Giant Ragweed Is Latest Concern For Crop Farmers; Herbicide Resistance Found By MU Weed Specialist

COLUMBIA, MO.

When it comes to weed pests, glyphosate-resistant waterhemp tops the list, but resistant giant ragweed may be the challenger.

"Giant ragweed certainly has my attention," Kevin Bradley, University of Missouri Extension weed scientist, told pest management field day visitors at MU Bradford Farm. "We'll focus our research on giant ragweed, both resistant and not."

Bradley considers the resistant waterhemp a statewide problem. "We're not focusing on anymore surveys of waterhemp," Bradley said. "I'm confident it is just about everywhere corn and soybeans are grown."

On the most recent survey, when waterhemp was tested from 144 locations across the state, 58 percent of the populations were resistant to glyphosate. A new survey tested giant ragweed from 27 farms, with 12 found glyphosate-resistant.

Bradley collects weed seeds in the fall from random fields, not just those suspected of having resistance. The seeds are grown in an MU greenhouse. At various stages weeds are sprayed with different concentrations of glyphosate or ALS herbicides. Those that thrive in spite of herbicide are labeled resistant.

"My concern is not just herbicide resistance, but multiple resistances," Bradley said. What started as resistance to glyphosate, the most widely used herbicide, has become resistance to other herbicides.

The newly resistant giant ragweed has been found to tolerate high levels of glyphosate and to have at least moderate resistance to ALS herbicides.

"It will take a combination of herbicides to control the resistant weeds," he said.

At another stop on the MU weed tour, Bradley said best control of weeds is obtained with a two-pass system. Herbicide is sprayed before planting to control overwintering weeds and emerging seedlings. Then the growing crop is sprayed with a post-planting application to control new weeds.

"The majority of the time this two-pass system works best," Bradley said. "There is a definite yield advantage."

However, new herbicide combinations with longer life show promise. "A one-pass system that includes a residual herbicide is becoming more popular with farmers," Bradley said.

At a third stop, Bradley showed off what he called "research that we can't say much about." The soybeans, mostly weed-free, are tolerant to 2,4-D herbicide, an older chemistry that was widely used for years.

"You won't see this available commercially for a few years," Bradley predicted. "But the 2,4-D-tolerant soybeans are very robust and tolerate 2,4-D very well."

This is another example of university and industry cooperation, Bradley said. "We test new products for several years before they are released. We grow them under a wide range of conditions."

A similar demonstration is under way, testing an over-the-top herbicide application on grain sorghum. That combination of hybrid sorghum and experimental herbicide that does not kill sorghum will not likely be available for some time.

Signs at the plots indicated the testing is underwritten by national grain-sorghum checkoff dollars. Many visitors on the tour wagons didn't know there was a checkoff program. Missouri farmers grow much less sorghum than corn and soybeans.

"We're trying to reestablish market share," said Dusti Fritz of the sorghum checkoff program.

In addition to weed pests, the visitors saw research on insects, rusts, molds and other pathogens.

The annual showcase attracts farmers, chemical retailers and industry representatives. As part of the field day registration fee, visitors received a book that shows locations of every test plot at the center. After the wagon tours, visitors can go back to see and compare their favorite controls with new materials.

Bradley also has extensive weed-control plots in northern Missouri. More can be seen at an Aug. 10 field day at MU Greenley Center, Novelty, Mo.

The next events at the MU Bradford Research and Extension Center are two crop injury clinics, July 27-28 and July 29-30. Details at http://aes. missouri.edu/ bradford/. Δ