

# Protect Herbicide Resources

*Use Multiple Modes Of Action To Save Herbicide Effectiveness*

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**F**armers should make every effort to protect the modes of action presently in use on rice fields, according to Dr. Jason Norsworthy, University of Arkansas weed scientist. The reason is simple. There are no other alternatives for controlling the most damaging weeds.

“We are running out of herbicides or modes of action in rice for the control of barnyardgrass and unless we see a new herbicide brought to the market in the near future, which I don’t think is going to occur, we are going to have to do a better job of protecting the resources that we currently have,” he said.

Norsworthy discussed two new herbicides that were brought into the Arkansas rice market the past growing season. The first was League, a new rice herbicide that is registered by Valent for use preemergence at a rate of 6.4 ounces per acre, as well as postemergence at a rate of 4 ounces per acre. This herbicide specifically is effective against two troublesome weeds, coffee-

to 18 inches tall.”

Norsworthy has heard some growers are using some pasture herbicides on rice levees to try to control big pigweeds and are having some success.

“The problem is, some of these herbicides actually have residuals within them and soybeans are very sensitive to them; so when growers try to plant soybeans behind the rice crop the next year, they’re actually going to find that the herbicides that they’re using on these rice levees are going to carry over into soybeans. We’re very concerned about that, but again the main thing is we’ve got to prevent seed production on these levees because we want to go into soybean with a lower seed population of pigweed than we had earlier.”

Another topic he discussed was ALS resistant rice flatsedge. It was found last year for the first time, and 21 samples were screened.

“We found 11 of those 21 rice flatsedge samples are resistant to the ALS herbicides, such as Permit, Beyond, Newpath, Strada, and Grasp,” he said. “We have a lot of ALS herbicides that

**Dr. Jason Norsworthy, University of Arkansas weed scientist, says farmers should make every effort to protect the modes of action presently in use on rice fields as there are no other alternatives for controlling the most damaging weeds.**



bean or hemp sesbania, as well as nutsedge, specifically yellow nutsedge. In Arkansas, this herbicide fits best as a preemerge chemical.

“We currently have postemergence herbicides for control of those two weeds prior to flooding,” he added. “I like the idea that this herbicide actually provides about two to three weeks, sometimes even four weeks, of residual control early in the growing season; so it buys us some time to come in and clean up smaller weeds prior to going to flood.”

He also touched on the Clearfield technology and the fact that about 70 percent of the acreage in Arkansas is Clearfield.

“We have repeated use of Clearfield technology year after year on the same acres and we’d like to see at least clomazone (Command) used on those acres,” he suggested. “Command helps protect the rice crop against ALS-resistant barnyardgrass becoming a problem in the crop. We found more and more barnyardgrass that is becoming resistant to the various herbicides that we have. In particular we have barnyardgrasses resistant to propanil, Facet, the ALS herbicides such as Newpath and Beyond, and we also have a barnyardgrass that is resistant to Command.

“What is interesting here is that we now have fields within the state where we have resistance to propanil, Facet, and the ALS herbicides all in the same field,” Norsworthy added. “Also, we have a very limited number of herbicide options for the control of barnyardgrass and therefore we have to strive to protect the technologies that we have, because there really isn’t anything that we see in the pipeline from a new mode of action standpoint in the near future.”

Levee weed control was a big topic due to the rotation of rice with soybeans. Pigweed is the number one weed causing concern on levees.

“We have glyphosate-resistant pigweed problems in soybean,” he explained. “We come out of soybean and go into rice with the idea that we’re going to clean up our pigweed problems, and unfortunately, pigweed is a problem on a levee. It’s not an issue out in the field itself or in the bay, but it is on the levees. We can do a real good job of controlling it when it’s a seedling, two to three inch stage. We’ve got numerous options there, propanil in combination with Grandstand is a real good option. There are several options again when it’s a seedling; but unfortunately, in terms of levees we’re generally looking at controlling a plant that is going to be 15 to 18 inches tall and there aren’t many options.

“There are some areas of the state where we still can use 2,4-D, which, by far, has been the best option that we’ve found. Outside of 2,4-D, I haven’t found anything in our research that’s going to allow us to control a pigweed that’s 15

we’re using in rice to clean up weed problems postemergence.”

One new product that came into the market this year is Permit Plus, an ALS herbicide. It’s actually the product Permit plus another product, Harmony, that was used previously in soybean. Gowan has brought that into the rice market, basically to broaden the spectrum of Permit.

“What we see with Permit Plus is the herbicide now will have increased activity on ducksalad, groundcherry, Pennsylvania smartweed as well as some additional weeds,” he said. “But again, one issue there is that’s an ALS herbicide, and we do have ALS resistant sedge that is currently in some of these fields; and again, resistant sedge populations are definitely increasing, which is a concern for us in terms of how to manage these weeds as well as the utility of the ALS herbicides.”

Some solutions include propanil containing products which have been found to be very effective, especially when these weeds are small. Basagran is very effective, but once the weeds get some size and there’s a failure, a farmer will have to try to salvage the rice crop.

“Once he has failure of his ALS herbicide, we have found propanil in combination with Basagran, or a very high rate of propanil – 5 quarts of propanil per acre – is about the only option left to achieve effective control in a salvage type situation on rice flatsedge.”

Norsworthy is urging farmers to first focus on preventing weed seed production on levees.

“Obviously, timing is critical and I know it’s very challenging to make timely applications on these levees, but again at two to three inch size weeds we can do a good job with propanil; with Grandstand, it’s going to take multiple applications on these levees. But we cannot allow the pigweed on the levees to go to seed. If they go to seed you will go into soybean the following year with a higher seed population than when you came out of soybean. Obviously, if you’re growing Roundup Ready soybean that’s going to be a major concern, because of the ineffectiveness of Roundup on a glyphosate-resistant Palmer amaranth.

Norsworthy couldn’t stress enough that the number of mode of actions for rice is very, very limited.

“These are resources that we have to protect. I know that we’re promoting multiple modes of action in these fields, and we’re going to have to do this. I know it’s going to cost a little more on the front end, but we have to use multiple modes of action in these fields if we are going to protect these herbicides long term,” he summed.  $\Delta$

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