Cornell University
Cooperative Extension
Northwest New York Dairy, Livestock & Field Crops Team

CROP ALERT

June 29, 2016

Mike Stanyard, Regional Agronomist, Cornell Cooperative Extension

Hail Damaged Corn and Fungicides – Gary Bergstrom

I understand that there was recent hail injury to 6-7 leaf stage corn plants in locations in western New York. We experience hail damage in some portion of the state almost every year and the question frequently arises whether there is value in applying foliar fungicides to hail-damaged corn. My colleague, Dr. Dean Malvick of the University of Minnesota, just posted an article on this subject this morning in response to questions concerning recent hail damage to 7-9 leaf stage corn in Minnesota. I encourage you to read this article (http://blog-crop-news.extension.umn.edu/2016/06/do-foliar-fungicides-provide-benefit-to.html). Dean's observations are consistent with what I have read and observed in that there is no consistent return on investment of applying foliar fungicides to hail-damaged corn. To echo Dean's invitation to Minnesota growers, if growers in New York are applying foliar fungicides to hail-damaged corn, I would also be interested to learn of your results so we can add to our knowledge base.

Effect of Drought Stress on Corn

Unfortunately, I have encountered many fields of "pineapple" corn across NWNY. The lack of rainfall is really starting to show and I have seen fields rolling at 9am. The weather data is showing that between Buffalo and Geneva, we are from 4.5 to 5.5 inches below our average annual rainfall amounts. Surprisingly, there is some good looking corn out there despite the heat and dryness. I have been asked about what kind of yield loss we can expect in these mid to late vegetative stages that are rolling everyday trying to protect themselves.

Below is a quick summary of the yield component most affected by environmental stress at different growth stages. The full article can be read at http://agcrops.osu.edu/newsletter/corn-newsletter/how-can-timing-stress-affect-yield-corn.

- V5-V7: **Number of kernel rows**. Corn plants are determining the number of kernel rows as early as V5 in some corn hybrids. By V7, the number of kernel rows in the primary ear has been determined for most hybrids.

- V9-VT: **Number of potential kernels per row** (row length). Each potential kernel comes from one floret on the ear (female flower), and as conditions are more favorable for development the plant will initiate more florets. The number of potential kernels on the ear can be set through late vegetative stages (through V16). Stress during this phase can reduce the yield potential of each plant, and can limit overall yield potential of a field. Flex-ear hybrids may initiate more kernels as compared to a fixed-ear hybrid during this stage.

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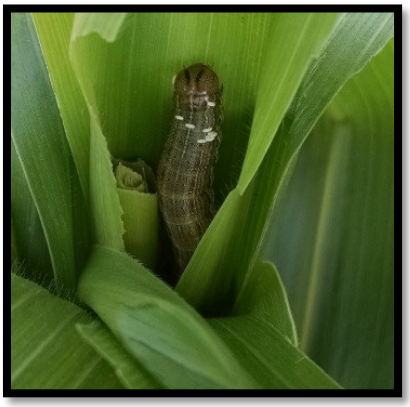
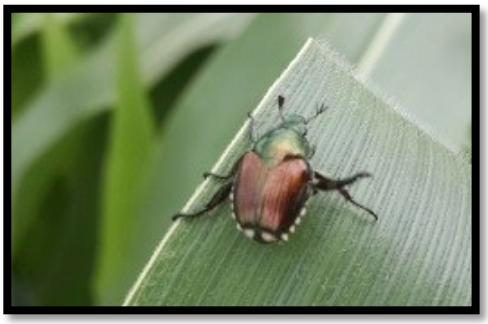
Still Finding Armyworms in Corn – Natural Enemies are Here!



I looked at two more fields last week that had economic armyworm populations. Both were planted into a winter grain cover crop. However, each one required different management strategies. The first corn field was almost complete consumed (4 inch stubs) army worms were eating their way across in a big line. The grower sprayed the field, stopped the army and saved the rest of his corn field. The second field was definitely over threshold but damage was limited on each plant. Upon closer inspection, many of the armyworms had many small white eggs on their back just behind the head (see picture). These eggs are from a predaceous fly which is a very effective natural enemy. The maggots will hatch and burrow into the armyworm and kill it. These worms will all die and therefore there is no reason to spray. Biological control at its best!

Japanese Beetles have Emerged.



I saw my first Japanese beetles in corn last week and have seen a lot more in my travels this week. I have not seen any in soybeans but I'm sure they are there. The beetles will feed on the green leaves in both crops but are usually more prevalent in their defoliation of soybeans. They can also feed on corn silks and cause reduced pollination. We will have to watch for damage to both crops as the season progresses.

Be on the Watch for Two-Spotted Spider Mites!

I hate to even bring it up but drought stressed crops and spider mites go hand-in-hand. As the normal grasses and broadleaves in the roadside ditches and fencerows brown up, spider mites will begin to move into green corn and soybeans. Look for grayish spots along roadsides and near telephone poles that eventually turn yellow (see picture). Look for feeding injury and possible webbing on leaves. I will talk more about management if damage becomes evident.

Soybeans are Beginning to Flower

I saw my first soybeans flowering last week and I was a little surprised. Unfortunately, many of these early flowers will be aborted by the plants due to the heat stress. As more soybeans start to flower, I want to remind everyone that glyphosate labels indicate that applications can be made through R2 or full flower. The R3 growth stage begins when one of the four top nodes with a fully developed leaf has a 3/16 inch long pod. Applications made after the R3 stage begins are off-label applications. On average it takes ~ 4 days to move from R1 (beginning flower) to R2 (full flower) and ~10 days from R2 to the start of R3 (beginning pod). http://ipcm.wisc.edu/blog/2016/06/soybean-flowers-glyphosate-label-and-wheel-track-damage-oh-my-2/.