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# TECH Tips



## Pest Update! 'Twas a Summer Day of Field Visits for a Tech Service Manager

It was a beautiful day – twenty-three of July- when I stopped by some fields and my plots on the fly. We looked, and we dug and what to our wondering eyes did appear, but pestilence here, there and everywhere, oh dear!

First field was a corn stop in eastern Brown County and found northern corn rootworm adults out there- and in a big bounty! Double-Pro silks were seen clipped and roots were pruned too, and plants were quite goosenecked from the wind when it blew. Treatment was needed I fear for the field, as thresholds were met with potential loss of top yield.

Second to the soybeans, and good growth was truly found, but small grasshoppers were also there all around. Aphids were not but be on alert- for they can appear in one great big spurt. White mold treatments should continually be applied, as with wet and cool conditions, Mother Nature has supplied.

Lastly to grower soy fields at the edge of my plots, and Phytophthora was there right on that spot! Not many plants and not that much loss, but a reminder that seed treatment is not that much cost.

The summer is ending but keep an eye on the fields. Fall harvest is coming and we still can protect yields!

## Corn Rootworm Adults Are Appearing

The northern corn rootworm (*Diabrotica barberi*) and the western corn rootworm (*Diabrotica virgifera virgifera*) are major economic pests of corn in the Dakotas and most U.S. corn-producing states. Corn rootworms cost U.S. producers somewhere around \$1 billion annually in yield losses and input costs to control them. Classic symptoms of corn rootworm damage are “goosenecked” corn, and when further inspected, roots with significant feeding from rootworm larvae.

At tassel timing, however, the adult beetles, which are appearing right now, can cause significant damage. The adult rootworm beetles emerge from the soil at this time of year and can cause damage to corn by feeding on the emerging or emerged and still moist silks of the corn plants. Adults can also feed on the young developing kernels at the tip of the ear. Both feeding issues can reduce yield.

**Figures 1 & 2. Northern (top) and Western (bottom) Corn Rootworm adults.** Notice the tan to bright green color of the Northern rootworm adults and the yellow color with black stripes of the Western rootworm beetle. Photos from NDSU.



A field with high numbers of Northern rootworm beetle adults was found in eastern Brown County by our Agtegra Agronomy team from Bristol. The field was a double-pro corn variety and was not treated with an insecticide at planting. The corn field had severely goosenecked plants in spots, had significant root feeding and showed signs of silk clipping. Threshold levels of beetle adults were found in the field. Most of the adult beetles found appeared to be males (which are often more tan colored), but bright green beetles (likely females) were appearing in greater numbers.

#### Monitoring Tips for Adult Beetles:

Monitor corn plants by walking down corn rows and searching for adult beetles on the corn ear, especially the silks and the tip of the developing ear. Adults are most active during midmorning or late afternoon, so scouting within these time periods is best. Count and record the average beetles found per plant.

**Threshold: If the field averages five or more beetles per plant during the first week of pollen shed, control with a foliar-applied insecticide is recommended to reduce pollination problems.**

#### Assessing Silk Clipping:

During pollen shed, randomly select five nonconsecutive plants from five to 10 representative locations within the field and measure the length of the remaining silk that is protruding from the ear on each selected plant.

**Threshold: If silks are clipped to within 1/2 inch of the ear tip on 25 to 50 percent of the total number of sampled plants, then control is recommended to prevent further silk damage. Yield is not affected if silk is clipped after pollination (brown silks).**



**Figure 3. Goosenecked corn.** Significant goosenecking of the corn from root feeding followed by a strong wind event. Photo Jordan Steen.



**Figures 4, 5 and 6. Silk clipping, beetles feeding on the ear tip and adult beetles found.** All these levels found in the field are approaching or at threshold for treatment. Photo 4 and 5 Jordan Steen, Photo 6 Brad Ruden.



**Figure 7. Corn rootworm damage.** Plants show varying levels of root feeding on the two plants on the middle and right. Note the goosenecking on the far right plant. The far left plant in the image was taken from the identical variety in the regional variety plot at Bath where we have very low to non-existent feeding pressure. Note the difference in root mass, especially fibrous roots. Photo Brad Ruden.



**Figure 8. Corn rootworm feeding.** Close-up of the most severely damaged plant. Note the brown, pruned roots in the middle of the image. Photo Brad Ruden.

## **Soybean Pests Update: Grasshoppers, Mid-Season Phytophthora, and White Mold**



**Figures 9 and 10.** Grasshoppers (above) are just appearing in noticeable numbers. Mid-season Phytophthora (right) requires future management with seed treatments. Note the distinct brown line of the disease as it moves up the plant. Photos Brad Ruden

Not everything that damages soybeans is a herbicide! There are insect pest pressures starting to appear in soybeans as well as in corn. A fair number of small grasshoppers were seen in soybean fields, especially at the Research and Technology plots. Thresholds are far from being met but keep an eye out for developing insect pressure to avoid defoliation.

Mid-season Phytophthora is also appearing. The distinct “brown line” growing upward from the soil line and wilted plants scattered among healthy plants is the characteristic of mid-season



Phytophthora. Foliar fungicides for white mold will not have effects on this disease, as it has come up through the roots of the plant. Seed treatments are the best protection.

White mold is a continuous threat. Keep up with white mold foliar fungicide programs to effectively extend control through the later reproductive growth stages.