

PIGWEEED UPDATE FOR THE SOUTHEAST**Alan C. York****North Carolina State University****Raleigh, NC****Abstract**

Glyphosate-resistant Palmer amaranth is known to occur in at least 18, 22, and 11 counties in Georgia, North Carolina, and South Carolina, respectively. Acreage infested with the resistant biotype is conservatively estimated at 600,000 acres. The extent of the problem has increased rapidly since the initial discovery in Georgia in 2004, and it is expected to further increase due to prolific seed production, continued selection for resistance, spread of seed on equipment, and gene flow via pollen. Palmer amaranth resistant to ALS inhibitors is also common in the Southeast, with multiple resistance to both glyphosate and ALS inhibitors becoming more common. To date, no resistance to PPO inhibitors has been found in Palmer amaranth in the Southeast, but weed scientists are increasingly concerned over this potential and growers are encouraged to limit use of PPO inhibitors to one application per year. Growers are depending heavily on PPO inhibitors to manage glyphosate-resistant Palmer amaranth in cotton, soybeans, and peanuts; multiple resistance to glyphosate and PPO inhibitors would be devastating. Extension personnel in the Southeast are strongly recommending integration of other herbicide modes of action into glyphosate-based management programs. Recommended programs begin with an aggressive preplant or preemergence regime. It is critical that glyphosate-resistant Palmer amaranth be controlled preemergence as research has shown that salvage control with combinations of Cotoran, MSMA, and Staple is not feasible. Among the preemergence herbicides currently available, control is greatest with Reflex or Staple, intermediate with Cotoran or Direx, and least with Prowl or Caparol. Tank mixes of two preemergence herbicides, such as Reflex + Direx, Reflex + Staple, or Direx + Staple, are usually more effective than single herbicides. Valor is commonly used in preplant burndown programs, and research has shown similar control with Valor and Reflex. In fields heavily infested with Palmer amaranth or where resistance is suspected, Dual Magnum mixed with an early postemergence application of glyphosate is recommended to extend residual control. That is followed with a lay-by application containing another residual herbicide. Research in North Carolina, South Carolina, and Georgia has shown that, with timely activation of the preemergence herbicides, good control of heavy infestations of glyphosate-resistant Palmer amaranth can be obtained. Glyphosate-resistant Palmer amaranth is generally easier to manage in corn or soybean than in cotton. With acreage of these crops expected to increase in 2009 in response to reduced cotton acreage, growers are encouraged to take advantage of opportunities to control the problem weed in these crops.