Waterhemp Control Requires Change In Mindset

COLUMBIA, MO.

In the war between waterhemp and producers, waterhemp is winning, says a University of Missouri Extension state weed scientist.

"As I drive around, I'd have to say that we're not there yet," said Kevin Bradley, who discussed waterhemp at the recent MU Crop Management Conference in Columbia. "I think we are doing better, but waterhemp is our driver weed. We pretty much make every decision on that one weed."

Bradley, who is also an associate professor of plant sciences in the MU College of Agriculture, Food and Natural Resources, says the problems with waterhemp go far beyond glyphosate resistance.

"If you've just got glyphosate-resistant waterhemp, you should consider yourself lucky," Bradley said. "We're seeing waterhemp with multiple resistance to all the other herbicides that we would use to control glyphosate-resistant waterhemp, so we have fewer options and it is much more costly to control."

A different mindset when it comes to weed control is needed, Bradley says. Producers can no longer rely on the simplicity of a glyphosate system.

"It was simple, it was easy, it controlled everything, and now that is just simply not the case at all," he said. "As I look into the future, we're going to get more complex with our weed management. It is not going to get simpler."

Controlling waterhemp will require more proactive management, spraying much smaller weeds, and rotating to herbicides with different modes of action.

Bradley says understanding the biology of waterhemp and identifying its strengths and weaknesses is important. And its strengths are formidable: Waterhemp produces on average 300,000 seeds per plant, grows an inch and a half a day during the height of the growing season, and has evolved resistance to just about every herbicide ever sprayed on it.

"We can name strengths all day long. That's the hard part about waterhemp; it has so many things that enable it to survive," Bradley said. "But more important are the weaknesses, and waterhemp has two as I see it.

"Number one, waterhemp seed is relatively short-lived in the soil – four or five years. If you've kept waterhemp from producing seed and returning seed back onto that land for four years, you are probably going to virtually eliminate waterhemp from your fields."

The second weakness Bradley cites is that waterhemp seed does not emerge from low soil depths. He doesn't recommend it to every grower in every place, but where appropriate, deep tillage can bury that seed and it will not come up.

"In addition to understanding the biology of waterhemp, if we can rotate to multiple modes of action I think we can really get a handle on this problem," Bradley said.

For more information, see the MU Extension publication "Management of Glyphosate-Resistant Waterhemp in Corn and Soybean" (IPM1030), available for free download at www.extension.missouri.edu/IPM1030. Δ