Crop Weather
Rainfall, temperatures, degree-days and other current and historical weather data for a spot about two miles west of Lamberton, MN can be found at the University of Minnesota Southwest Research and Outreach Center (SWROC) website: http://swroc.cfans.umn.edu/WeatherInformation/index.htm.

There are still good corn and soybean yields in parts of Minnesota. In drouthly areas of SW Minnesota (and elsewhere), corn yield has been hurt. Remember, this year, corn silked after July 15th, most after the 20th. These fields should be just reaching physiological maturity (black layer) over the next few weeks. Unfortunately, there is early ripening going on in some areas.

Drought stress and premature black layer can be seen now. Short ears with pulled back tips hit the yield wall early - before dent. Moisture stress later in the season is showing up as poorly filled “rubber ears” or shallow kernels. This fall, if your combine comes up with a lower number don’t take it out on the guy that estimated your corn yields. In many cases, the field probably once aspired to greater yield.

Soybean yields are harder to gauge but have been impacted as well. Seed size is going to be a big factor.

The stressful growing season will have impacts other than lower yield. Expect stalk rots to be a problem. Ear molds could be an issue I have not yet seen or heard of any problems. If not managed, highly variable within-field grain moistures (replants, drowned corn, premature plant death) can lead to storage problems. On the soybean side, seed quality could be an issue if moisture stress continues.

Corn rootworms
In past cooler SW Minnesota growing seasons, northern corn rootworms (NCRW) have been abundant until a late September frost.

Over the past week, several agriculturalists have commented on an increase in adults of both rootworm species. Part of this may be a result of the cool early season and a delayed hatch of rootworm eggs. Part may be delayed rootworm maturity on Bt-RW corn. Part may be a result of a field attracting beetles from other fields in the area. The widespread spraying for soybean aphids may have had an impact on a part of the rootworm beetle population that blundered near a soybean field.

Late populations of western corn rootworms in a field have particular importance if you are using rootworm beetle control to reduce egg-laying. Some unusually late NCRW mating is still occurring. These late emerging females may produce fewer eggs.

Where have the NCRW been the past couple years? They are definitely back now. Is this a sign of another species adapting to Bt-RW, less Bt-RW corn being planted, just a good season for northern corn survival, or something else changing in the environment?

Northern corn rootworm beetles are attracted to pollen of corn and many other plant species. Alternatively, late pollinating weeds attract corn rootworm beetles. Waterhemp and the ragweeds are increasingly abundant late pollinating weed species and might attract and concentrate rootworms in a field.

Late emerging rootworm adults have options for pollen food sources. The photo shows NCRW beetles foraging on Lamberton waterhemp. Gary Prescher observed more NCRW adults on the giant ragweed than on waterhemp in one field. Differences in pollen shed timing may have been a factor. Some interesting (well... at least to me they're interesting) questions arise if there are preference or nutritive value
differences of waterhemp pollen compared to the pollen from corn or other late pollinating plant species. Weed species and beetle feeding behavior may have a role in the location and intensity of subsequent corn rootworm infestations. Fortunately, unless something significant has changed in NCRW behavior, they will not lay eggs in soybeans or waterhemp - they will return to corn to lay eggs. Planted or volunteer corn near late pollinating weeds may be especially attractive for egg-laying. Think about corn with poor broadleaf weed control in-field or in drown-out areas

There are other ways for corn rootworms to cause problems in rotated corn. Fortunately, significant populations of the western corn rootworm variant that lays eggs in soybeans are not known in Minnesota. On the other hand, a large percentage of the NCRW population has the extended diapause trait.

Rootworm biology and behavior is remarkable simple isn’t it…or maybe not? Bt-RW technology allowed us to temporarily ignore just how complicated rootworm populations are.

**Soybean aphids**
Aphids have been moving to buckthorn in increasing numbers. They have also been observed on Wisconsin buckthorn this fall.

In some southern Minnesota fields, dark colored soybeans indicate sooty mold and economic aphid infestations that were not treated - accidentally or on purpose. Untreated aphid hotspots will provide an abundance of aphids to move to buckthorn. It’s OK; spring soybean colonization success is likely a bigger factor in aphid outbreaks. On the other hand it might not be OK from a yield perspective.

Happy trails,

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