# Study Helps Farmers Growing Roundup Ready Corn

**CARBONDALE, ILL.**

Farmers who grow Roundup Ready corn should not rely solely on glyphosate herbicide as their only weed control option, said Daniel D. Schnitker, a Hoyleton farmer who is finishing a master's degree in Southern Illinois University Carbondale's Depart-ment of Plant, Soil and Agricultural Systems.

"We found that applying residual herbicides (which remain active after application) two weeks before planting resulted in increased weed heights as well as increased weed densities compared with the same herbicides applied at planting," Schnitker said.

"The more broad-spectrum residuals (which kill both broadleaf weeds and grasses) helped compensate for the earlier timing, but residual herbicides were best applied at planting to reduce early season weed competition and to protect yield."

As part of his research, Schnitker also determined when farmers could most effectively apply glyphosate (the active ingredient in Roundup). Not surprisingly, it works best when the weeds are small. But test plots treated at planting with the broad-spectrum residuals offered more flexibility in terms of timing.

"It tended to decrease weed densities and provide more consistent weed control regardless of when the glyphosate was applied," Schnitker said.

SIUC weed scientist Bryan G. Young, who supervised Schnitker's work, said the findings would play an important role in helping farmers who are beginning to grow Roundup Ready corn.

"In 2007, the majority of corn grown in Illinois was Roundup Ready," Young said. "Two years ago, that wasn't the case – and there's a growing trend of adoption not just in the Midwest but in the U.S. as a whole.

"While farmers have been growing Roundup Ready soybeans for some time, corn is a different crop and the dynamics of weed management are a little different. What Danny's research does is show that not only is there a benefit in using residual herbicides but also that the rate and timing of application is important, too."

In addition to the work on residual herbicides, Schnitker used his study to "road test" a computerized weed management tool called Weed-SOFT®. Developed at the University of Nebraska, the software aims to help growers and agronomists predict yield losses based on factors such as the type, size and density of weeds in a small portion of a field.

Although the product is already on the market, some users have questioned its accuracy. Schnitker's experience bore that out.

"It was extremely variable, though there may be some good reasons," he said.

"The model doesn't ask for rainfall data, which is an important consideration to determine the growing conditions present for both crop and weeds. Also, we have high densities of certain species on our research farm because that's our game – we need high densities in order to conduct weed management research. But I think the model needs more fine-tuning before it will be fully adopted by producers."

Schnitker's study, which forms the basis of his master's thesis, draws on two years' worth of field research not just in Illinois but in Indiana and Ohio as well. He already has presented his findings in three abstract proceedings for the North Central Weed Science Society, attended both by academics and industry representatives. Last December, the oral presentation he made at the group's annual meeting took second place.

In addition, Young noted that he and colleagues William G. Johnson at Purdue and Mark M. Loux at Ohio State, who worked with Schnitker on the project, have reported the study's findings to growers and retailers in their home states.

"It's important information, and we want to get it out there," he said. Δ