UNIVERSITY OF MINNESOTA | EXTENSION

Southwest MN IPM STUFF

All the pestilence that's fit to print

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This newsletter and the advice herein are free. You usually get what you pay for.

Crop weather

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

Tassels are starting show on field corn and most soybeans are V5-7 and R2. Corn is severely moisture stressed in light textured soils in areas that have missed some rains. Soybean pod set is also impacted by hot, dry conditions.

As of July 10th, 1078 degree-days (Base 50°F) have been accumulated. This is about 1-2 days behind average. There have been 8.79" of precipitation compared to an 8.58" average over the same period.

Alfalfa

Pea aphids

On July 11-13, I received calls from crop consultants in Central and West Central MN about large pea aphid populations in alfalfa. This follows a report last week from southern Minnesota of large pea aphid populations in field peas in SC MN.

Figure 1. Pea aphid.

Many of the highest pea aphid populations appeared to be in areas with moisture stress and in fields that had been previously treated for alfalfa weevil. Some of these fields had injured and rotted roots.

One consultant was reporting poor control with low labeled insecticide rates.

Symptoms of pea aphid damage include wilting and yellowing of alfalfa. Severe pea aphid damage can reduce vigor and yield in later cuttings. However, alfalfa can usually tolerate large pea aphid populations, particularly when moisture is not limiting. Typically, pea aphid populations are well controlled by predators, parasites and fungal disease. It is rare that pea aphids threaten yield, particularly this late in the season.

Pea aphids are favored by cool, dry conditions. The heat in the forecast could slow aphid populations. Rain usually helps moderate populations as well by removing crop stress and improving the success of fungal pathogens. Much of the area from where problems are reported received rain.

If you are finding ¼ cup of aphids or more per 10 sweeps you might want to switch to counting aphids/stem. Consider an insecticide if you find 50 or more aphids/plant on alfalfa 10" tall or less. If alfalfa is already stunted and injured, consider cutting early. Monitor and apply a labeled insecticide if aphid populations persist or rebound.

If you are treating a pea aphid infestation in a field previously sprayed with insecticide, change insecticide group. For example, don't spray with a pyrethroid insecticide back to back. Because of the reports of poor control, use moderate to high labeled rates. Be aware that higher rates may increase the pre-harvest interval.

Since aphids are usually well controlled by fungi, you might want to avoid fungicide applications until pea aphids are well under control.

Potato leafhopper

There are some high populations out there. Untreated (organic) alfalfa at the SWROC is stunted and hopperburn (injury) is severe.

Corn

Univoltine biotype of the **European corn borer** moth flight has started. So far numbers continue to be low: https://www.vegedge.umn.edu/moth-data/ecb-info

Figure 2. Western Corn Rootworm damage. Note lodging in the background. These roots have three nodes destroyed (Node injury score = 3)

On the other hand, **western corn rootworm** populations have rebounded in SW Minnesota. There is significant root damage and lodging in unprotected conventional and Cry 3Bb1 hybrids in continuous corn at the SWROC. **Northern corn beetles** are also emerging now.

It is highly recommended that you scout corn rootworm beetle populations this summer - even if you plan on planting Bt-RW corn in

2018. Depending on rootworm developmental stage, root digs and injury ratings in research plots near Lamberton will start next week. There should be some interesting visuals for the August 9th field day at the SWROC.

Goss's wilt and **common smut** is present on SWROC corn. This location received light hail earlier this season. I am starting to see a few **common rust** pustules on corn. Watch for **gray leaf spot** and **northern corn leaf blight** on *susceptible hybrids*. Gray leaf spot development is favored by warm conditions the others by moderate to cool temperatures. All the above diseases except common rust are favored by continuous corn and residue. Most plant pathogens are favored by prolonged wet weather and high humidity and dews.

Bacterial streak of corn has been confirmed in several nearby states during 2016. If you suspect you are seeing symptoms, contact Dean Malvick or myself.

We are also trying to determine the prevalence of ***Physoderma* brown spot** and have included a susceptible hybrid in disease sentinel plots and fungicide trials in southern Minnesota.

Soybean

Figure 3. Septoria brown spot

Bacterial blight is the most common foliar pathogen in soybeans now. Like other bacterial pathogens it cannot be controlled by fungicide.

Septoria brown spot is present in the lower canopy of some varieties. It can be confused with injury from herbicides and adjuvants applied earlier in the season.

It usually pays to have a controllable disease present when you make a management decision to apply a foliar fungicide.

An odd little defoliator is unusually abundant in the borders of some 2017 soybean fields. The feeding by the adult **imported longhorn weevil** causes a distinctive notching of leaflet edges as they begin feeding on soybean.

Figure 4. Imported longhorn weevil

These insects are native to Japan. The long bent antennae are the basis for the name.

The adult weevil cannot fly and I can find the weevils the same locations every year.

Figure 5. Imported longhorn weevil damage.

Apparently only females are produced and similar to aphids on soybean, reproduction is parthenogenic. Seems to be a disturbing trend in some insect taxa.

The larvae feed on the roots of several legumes and grasses. The mild winter may have contributed to this year's higher populations. Other than a few outside rows of the field, there is not a high probability of yield loss from this insect

Soybean aphid watch 2017

Populations continue to slowly grow. We are looking at doubling times of about one week. I expect things will start to accelerate once a higher percentage of plants are colonized by **soybean aphids**. There are a few areas of the state where individual fields have 100% of the plants infested. If you have not yet started to scout for soybean aphids, it is time to start. I'd be interested in hearing what people are finding around the state.

There are some interesting studies planned for soybean aphid this year. They work out better when they have the aphid test subjects in them. Aphid insecticide efficacy studies and aphid resistant varieties will be discussed at the August 9th field day at the SWROC.

Things that go bump in the night

Figures 6 & 7. White-lined sphinx larvae.

It's that time of year. **White-lined sphinx** larvae have been out and about the past week.

Figure 8. White-lined sphinx moth.

The large larvae come in several color morphs ranging from mostly green to predominately black. They feed on purslane. The larvae may move some distance as they look for a plate to pupate.

In spite of their intimidating size and anal horn, they are harmless to animals and crops.

The moths resemble hummingbirds as they feed on flowers at dusk.

Pest Management Field Day at the Southwest Research and Outreach Center August 9

We have a pest management field day planned for August 9th from 9:30 AM to 12:30 PM. The event will cover soybean aphid management and aphid resistant varieties, soybean agronomics and SCN, corn insects, and weed management. After the tour stops and a lunch, there will be the opportunity to discuss future research and education needs. This field day is sponsored, in part, by Minnesota Soybean. Pre-register online here to help us plan for lunch.

Other UM SWROC Events

Additional Extension events you might be interested in include:
Field school for ag professionals (St. Paul Campus)

Happy trails,

Bruce

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