

Root Digs Confirm Corn Rootworm Larval Injury Greater Than Recent Seasons



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On July 18, roots were dug at the Northern Illinois Agronomy Research Center, located near Shabbona. The roots were evaluated the next day for injury, and significant levels of pruning were revealed in the checks (control). I look for-

ward to sharing the preliminary root rating results later this summer. For anyone interested in looking at the performance of various Bt hybrids and soil insecticides targeted against corn rootworms in previous seasons, please refer to the On Target web site.

Although it appears that the level of rootworm injury in our trials is greater than in the most recent summers (2009 and 2010), the overall level of the western corn rootworm population can still be described as moderate for this season. What will the typical corn rootworm population look like as we move forward in a landscape increasingly dominated by Bt hybrids? During the next few weeks, our summer research team will survey the western corn rootworm adult population around the state and begin to compare current densities with data obtained from surveys that took place in the 1970s and 1980s. Over time, we can begin to make some more informed assessments of the current and seemingly changing status of the western corn rootworm population in Illinois.

In addition to conducting root injury evaluations, our corn rootworm research has adapted over time to include newer approaches to assess the effectiveness and potential resilience of Bt hybrids. Unlike Bt hybrids that offer a high dose of Cry proteins to many lepidopteran species (e.g., European corn borer), Bt hybrids targeted at corn rootworm larvae are low to moderate in their dosage. Consequently, adult emergence from Bt fields does take place. In an effort to better understand the

dynamics of adult emergence and survivorship of western corn rootworm adults in a Bt seed blend environment, large walk-in tents are often used to estimate emergence patterns. Data from these studies will be used by university and industry scientists to construct mathematical models to predict the potential longevity of new Bt hybrids entering the marketplace that will be sold in 95% (Bt seed) and 5% (non-Bt refuge seed) mixtures. In my estimation, the seed mixture blends (refuge-in-a-bag) will form the foun-



Roots dug on July 18 at the Northern Illinois Agronomy Research Center showed significant levels of pruning in the checks (control).

Walk-in tents used to estimate western corn rootworm adult survivorship and emergence patterns from Bt hybrids (Urbana, July 19).



dation of resistance management plans for Bt hybrids well into the future. Δ

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