

## Crop Production

# Rootworms threaten first-year corn

By JIM STUTE

**A**RE you paying for rootworm control in first-year corn that you don't need? Depending on location, the answer could be "yes," and this includes planting triple-stack, western corn rootworm-resistant hybrids.

If you haven't heard, a variant of western corn rootworm lays eggs in soybean fields, and larvae hatch in corn the next year. This behavioral adaptation renders rotation ineffective as a control measure, hence the alias "rotation resistant" rootworm.



tion resistant" rootworm.

In most areas of Wisconsin, variant western corn rootworm is not a problem, and crop rotation is a viable control measure. Treatment in fields where the variant has not reached damaging levels adds not only the unnecessary expense

of control, but also the hidden cost of handling and loading soil-applied insecticides or spending time planning and planting refuges when using a corn rootworm hybrid — time better spent planting.

However, variant WCR has been found in some areas of the state. Since detection in Wisconsin in 2004, we've seen routine occurrence of the variant in Rock, Walworth, Kenosha and Racine counties, requiring management attention in first-year corn on an increasingly larger area. Threatening populations



Photo courtesy of the UW Entomology Department

**MONITORING PESTS:** Yellow sticky traps are placed in soybean fields to monitor WCR beetle populations.

also have been detected in Dane, Jefferson, Waukesha and Dodge counties. It is in these and neighboring counties that fields are most at risk for new infestations as the range of the pest continues to grow.

So how do you know if you're at risk? Since 2003, University of Wisconsin Extension and the Wisconsin Department of Agriculture, Trade and Consumer Protection have monitored "sentinel" soybean fields in southern Wisconsin for damaging beetle populations, producing annual maps showing their distribution. These maps are on DATCP's Web site, [pestbulletin.wi.gov](http://pestbulletin.wi.gov).

Tracking changes on the maps is a good first step but should not be relied upon to make first-year corn treatment decisions because of the relatively low sample size (one or two fields per township) and the possibility of wide variation in beetle populations between fields. The map should, however, give an indication that monitoring your soybean fields is something to consider.

### Treat on a field-by-field basis

Monitoring beetle populations in individual soybean fields with sticky traps is the only way to determine potential for economic damage to first-year corn the following year. Pest detection using this method can either confirm the variant's movement into a new area or monitor populations to guide treatment decisions on a field-by-field basis. Monitoring WCR beetles is more cost-effective and proactive than waiting for damage to occur in first-year corn or routinely treating as insurance.

Damage potential is field specific because of variability of beetle populations from field to field, between areas, and from year to year. In affected areas of southeast Wisconsin, first-year corn is routinely treated, yet untreated test strips often yield no differently. Adjacent fields may, however, have significant yield loss in untreated strips.

Our testing of trapping methods shows damage potential can be accurately predicted if farmers have knowledge of WCR beetle numbers in soybeans the previous August. The population can be compared against a threshold level known to lead to first-year corn root damage and potential yield loss the following year.

The trapping protocol is available at [www.entomology.wisc.edu/cullenlab](http://www.entomology.wisc.edu/cullenlab) or your county Extension office.

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