

# Resistance a growing problem

By J.T. SMITH

**P**ALMER amaranth is called "pigweed" in the South and often tagged "careless weed" in Texas and the Southwest. But when it becomes resistant to herbicide, you might call it "nightmare weed."

Folks in the Southeast already encounter resistance; cotton growers in the Southwest hope they won't.

Stanley Culpepper, weed scientist, University of Georgia, Tifton, was reared on a North Carolina farm that still produces cotton and soybeans. Culpepper told the 2009 Beltwide Cotton Conferences in San Antonio that Palmer amaranth resistance to herbicide has wreaked havoc in the Southeast.

"Palmer amaranth can grow a half inch overnight," he laments. "Or it can grow 4 inches in 52 hours."

That's a mean weed; one plant can have 450,000 seeds.

## Hard to stop resistance

Chuck Farr of Mid-South Ag Consultants Inc., Crawfordville, Ark., says his region is struggling with herbicide resistance.

Robert Lemon, with AgriThorty LLC, Caldwell, Texas, has seen what resistance to glyphosate herbicide by pigweeds can do to devastate cotton in other regions.

"You don't want pigweed resistance to herbicide," the agronomist assures. "This is real, and it's serious."

Pigweed isn't the only weed displaying resistance to glyphosate. Others include water hemp, horseweed (aka, mare's tail), johnsongrass and giant ragweed.

Culpepper agrees with Lemon about producers being alert. He says management hinges on accepting the seriousness of the situation and overcoming the attitude of "It won't happen to me."

"Prevention and early detection are essential," Culpepper says.

In 2004, only one county in Georgia was identified as infested with glyphosate-resistant Palmer amaranth. By 2007, 10 Georgia counties were confirmed with pigweeds resistant to glyphosate.

## Stretching control

Bayer CropScience has new technology on the way to help weed management in cotton, including the following:

- GlyTol cotton with a resistant trait to glyphosate herbicide is expected to be introduced as a proprietary product in 2009. It will be limited to some FiberMax cottons in the Southwest initially.

- GlyTol/LibertyLink will follow as the first stacked-gene herbicide-resistant cotton in 2010.

- The GlyTol/LibertyLink stacked-gene herbicide trait with Bollgard II for worms is set for 2011.

- GlyTol/LibertyLink/TwinLink (dual Bt trait) is planned for 2012.

Monty Christian, director of Bayer cotton technology and fiber business, says the last one will package cotton with resistance to Roundup herbicide because of the GlyTol trait, and Ignite herbicide per the LibertyLink trait, plus have the dual Bt trait with TwinLink.

Christian says Bayer's GlyTol trait technology is not the same as Roundup Ready Flex technology from Monsanto.

## Key Points

- Herbicide resistance is a problem for the Southeast and Mid-South.
- Palmer amaranth can spread and grow very quickly.
- New technology is trying to deal with resistance.

The GlyTol trait uses a different gene and promoter.

## Dicamba, glufosinate tolerance

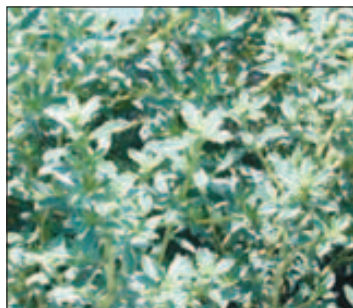
Monsanto also has new products in its pipeline.

At the 2009 Beltwide conferences, Monsanto announced that dicamba- and glufosinate-tolerant cotton is coming as its first "three-way stack" of herbicide-tolerant technologies. It adds two new modes of action — dicamba and glufosinate tolerance — to the Roundup Ready Flex system that Monsanto already has.

Steve Padgett, biotechnology lead for Monsanto, notes the new technology already has moved to Phase 2, which means it is still about six to seven years from launch as it gains EPA approval.

He says it will be the most effective weed control system available, will provide great flexibility and will help control weeds that have developed resistance to a specific herbicide.

Randal K. Boman, Texas AgriLife Extension agronomist, Lubbock, says



PALMER AMARANTH

Texas growers have been receptive to new technologies and notes that the vast majority of cotton in the state now is planted to transgenic varieties.

## Weed control for wheat

DuPont now has Finesse Grass and Broadleaf herbicide in a new homogeneous blend that will be easier for wheat growers to mix, measure and apply. A single, early-season application provides season-long control of cheatgrass, wild oat, annual ryegrass and many tough broadleaf weeds.

The product is labeled on winter wheat from the two-leaf to jointing stage. It can be applied with up to 100% fertilizer solution, which saves growers a second trip over a field. It delivers both contact and residual control of weeds.

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