Southwest MN IPM STUFF
All the pestilence that’s fit to print

SW Minnesota IPM STUFF 2013-8
Volume 16 number 8

06/24/13

If you would like to be added to this mailing list, send a request to Molly Werner at werner022@umn.edu. This newsletter and the advice herein are free. You usually get what you pay for.

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.

The rain gauge at the SWROC accumulated 2.56 inches of rain over the past week 6/18 - 6/24. Many locations accumulated much more. It finally warmed up and last week we accumulated 154 degree days (Base 50/86° F). Crops have responded with rapid growth except where excess water, compaction or other problems are present. Some are looking darn good considering what they have gone through.

This location has accumulated 659 degree-days base 50/86° F since May 1. This is below the long-term historic average of 110 degree days by 3 to 6 days. Weekly precipitation and degree day totals for the SWROC are now available at http://swroc.cfans.umn.edu/WeatherInformation/GDDandPPT/index.htm. I find these weekly totals useful. Perhaps, you will find them useful as well.

As of June 24, a small patch of SWROC corn that was planted on April 28th was at V6 (6 collars). Soybeans planted the same day are at V3 with three trifoliates opened.

In a date of planting trial at the SWROC, May 3rd planted corn is at V6 and May 14th planted soybeans are at V2. We are posting crop development photos and degree-accumulations at:
Things that go bump in the night
The black light trap at the SWROC has been capturing a large number of armyworm and forage looper moths.

We have not captured a corn borer moth this spring.

Corn rootworms
Rootworm egg hatch should be starting in southern Minnesota. This is much later than 2012. Some of us like to think that we can predict the start of rootworm hatch. I saw the first firefly of the season on June 24. This may be mere coincidence but Ken Ostlie has started to see a few larvae in Dakota County this week. I have talked to a few folks that said they have started to see the start of root feeding.

Rather than relying on the appearance of fireflies, many of you prefer to estimate the timing of rootworm hatch with more sophisticated and technical methods; degree-days for example. There have been several models developed for predicting western and northern corn rootworm hatch that are based on soil and air temperatures.

Regional differences in temperature dependant development for rootworms have been reported. While there is some evidence that exposure to Bt-RW protein(s) can delay beetle emergence, I am not sure how Bt-RW resistance changes the timing of western corn rootworm egg hatch.

For those of you with recently water-logged fields, some mortality of early hatching larvae may have occurred. Yeah! Every little bit helps. Whether you use degree-days or fireflies, you should start to see some damage on roots in heavily infested fields in the near future. Hatch will continue for some time.

After a hot, humid day spent chasing aphids, I was visiting with my wife and enjoying a cold beverage on my deck. The insect in the photo above stopped by for a visit. Can anyone guess what is odd about the firefly species in the photo? And yes, I already know that I have an interrupted life line.

Aphids in small grains
Early spring wheat and oat varieties are starting to head. Last week, I mentioned barley yellow dwarf symptoms and unusually high population of English grain aphids in Southern Minnesota small grains. I may have left the
impression that English grain aphids were the only species present. This is not the case. Bird cherry-oat aphids are also present at moderate levels lower in the canopy.

This is shaping up to be a good year for aphids.

**Roundup Ready weeds**  
An experienced agriculturalist called the other day. He reported that he had just seen glyphosate resistant waterhemp in his area for the first time. He was wrong. The parents had to have been there. It is often hard to determine why a few plants didn’t die and the first few resistant plants can easily go unnoticed under a corn canopy.

Completely weed free fields would be very expensive if they were possible. On the other hand, to avoid unexpected surprises and expenses, don’t ignore weeds that don’t die as expected. This applies to non-migratory insects, mites diseases and nematodes as well.

**Brown stink bugs**  
University of Minnesota soybean entomologist Bob Koch is trying to start a lab colony of brown stink bugs. If you have a corn, soybean or other field where brown stink bugs are abundant and where collection would be allowed, please contact Bob (koch0125@umn.edu).

This looks like an opportunity for someone to get in on a real inexpensive stinkbug control program.

**Soybean aphid**  
There are still aphids on volunteer soybeans under the corn canopies in some fields. Aphids made their way to the early planted soybeans at the SWROC. They are not hard to find on V2-3 soybeans. There are relatively few soybeans that are “early planted” this year. There are predators in these fields even where soybean aphids cannot be detected. Green lacewing eggs and larvae, an occasional lady beetle and pirate bugs can be found at low levels.

