

Stewardship: Manage Weeds

Tank Mix, Rotate, Maintain Constant Vigilance For Glyphosate Resistant Weeds

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Dr. Larry Steckel, extension weed specialist with the University of Tennessee located at Jackson, Tenn., addressed the topic of glyphosate resistant weeds in a presentation recently.

"In the mid-south right now we have more glyphosate resistance than any other area in the world in the number of species that are glyphosate resistant," he said. "In particular for us here in Tennessee two major ones that are our biggest problems are glyphosate resistant horseweed or marestalk and glyphosate resistant Palmer amaranth. Also, we have some problems with glyphosate resistant giant ragweed in places, so we're going to address some overall management of those particular species, but primarily we are focusing on Palmer amaranth because it has blown up extensively this year."

Steckel said there were many fields in the western part of the state where Palmer amaranth had a very good toehold and became a huge issue for growers. They spent anywhere from \$35 to \$40 more an acre than they did just a few years ago, and didn't get as good a weed control as when Roundup controlled these weeds at any stage. Steckel did a very conservative estimate on the impact of glyphosate resistant Palmer amaranth on the state and its growers.

"With just an additional herbicide cost on soybeans and cotton in the state of Tennessee, it is \$75 million more than we spent four years ago; you tack on another application cost over just the soybean acres and that is \$8 million; and we had more than one extra application cost, we had two or three," he said. "I just tried to be conservative. Then I figured that in about a third of our soybean acres we lost 17 percent of our yield. I got that from some data on Palmer amaranth. Just one Palmer amaranth per square yard will reduce soybean yield by 17 percent."

"It's a hundred million dollar problem for the state and that's very conservative. It's probably \$150 to \$200 million, more than likely. We lost fields, I mean fields; I have pictures of a 220-acre field of soybeans not too far from here in Lake County, the grower didn't harvest anything, the weeds completely took it," he said.

Steckel stressed that the biggest problem with glyphosate resistance is not the resistant weeds, nor is it the herbicide.

"It's just the people, they are in denial," he said. "They say 'I can wait one more year, it's not going to happen to me;' and the first year you get glyphosate resistant pigweed on your field is the year it costs you the most money! Number one, because you lose yield to competition from the weeds; and number two, you end up putting a lot of herbicides on it that have no chance of working. You spray Roundup once or twice, then you come back with some Flexstar, something like that, and by the time you do that it's already eight to 10 inches tall and there's no herbicide in the world that's going to control it."

"Then we start getting chopping crews in and I've never seen the like of chopping crews we're having for pigweed this past year," Steckel added. "Back when I used to chop weeds out of soybeans I didn't make anything; these folks are getting \$25-\$35 and even on some really bad fields \$100 an acre; and that's after you throw all these herbicides at it and have already lost yield."

There's no cure for the problem, there's no easy answer. The good old days of weed control are over.

"We think back to 2003 and 2004 when Roundup controlled it at any height, we're moving now into where we're basically plugging the hole that Roundup has left with PPO herbicides, namely Flexstar, Valor or Ignite."

"I'm not worried about glyphosate resistant weeds anymore, that horse is out of the barn," he said. "What I am worried about is these herbicides we're plugging the hole with now like the Flexstars and Ignites, developing resistance to those and then we are sunk. I don't know if a lot of growers realize how close we are to the end of the rope. There are no new herbicides on the horizon! If there are, the chemical companies are keeping it awful close to their chests; so what we have now is what we have to steward if we are going to continue to raise crops and use herbicides effectively."

There are some new traits coming on, the 2,4D trait, the dicamba trait and many people as well as Steckel once thought that will be the answer for things like glyphosate resistant Palmer pigweed. It seemed the level of control was going back to the level achieved with Roundup when they could be controlled at two foot tall.

"What we're finding in some of our first research on it though in these areas that we're looking at 2,4D and dicamba, we're just spraying weeds with no crop; we're controlling it pretty well if it's 6 inches tall but if it gets up to eight, 10, 12 inches tall a quart of 2,4D or pint of dicamba will lay it down; then it will grow on the ground for about a week before it puts its face back to the sun. What we are finding is tank mixes with Ignite and probably, this is something we're going to look at in the future, with things like Flexstar, we're getting good control," he added.

By tank mixing the two together, being good

stewards of the two products, they may remain viable until 2015 when some new technologies are expected to come on line.

"If we can get to that point and not have resistance developed to those two herbicides, maybe we can have a really good chance of managing this weed, long term," Steckel said. "That way, you have the Ignite protecting the 2,4D from resistance and the 2,4D protecting the Ignite from resistance. However, I am concerned because we are still four years away from 2015 when the new products are available."

His take home message is to use stewardship on Ignite and Flexstar.

"Don't just continually spray those, rotate around; use a pre that is not one of those herbicides, like with Flexstar use something like a



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Dual Sencor pre, and then come back with Flexstar; don't use a Valor and come back with Flexstar, or a PPO after a PPO. Rotate to corn and get some atrazine in the mix. There are many good herbicides in corn for pigweeds. Just try to keep mixing it up and, if we can get through 2015 with these traits coming on and keep these older herbicides in play, I think we have a real chance to manage this long term. If not, we're just going to keep burning one herbicide out after another."

Steckel also stressed that farmers maintain weed control from 30 days prior to planting the crop to 30 days after the crop is cut, whether it's corn, cotton or soybeans.

"What we found the last several years in some of our worst Palmer pigweed resistant fields that are in cotton and soybeans this year, they were in corn the previous year," he said. "These farmers are controlling these weeds up front."

The problem is not in the crop. However, as the corn dries down in August, particularly if there are some thin areas, pigweed gets a little light and a little water and it shoots up late. It's not uncommon to see particularly a lot of corn fields, but other fields like cotton and soybeans too, that have a lot of resistant pigweed coming up late. So there are big seed loads produced in September and October.

"Some growers now are doing something different they've never done before to prevent this: They're out spraying gramoxone after they cut the corn with the combine," Steckel said.

Steckel urges those lucky enough not to have the problem yet or those who don't think they do and it's just starting to get a toehold to put \$12 worth of a pre out, remembering it could save you \$40-\$50 the next year.

"That's another thing we've got to get into play if we're going to manage this weed for the future," he said.

In his discussion, Steckel also mentioned the weed, scouring rush, that has been creeping out of the ditch banks.

"We keep getting calls on what we can do to control it," he said. "We're just in the infancy of trying to look at some things there. Fortunately, it doesn't spread that much, it seems to be more of a problem for the fields on creek and river banks; but for Dyer County and Lake County where we have all these rivers running through, for these growers, it's an issue. Roundup has never controlled it, and I think that's one reason it continues to be a problem. About the only thing that seems like it does help are some of the growth regulators like 2,4D and dicamba; and of course that will give us some answers in corn, but it doesn't give us answers in cotton and soybeans. So we're looking at that, that's something new that we've been working on lately. But primarily we're concerned with Palmer pigweed. It's the burning issue and it's really costing our growers this last year and I think it will for the foreseeable future." Δ

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