

Resistant ragweed rises

GIANT ragweed has joined the list of glyphosate-resistant weeds in the United States. Three different populations of giant ragweed in Ohio and one in Indiana are now confirmed resistant to the widely-used herbicide. Weed scientists at Purdue University and Ohio State University made that announcement in December.

The weed is the seventh in the United States to show resistance to glyphosate, the active ingredient in herbicides such as Roundup, Touchdown and

Key Points

- Giant ragweed is the seventh weed confirmed resistant to glyphosate.
- Even without the resistance, it is one of the most competitive broadleaf weeds.
- Glyphosate-resistant ragweed is not yet found in Iowa, but it will likely evolve.

other brands. "Given what's happening in Ohio and Indiana, and the fact that giant ragweed populations continue

to increase in the eastern half of Iowa, it's highly likely that glyphosate-resistant ragweed will evolve in Iowa," says Mike Owen, an Iowa State University Extension weed scientist.

Many of the giant ragweed populations in Iowa have already developed resistance to ALS herbicides. "Farmers need to be aware giant ragweed is difficult to manage consistently, regardless of whether or not herbicide-resistant populations evolve," adds Owen.

Monsanto is prepared to assist growers in managing and minimizing the risk of glyphosate-resistant weeds, says Jennifer Ralston, technical manager for Roundup herbicide.

Web tool helps manage resistance

IN the past two years, the number of glyphosate-resistant weeds in the United States has tripled. To help growers manage resistance, Syngenta has created a Resistance Management Module on its Web site, www.resistancefighter.com. It can help you find herbicide solutions unique to individual fields.

"I stood with a farmer looking at a field overrun with glyphosate resistant weeds," says Chuck Foresman, manager of weed resistance strategies for Syngenta. "Pigweed isn't his No. 1 problem. It's his No. 1, 2 and 3 problems. It was so bad he was determining whether or not that land could be farmed."

Each new species that becomes resistant to glyphosate brings an additional challenge. Weeds such as lambsquarters, waterhemp and pigweed aren't as easily managed as marestail, and if glyphosate is used as a tool to control them, there are few alternatives. In addition, resistance to multiple modes of action is already a reality in some weed populations, limiting options even further.

"Unfortunately, there is a mind-set by some farmers that chemical companies are going to develop a new product to alleviate glyphosate resistance before it becomes a bigger problem," says Foresman. "That silver bullet isn't coming anytime in the near future. You need to be looking at herbicide programs available today and other cultural options, and make the best use of those tools."

Addressing grower concerns

"We have provided training for our sales force as well as our local agronomists on how to help growers in making weed management decisions in 2007," says Ralston. "We continue to collaborate with university researchers and Extension weed specialists on studies of the most effective ways to control weeds in a Roundup Ready system."

Growers like the benefits of using glyphosate in corn and soybeans. Monsanto is expecting an increase in Roundup Ready corn from 32 million acres planted in the United States in 2006 to 40 million acres in 2007.

"We want to make sure farmers are



choosing the weed-control options that will minimize risk for glyphosate resistance," says Ralston. "Farmers should use a preemergence residual herbicide in the Roundup Ready system to help manage early season weeds and reduce the pressure on glyphosate."

Extension weed scientists agree. "Growers can't afford not to apply a preemergence herbicide in a Roundup Ready system," says Purdue's Bill Johnson, one of the scientists who discovered the resistant ragweed. "A pre-emergence residual herbicide used in Roundup Ready soybeans and corn pro-



TOUGH COMPETITOR: Glyphosate-resistant giant ragweed is a significant threat. This weed is already hard to kill, even without resistance.

ALS herbicides, the lack of potential control options presents a tricky and costly challenge, especially for soybeans. There are only four postemergence herbicides for giant ragweed in beans: glyphosate, Flexstar, Cobra and FirstRate. ISU rates glyphosate as good; Flexstar, fair; Cobra, fair to good, and FirstRate, excellent on giant ragweed.

If a giant ragweed population is resistant to ALS inhibitor herbicides, you are left with only glyphosate, Flexstar or Cobra. If the population is resistant to glyphosate and FirstRate, then you're left with either Flexstar or Cobra as a postemergence treatment.

For growers having poor control of giant ragweed in Roundup Ready corn or soybeans, Monsanto recommends:

■ In Roundup Ready soybeans, use a preemergence residual product at planting, such as FirstRate or Gangster. Tank mix Roundup with Cobra, Flexstar or FirstRate if postemergence giant ragweed control is needed.

Learn more about resistance

- ✓ www.weedresistancemanagement.com
- ✓ www.resistancefighter.com
- ✓ www.ncga.com
- ✓ www.soygrowers.com

ducts against early season weed competition and can help maximize yield."

University trials have demonstrated that a preemergence herbicide used prior to spraying a postemergence-applied glyphosate treatment increased corn yield by 4 to 9 bushels an acre.

Compounding a problem

Compounding the control of giant ragweed is the fact that weed resistance to ALS-type herbicides is widespread.

Though none of the current giant ragweed populations are confirmed as resistant to both glyphosate and

■ In Roundup corn, use a preemergence containing atrazine, such as Harness Xtra or Degree Xtra at planting. Tank mix Roundup with 2,4-D or dicamba (Clarity, Banvel or Distinct) if postemergence giant ragweed control is needed.

Growers also need to consider the benefits of a corn-bean rotation, including the ability to use different herbicides and cultural practices.

Don't wait too late

"There's still a perception among some people that we're crying wolf about glyphosate-resistant weeds," says Owen. "That's not the case." Sometimes fields have ragweed being treated with glyphosate postemergence at 15 to 25 inches in height. Growers are using two applications and not getting control.

Glyphosate is being managed differently today compared to when glyphosate-tolerant soybeans were first available. Some growers have taken advantage of the perceived simplicity of the Roundup Ready system and are applying glyphosate herbicide too late and on weeds that are too large.

University recommendations continue to include glyphosate as a key component of weed-control programs, notes Owen. However, along with glyphosate, they recommend using a residual herbicide. If weeds have emerged prior to application of the soil-applied herbicide, it should be one that has some burndown capability. That will reduce weed populations and allow for more timely applications of glyphosate.

Corn assistance on new ISU site

IOWA State University has a new Web site for corn production that offers current and relevant management information for producing corn in Iowa. The site provides research-based recommendations and diagnostic tools for farmers, crop consultants and agribusinesses.

The largest section of the site is devoted to "Corn Management," which is broken into categories based on whether the topic addresses over-arching production issues, such as cropping systems and rotations, or if the topic can be isolated to a certain time in the season (planting, early season, midseason, harvest).

For example, in the planting category, users can find information related to topics important to consider before or while planting, such as plant population and planting date. The site is designed to be searched by topic, not information source.

The site includes an image gallery with photos of normal and abnormal growth and development, which might be especially useful during the growing season for diagnostic questions and identification.

■ Check out www.agronext.iastate.edu/corn.