The heavy rains in some areas probably did not help the soybean aphids on small soybeans but in at least one V2 stage Nicollet County field they survived several heavy rain and wind events. I observed four different species of ants tending soybean aphids in this field. This field will need some more intensive scouting after the 4th.
Michael Flint reported aphids in Ottertail County so they must have survived the winter at least that far north. A less believable alternative explanation is: The soybean aphids migrated north from Iowa after hearing bullheads were biting in the area lakes.

Anyhow, you might want to check some of the fields that typically have early infestations to start getting a feel for 2013 soybean aphid populations. Weed control is still a priority.

Alfalfa insects
Alfalfa weevil larvae are less abundant than the previous few years at the SWROC.

Potato leafhoppers should be closely watched in 2nd cutting and particularly in new seeding alfalfa. The economic threshold for leafhopper susceptible varieties is based on crop height and average numbers per sweep using a 15” sweep net.

<table>
<thead>
<tr>
<th>Alfalfa height</th>
<th>Potato Leafhoppers/sweep</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3 inches</td>
<td>0.2</td>
</tr>
<tr>
<td>3-6 inches</td>
<td>0.5</td>
</tr>
<tr>
<td>6-12 inches</td>
<td>1.0</td>
</tr>
<tr>
<td>12 inches or taller</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Leafhopper tolerant varieties can still suffer yield loss from heavy leafhopper populations, particularly in new seedings. Thresholds are 2-3 times higher than for susceptible varieties. Check with your seed supplier on level of resistance/tolerance in your plantings.

Grasshoppers
A large hatch of red-legged and differential grasshopper nymphs occurred over the past weekend. We are seeing most grasshopper activity in areas that were alfalfa or soybeans in 2012. I have not seen anything approaching threshold levels. Not a cause for panic but something to look for within in fields and field borders.

Yellow beans
Make a note of locations in fields where soybeans are turning yellow. Check these areas for SCN during the season. The three most common causes of yellow soybeans are IDC, SCN and root disease. There are other causes of yellow beans but they are mostly self-inflicted. It is not uncommon to have all three problems, even on soybeans with defensive traits. SCN resistant soybeans checked several time during the growing season for symptoms and presence females on the roots. This could mean the SCN in your field are adapting to the resistance source in your variety.

How to stimulate the economy
As many of you are already aware, the non-farm economy is not in the greatest of shape. As agriculturalists, we can help. There are several economic and psychological drivers for early and insurance applications of insecticides and fungicides. Not the least of the psychological factors is fear; fear of missing a problem or missing a bushel.
Heck, reading, watching and listening to advertisements almost has me believing that an insect, weed or plant disease apocalypse is just over the horizon.

There is no shortage of folks that have recommended early-season insecticide and fungicides tank mixes with glyphosate. These preemptive strikes are recommended for plant health without regard to insect or disease pressure in the field.

While this might potentially save a trip across the field, you will remove natural enemies of insect pests. Any surviving insects or pathogens will have been exposed to the pesticide. The odds of economic re-infestations, secondary pest outbreaks and development of pesticide resistance increase. Reduced pesticide rates and poor coverage can increase the odds even further. Trying to do everything at once in a pesticide application leads to: poor weed control, poor insect control, poor disease control or all of the above. Some of you have been convinced it is worth the risk and besides, your expense of insurance pesticide application could be considered a first step towards an improved economy.

I suspect these recommendations were initially designed as part of a brilliant marketing plan. Treating non-economic pest problems early in the season does increase your chances for needing to treat a real pest problem down the road. These spray early, spray often multiple pesticide applications will increase the cycling rate of grower’s operating dollars through local as well as global economies. Unnecessary pesticide applications will stimulate the economy but it may not be the grower who is receiving the stimulus... err... umm...at least not one that’s economically positive.

Pesticides are important and valuable tools in Minnesota crop production. They are not magic. Manufacturing, marketing and sales have different motives than consumers. This does not imply evil intentions or there is not a good use for their products. They have an interest in agriculture doing well. However, it does mean that they need to sell you their stuff to stay in business.

Some advertising would have you believe that pesticide applications are risk free and you can make money with every product you add to the spray tank. Remember, that same TV would have you believe that you can get 20 shots out of a single action revolver without reloading and the same advertising agencies will tell you that energy drinks have health benefits.

It’s your decision. Is your focus on growing a crop profitably or are you more simply focused on avoiding insects, weeds and diseases at all cost?

I will be spending some time next week setting up spider mite and aphid study areas with an insecticide/ fungicide mix. I need the economic pest populations for some experiments.

**Reminder**
A weed research tour will be held at the SWROC July 11 from 3:30 – 5:00 PM
Happy trails,

Bruce Potter

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