



When managing weeds, insects and plant diseases, Dr. Mike Gray, entomologist in the department of crop sciences at the University of Illinois urges farmers to think more long term.



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## Focus *Long Term*

### *An Integrated Management Approach Is Best When Fighting Weeds, Insects, Diseases*

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**D**r. Mike Gray, entomologist in the department of crop sciences at the University of Illinois, is urging farmers to think more long term when managing weeds, insects and plant diseases. Gray focuses mainly on insect pests in corn and soybeans.

He recently gave an overview of some survey work done across the state of Illinois last year. In late July through early August he and his team surveyed about 47 different counties throughout the state of Illinois; in each of those counties they went into five soybean fields selected at random and also five adjacent corn fields.

"In the soybean fields we took 100 sweeps with a sweep net in each of the fields and in the adjacent corn field we took plant count of western corn rootworm adults," he explained. So now I'm sharing the results of these surveys." He also discussed some of the Bt control failures that occurred in northern, north central, northwestern Illinois last year in 2011.

The surveys showed that in some areas of the state, especially in southern Illinois, the overall number of western corn rootworm adults was remarkably low. The southern third of southern Illinois is not known for high density of the western corn rootworm, but nonetheless these numbers were very, very low indeed.

"Then with regard to the samples we took in soybean fields, again I think the producer is going to see that overall numbers of insects like bean leaf beetles, to some extent green cloverworms, soybean aphids, those also were very

low in 2011," Gray said. He discussed some reasons why that is the case with regard to some of the Bt challenges.

In the northern part of the state where some of the Bt failures occurred, he offered some thoughts on why there were failures.

"First of all, I'm sure there was a lot of pressure in those fields," he said. "Last year in Iowa researchers were able to confirm the presence of resistant rootworm populations. We published several newsletter articles to that extent in late July. At this point we have not yet confirmed resistance. We are cooperating with Iowa State to run some bio-assays at the Iowa State lab, so we'll have a specific answer later this spring. The producers have been in continuous corn for many years and relied upon that single trait for many years so, although we suspect resistance may be an issue, we have yet to confirm it."

Still, Gray is asking farmers to take a more long term integrated management approach.

"Vary the tactics to manage not only weeds but insects as well as plant diseases," he urges. "I think we're in a period when resistance to Bt is first and foremost on the mind of a lot of growers after these papers came out last year from Iowa State. So my take-home message is to think more long term if possible. I know that's not always easy. Take a more integrated management approach, don't over rely on any single action over and over again. And you know that's a message that has been around for a long time, but it's often ignored."  $\Delta$

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