Crop weather

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


Soybean combining has begun!

Should you skip the Bt traits in your 2015 corn crop to cut production costs?

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For many farmers, the economics of corn production have shifted from maximizing profit to minimizing losses per acre. Many are understandably trying to find ways to cut input costs for the 2015 crop. One area that some have targeted for potentially reducing costs is hybrid selection. Planting corn hybrids without Bt protection for European corn borer, corn rootworm or both will greatly reduce seed costs. It can also reduce crop revenues if done without considering yield potential and insect populations.
The first thing to consider when selecting a corn hybrid is yield potential. Bt traits only provide a yield benefit when targeted insects are above economic levels. When insect pressure is low, any potential yield gains of newer, trait-protected hybrids have to be balanced against their higher costs. A more important consideration may be limited availability of high-yielding non-Bt or single Bt trait corn hybrids for much of Minnesota.

European corn borer populations are in general low in Minnesota (Figure 1.) and much of the Midwest and have been suppressed for several years. However, they may be locally higher in areas where significant amounts of corn without Bt corn borer trait(s) were planted in 2014. Reports of slight corn borer damage in non-Bt corn demonstrate corn borers are still around but a temporary increase in non-Bt corn acreage should not dramatically increase the risk of damage. Planting corn without Bt corn borer protection should be relatively low risk. Any risk can be reduced if you scout fields and apply a labeled insecticide where needed.

Overall, lodging damage from corn rootworms (CRW) is lower than it has been for several years, possibly reflecting last winter's cold temperatures and saturated soils during hatch. In many fields, planting corn without a Bt-RW trait in 2015 will work fine but... Some fields have high populations of beetles. In many cases, beetle populations did not peak until September. In general, western corn rootworm beetles (Figure 2.) are less abundant this year but fields with high populations (> 1 beetle/plant) exist. Additionally, northern corn rootworm beetles (Figure 3.) are more numerous than they have been in the past. Do not assume that you do not have a potential 2015 rootworm problem just because corn did not lodge in 2014.

In Minnesota, there is minimal risk for economic damage from western corn rootworms in 2015 rotated corn. While extended diapause issues have been suppressed over the last 10 years, a few reports of economic damage in rotated corn this year and the more numerous observations of northern corn rootworms this fall should be a warning not to ignore northern. Rotated corn may still be at risk from extended diapause northern corn rootworm.

Unless fields were well scouted for corn rootworms in 2014, some situations should be carefully pondered. Fields with hybrids maturing late for the area, fields with portions replanted or where crop development was delayed by flooded soils this spring, corn fields with late season weed populations or adjacent to weedy soybeans, or soybean fields with heavy volunteer corn should be considered at some risk from corn rootworm in 2015.

Non Bt-RW hybrids will do well in fields where you have monitored beetle populations and know that they were below threshold (0.75 -1.0 beetles/plant or 4 beetles/trap/day) in 2014 and northern corn rootworm populations were also low in 2013. Fields where you know or suspect economic beetle populations exist may benefit from a good at-plant insecticide, a hybrid with a Bt-RW pyramid (two different Bt-RW proteins), and in the worst case scenario both. However, University studies typically do not reveal economic payback for insecticides layered over working Bt traits, especially with pyramided rootworm traits.
Figure 1. 2014 MN Black light trap corn borer captures. Source: http://www.vegedge.umn.edu/MNlist.htm

Figure 2. Western corn rootworm beetles

Figure 3. Northern corn rootworm

Disclaimer: The authors do not sell seed corn or insecticides, or knowingly own stock in companies that do sell them. For those that might need motion sickness relief while combining severely lodged corn at night, the authors also have no interests in any pharmaceutical companies that market Dimenhydrinate®.
Happy trails,

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