

Weed Control Landscape Is Undergoing Change

Specialist Gives Latest Control Methods For Resistant Weeds

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An update on glyphosate resistant horseweed in the mid-south was presented recently by Dr. Larry Steckel, University of Tennessee extension weed specialist, at the Cotton Focus meeting at the West Tennessee Research and Education Center.

"In 2007 we identified glyphosate resistant palmer pigweed in five counties in the mid-south, Lauderdale, Crockett and Lake county in Tennessee, and folks in Arkansas found it in Mississippi and Crittendon counties there," he began. "Really it was first identified a year or two before that but hadn't moved much."

This past year that changed dramatically. It was identified in 10 counties in West Tennessee, 18 counties in Arkansas, two counties in Mississippi, and a couple of counties in Louisiana as well. Over 30 counties have confirmed cases of glyphosate resistant palmer pigweed now. Moreover, the level of resistance to Roundup, or glyphosate, has dramatically increased.

"In the fields we saw it in 2005 and 2006, we were having palmer pigweed live through 44 ounces of Roundup Weather Max, but we were controlling it with 88 ounces, and that's well below what they had to do in Georgia and the Carolinas where they've had resistance for several years," Steckel reported. "This past year that all changed, we had some that lived through 152 ounces of Roundup Weather Max and that level of resistance was the other big change. Fortunately, most of the resistant palmer pigweed in the state we ran into was in small spots. It hadn't taken a whole field. We found some the size of a pickup truck up to about a parking lot size in a field. We had growers for the first time since I've been here out pulling them and chopping them which was a big change from previous years. I've never seen that before, at least in this state for a long time, actually before the Roundup Ready years.

"The other big part of it is how we're going to manage it from here on," he said. "One of the big things about palmer pigweed compared to others is it's the perfect weed. It's been documented to have the highest photosynthetic rate of any plant ever measured, according to some work out of California several years back. Quite frankly, we ought to be growing it as a crop and not trying to fight it. Its drought stress tolerance is terrific, it is actually a desert dry plant and when most crops shut down when it gets up into the high 90s, it's right at home. It'll keep right on growing and as a result once it starts growing it can grow up to an inch every 10 hours."

It can be managed without Roundup by using Ignite in Liberty Link Cotton up to about four inches tall. Once it gets above that, control becomes more questionable, and when it gets to eight inches, it's too late.

"You'll burn it but it will come back," Steckel said. "The grower has only about two days to control it before it's three to four inches tall. After that, there's no way you're going to control it. My concern is we don't have the sprayer power in the state to overcome it postemergent, so farmers are really going to have to rely on preemergence herbicides and it's going to be more costly. In many cases they're going to have to use two of them, one early preplant, 14 to 30 days out like a Valor or Reflex, and then come in right behind the planter with something else pre- like Cotoran or Dual over the top. They're going to have to rely on those as much as possible."

Unfortunately there isn't much irrigation in the state, however it's not going to be as big a problem there. Farmers can spray it, turn the irrigation on and get it activated. In all dryland acres though, farmers must rely on a rain to get it activated and that may or may not happen.

That is one reason for the early 14 to 30 days out treatment.

"You have a little better chance of getting a rain on that than you do closer to planting so it's going to be a big change in weed control," he said. "The easy days are over and they're never coming back, even with the new technologies you see coming online, like the Dicamba tolerance trait that Monsanto is coming out with in cotton, or the 2,4-D trait that Dow is coming out with, or, as I mentioned, Liberty Link and Ignite. You're going to have to be timely with them."

Another topic he discussed is the other glyphosate resistant weed that is a problem in the state, and that's marestail or horseweed.

"In light of what we're seeing with palmer pig-



Dr. Larry Steckel, University of TN Extension Weed Specialist, discusses glyphosate resistant palmer pigweed in the mid-south. Photo by John LaRose, Jr.

weed, I'm changing my recommendation a little on how we manage marestail," Steckel said. "Typically what I've talked about in the past is going out in February or early March with Dicamba, typically a Roundup, and then some kind of a residual. I've changed that now. I really think now we should just go out with straight Dicamba and then closer to planting put the residual on to try to tackle the palmer pigweed issue we are seeing in the state."

After all the bad news, Steckel also had a bit of good news. Number one, MSMA will be kept for use in cotton, although that was pretty much in doubt up until this last year.

"It's going to be pulled out of use in turf, but we're going to be able to keep it in cotton," he said. "The National Cotton Council went to bat for the growers, many wrote letters in support of it. Myself and Chris Main and our colleagues in the other states wrote and we're going to keep it pretty much. It's going to have more regulation than it had in the past. There has to be filter strips near permanent bodies of water but at least we're going to keep it."

"The other thing is there's a new herbicide from BASF that will come out next year that in our research has been very effective on marestail applied as a burndown," he said. "It's in the same family as Valor or Reflex but those have no post activity on marestail. This does, in as low a rate as an ounce. On top of that you'll get residual for both marestail and palmer pigweed with it. So there is a little bit of good news so maybe we can help manage some of these weeds. However, overall the whole landscape is going to change on how we manage weeds in all our row crops." Δ

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