dry down these corn hybrids are. ***Next to yield, fast grain dry down is extremely important to most farmers.***
2. **Select hybrids that hang their ears down after black layering?** The argument being on this one, hybrids that hang their ears down will prevent rain from filling the husks which would make the grain drier to prevent ear rots from spreading throughout the grain. Logically speaking, I can see this helping in minimizing late season ear rot infections. However, early season ear rot infections that are caused shortly after silking would not aide in any prevention of ear rots in hybrids that hang their ears down.

- **Hybrids with drooped hanging ears = DEAD corn.** This is another reason why desiring hybrids that droop or hang their ears down is bad. When you see corn that have these drooping ears, 99% of the time, this is due because the stalk and/or roots are entirely dead. Stalk rots and root rots under the right environments conditions that we are currently experiencing (cool and moist) can quickly invade this dead tissue and destroy any standability that you once had. At this point when the ears are hanging, the only structure that is supporting the weight of the ear and the stalk is the outer strength of the stalk rind. If the wind doesn't blow very hard, the rind can support a dead and decayed plant for several weeks. However in time; physics and gravity eventually wins. Also, as I mentioned in a previous agronomy letter, once the plant dies, there is no more natural plant drying of the grain. Outside air/wind field drying will be the only drying taking place. With the many cloudy days during grain fill, along with the nitrogen loss that we had from the excessive rains, I am seeing many hybrids that have severely cannibalized it's stalk in order to feed the kernels for grain fill. This is one of those good vs. bad issues. When we buy a bag of corn seed, we buy it expecting it will yield all that it can. Most of the corn genetics that we buy have quite a bit of bracehorse genetics bred into them for top end yields. The consequence of this is that they will cannibalize the stalk in order to maintain as much yield as possible under less than ideal grain fill conditions. **Stalk quality and standability will be a big issue this fall if your corn has droopy ears and the wind blows above 35 mph.**

