

Weed Control Rules Are Changing

Scout fields, Vary Modes Of Action To Control Weeds In Cotton Fields

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The rules are changing for weed management in all crops, and an update on resistant weeds was presented recently by Dr. Anthony Ohmes, University of Missouri regional agronomist.

“Missouri is predominantly a corn and soybean state with a little bit of cotton, so a lot of the problems we look at are in soybeans and corn, but resistance management discussed this morning can apply to any crop, especially cotton,” he said.

Ohmes presented results from the 2008-2009 winter resistance screening of Palmer amaranth seeds that he sent to Kevin Bradley, MU Weed Scientist from Scott and Mississippi counties, located in the Bootheel.

“The resistance we suspected here in the Bootheel has been confirmed,” he said. “When you see a field with one weed species, that’s a good indicator the field has some resistance issues. This is confirmation from our weed scientist, Kevin Bradley, that we do have glyphosate resistant Palmer amaranth in the Bootheel.”

Along with the glyphosate resistant Palmer pigweed, horseweed (marestail), and waterhemp, something new, glyphosate resistant johnsongrass, has been confirmed in Arkansas.

“That’s something to be prepared for in the future,” Ohmes added. “Also, one of the things that concerns me is multiple modes of action resistance. All of the glyphosate resistant samples were resistant to ALS inhibitors. One plant sample that I sent in also had a resistance response to the PPO inhibitors. The PPO inhibitors are products like fomesafien (Reflex). In weed management for

cotton, soybeans or corn, early pre-plant and preemergence programs are critical for maintaining control of glyphosate resistant weeds, with PPO inhibitors as the primary mode of action. If residual PPO products, such as flumioxazin, lose effectiveness, there are no pre-plant or preemergence options out there other than the old standard small seeded broadleaf products whose residual effective control is marginal.

“Even though we have resistance in the Bootheel, some of our top cotton varieties are glyphosate resistant,” he said. “Those are our top yielding varieties, so growers are going to be utilizing this technology and it’s still a good technology for many applications. There are still a lot of fields that are very clean. However, one of the things I want to stress is to be proactive and utilize preplant and/or preemergent residual products whenever you can; and also with a post emergence application, hit weeds early. Don’t wait until you’re getting weeds that are too big.

Transgenic technology varieties that may be coming out in the near future are tolerant to older chemistry such as dicamba.

“This technology might have some utility in some weed resistant areas and it adds another mode of action; but as far as new modes of action, no, I’ve not seen or know of any new products coming out.

“That’s another concern for the grower, but I think with the tools he has, if he stays on top of it, times it right and gets back to utilizing resid-

ual products, preplant and/or preemergent, and moves away from a total post mentality, I think it’s going to give him that height differential that he needs between his crop and his weeds to control them,” he added. “This is especially true in cotton where you have hooded sprayers and you can use contact products that should do a pretty good job post-directed.”

Weed management needs to go back to more of the old school of controlling things, a little bit more timely and more proactively.

“We must be more proactive on our weed control and not rely on just one product to take care of weeds, such as Palmer amaranth,” he said. “We have to use an arsenal of tools and there are still good tools out there, it’s just using them and mixing and matching them and using them in the right way.”

His take-home message is to scout the fields regularly. Use preplant and/or preemergence



Dr. Anthony Ohmes, University of Missouri Regional Agronomist talks about how the rules are changing for weed management, and gives an update on resistant weeds.

Photo by John LaRose, Jr.

residual products, even on fields still considered free of resistance. His advice is to spray post emergence products on weeds smaller than three inches, get good coverage by using plenty of water, and use the right tip for the right product. If the label says to use a flat fan for good leaf coverage, don’t use an air induction tip.

When there’s an escape from a post emergence application and it’s just a few weeds, hand remove them.

“If you have a situation that is worse than that, you’re going to have to come up with some kind of plan for that season, but also plan for next season,” Ohmes suggested. “Again, it is most critical that weed management, resistance or not, utilizes different modes of action. Use pre-plant and pre-emergence herbicides, use post directed products that have residual and contact action on the target weed. Mixing modes of action and properly timing applications are going to be very important as we move into more and more resistant fields.” Δ

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