

**MANAGING HERBICIDE-RESISTANT PALMER AMARANTH
IN MISSISSIPPI SOYBEAN**

Information in the [Feb. 18 2016 edition of AgFax Weed Solutions](#) confirms that a significant portion of the Palmer pigweed population in the Midsouth is resistant to PPO herbicides (Group 14), and the magnitude of this resistance is likely to increase. This adds another layer of resistance to herbicides in this weed, and further complicates management systems for its control.

PPO resistance means that herbicides such as Flexstar/Reflex, Sharpen, and Valor (click [here](#) for all herbicides in the PPO inhibitor group 14), which have been applied for pigweed control for several years, have likely been overused to the extent that Palmer has developed resistance to the herbicides in this MOA group.

According to Dr. Larry Steckel, UT Associate Professor and Row Crop Weed Specialist who is quoted in the above AgFax article, Liberty (and compatible glufosinate products—herbicide Group 10) is the last herbicide that will control Palmer amaranth post-emergence in soybeans where PPO resistance is a factor. His recommendations for using Liberty herbicide in LibertyLink soybeans are provided. Briefly, they are:

- Coverage with Liberty or equivalent glufosinate products is critical, and applying in at least 15 gallons of water is recommended.
- The time of day that glufosinate is applied directly influences pigweed control. Best results are achieved if Liberty is applied in a window from 2 hours after sunrise to about an hour before sunset.
- In soybeans, consider mixing a PPO herbicide with glufosinate to achieve more consistent control of Palmer pigweed.
- Utilize cultural weed control practices such as cover crops.
- Rotate soybeans with corn or grain sorghum so that herbicides with other MOA's are used.

In response to this additional resistance to PPO herbicides in Palmer pigweed, Mississippi specialists (Drs. Jason Bond, Trent Irby, and Dan Reynolds) posted an article on the Mississippi Crop Situation blog site that provides additional narrative on the subject. That article is appended here. They also compiled a soybean weed control guide to reflect the potential for PPO-resistant pigweed, as well as pigweed's current resistance to glyphosate and ALS (Group 2) herbicides. That guide is appended here, along with choices of residual herbicides to use.

