

CROP ALERT

July 28, 2016

Mike Stanyard, Regional Agronomist, Cornell Cooperative Extension

The drought conditions and hot weather are a double whammy for corn during the critical stage of pollination. I am getting questions from growers and reporters on how much yield are we losing right now. Ohio State agronomist, Peter Thomison, just put out an article reviewing the effects of dry hot weather on corn from Midwest research. He states that according to Iowa State University agronomists, high temperatures may have a double impact on corn "The first is the increase in rolling of corn leaves in response to moisture deficiency. By rule-of-thumb, the yield is diminished by 1 percent for every 12 hours of leaf rolling - except during the week of silking when the yield is cut 1 percent per 4 hours of leaf rolling." See the full article at <http://agcrops.osu.edu/newsletter/corn-newsletter/hot-dry-conditions-stressing-corn>.

As if the drought conditions weren't enough to possibly hurt corn pollination, we have at least three insects that are making it even harder. As much of our corn is tasseling and has finally putting an ear out, I am getting calls on insects feeding on the silks.

Corn rootworm (CRW). I have received four calls on CRW beetles feeding and cutting emerging silks this week. This was a concern of mine because there had been plenty of earlier reports of CRW beetles stripping the green tissue off corn leaves and actually cutting off leaves prior to tassel emergence. This has only been an issue where continuous corn has been grown. The adults prefer the silks and pollen as this is a needed protein source particularly for females that are producing eggs. These beetles will continue to emerge and be around until the first frost kills them off so there is plenty of time to lay eggs. The last planted fields should be watched closely as they will serve as a trap crop and last corn pollen source for all emerged beetles.



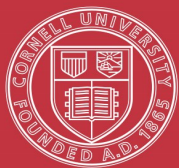
Photo: John Obermeyer, Purdue University Extension

Cornell treatment threshold for CRW: 10 or more beetles per plant at silking, less than 50% of corn silks are brown, and silks are clipped down to ½ inch or less. If these levels are met, an insecticide for beetle control is warranted. Lambda-cyhalothrin (Warrior II) or chlorpyrifos (Lorsban) can be applied for adult control. Chris DiFonzo of Michigan State has a nice fact sheet with pictures of damage to leaves and silks, <http://msuent.com/assets/pdf/04CRWAdults.pdf>. There are some recommendations in the Midwest states to lower the CRW threshold to 5 beetles per plant when corn plants are under drought stress.

Japanese Beetle. Adults are still hanging around. I talked previously about them feeding on corn and soybean foliage. They too are attracted to corn silks and can clip silks and affect pollination. Heavy populations are usually not spread throughout the whole field and normally clumped on the edges. The main concern is clipping the silks under ½ inch.



Photo: Erin Hodgson, Iowa State University



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Red-headed Flea Beetle. Many of you may not be familiar with this large flea beetle. It seems to only be a problem during drought conditions and we normally only see it feeding on soybean leaves. However, I do have a report of them clipping silks in corn. See picture from Jonathon Martin, Auburn Ag. This is not a normal pest on corn but they must not have any weeds or soybeans to feed on so corn must be the only suitable food source available. There are no economic thresholds available for this beetle.

Potato Leafhoppers on the Rise in Alfalfa I am getting reports from growers and consultants that PLH populations are increasing and over threshold in new seedlings. PLH seems to always be a problem in hot dry years when alfalfa is drought stressed. The new seedlings are also more vulnerable because they are only cut twice the first year and it is a long time between those harvests. See charts for PLH thresholds. **Under severe drought conditions these action thresholds can be halved, especially for new seedlings.** For a refresher of PLH sampling and management, see the Cornell factsheet, <https://ecommons.cornell.edu/handle/1813/42384>.

Stem Height	PLH/sweep*
Under 3 in.	0.2
3 to 7 in.	0.5
8 to 10 in.	1.0
<u>11 to 14 in.</u>	<u>2.0</u>

*Adults and nymphs

Pea Aphids

I also had an interesting call that pea aphid populations are higher than normal and alfalfa plants are beginning to yellow and wilt. Pea aphids are always present but the limited threshold work that I have seen say over a cup in ten sweeps! We normally don't worry about them. See picture from Josh Harvey, WNY CMA, of a handful of pea aphids. With the combination of drought stress and these two insects possibly feeding, it will be crucial to monitor and spray an insecticide to protect forage yields.

