

Herbicide Programs for Managing Glyphosate- and ALS-Resistant Palmer Amaranth in Mississippi Soybean

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Preemergence and Postemergence Programs to Manage Resistant Palmer Amaranth. ¹			
Soybean System ²	PPI ³	Preplant/Preemergence ³	Postemergence ⁴
Roundup Ready	Pendimethalin, Trifluralin	Authority MTZ, Authority XL, Boundary, Canopy, Envive, Fierce, Sonic, Valor/Valor XLT	Cobra, Flexstar GT/Flexstar, Prefix, glyphosate + Dual Mag/Warrant/Zidua, Ultra Blazer
Liberty-Link	Pendimethalin, Trifluralin	Authority MTZ, Authority XL, Boundary, Canopy, Envive, Fierce, Prefix, Sonic, Valor/Valor XLT	Ignite, Ignite + Dual Mag/Warrant/Zidua
Conventional	Pendimethalin, Trifluralin	Authority MTZ, Authority XL, Boundary, Canopy, Envive, Fierce, Sonic, Valor/Valor XLT	Cobra, Flexstar, Prefix, or Ultra Blazer

- (1) Glyphosate- and ALS-resistant Palmer amaranth populations are prevalent across much of Mississippi. This guide is to help aid producers in the management and/or prevention of resistant pigweeds. Intensive scouting is necessary to determine if control options employed have failed. **Timely postemergence applications are critical in controlling escaped pigweed populations.**
- (2) Rotation of soybean herbicide systems — such as Roundup Ready and Liberty Link — is recommended to help delay the onset of resistance if it is not currently present, or to manage existing resistant populations.
- (3) The use of residual herbicides at full label rates is imperative in managing resistant weeds. Residuals, when properly activated by timely rainfall or irrigation, can provide 2–3 weeks of pigweed control (depending on time of year, soil moisture, and weed pressure). **If pigweed has already emerged at time of application, the addition of paraquat to the mixture is highly recommended.** All products may be applied preplant or preemergence with the exception of Treflan/Prowl, which should be applied pre-plant incorporated.
- (4) Postemergence herbicides are meant as a tool to control escaped pigweeds not controlled by residual herbicides. **All postemergence treatments should be applied when pigweeds are 2–3 inches tall. Spray coverage is critical in the control of weeds with contact herbicides like Flexstar, Cobra, Ignite, etc. Be sure to use a spray nozzle (flat fan, twin jet, etc.) that will ensure thorough coverage of the weed. Avoid use of air induction (AI) nozzles with contact herbicides.** DualMag/Warrant/Zidua do not have postemergence activity on glyphosate-resistant pigweed but could offer additional in-season residual control of pigweed.

Eubank is an assistant extension/research professor at the Delta Research and Extension Center in Stoneville. This document was approved for publication as MAFES Information Sheet 1352 of the Mississippi Agricultural and Forestry Experiment Station. It was published by the MSU Office of Agricultural Communications, a unit of the Division of Agriculture, Forestry, and Veterinary Medicine. Copyright 2013 by Mississippi State University. All rights reserved. This publication may be copied and distributed without alteration for nonprofit educational purposes provided that credit is given to the Mississippi Agricultural and Forestry Experiment Station.





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