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Brake[®] F2, New Mode of Action for Palmer amaranth Control in Cotton

It's been called a superweed, a crop robber and the cotton industry's most destructive adversary since the boll weevil. Palmer amaranth (Palmer's pigweed, carelessweed) is a zero-tolerance nuisance that can impede crop production, destroy farm equipment and require expensive or labor-intensive management. Considering this reputation was established before a new strain of glyphosate-resistant Palmer amaranth made customary herbicide programs ineffective, the game has changed for cotton growers.

In response to an industry in search of a new mode of action, **Brake[®] F2 Herbicide** has been granted Section 18 emergency exemptions for use in 2014 in approved counties of Georgia, South Carolina, North Carolina and Tennessee for the control of glyphosate-resistant Palmer amaranth. SePRO Corporation and Nichino America, Inc. are partnering in the marketing and product stewardship effort for Brake F2. The launch of a new Brake F2 website, www.sepro.com/brake offers growers and agents access to application instructions, links to expert advice and authorized distributor agents, product label downloads, pricing and more.

"The next step is getting Brake F2 to the farms where it's most needed along with the knowledge growers want to maximize its use," said SePRO President William Culpepper. "The Brake F2 weed control system has been developed with a devotion to managing future herbicide resistance. We are pleased to be able to provide another tool to manage this urgent problem facing cotton growers."

Formidable Foe

In 2004, the first glyphosate-resistant Palmer amaranth was discovered in Georgia.¹ Today, the resistant population is widespread in the southeastern U.S. and has been reported in Texas, Virginia, Indiana and many other places.² Due to the rapid proliferation of resistant Palmer amaranth, herbicide costs in the cotton industry soared from around \$23/acre in 2004 to \$100/acre by 2012.³

The explosive proliferation of resistant Palmer amaranth sent growers, agents and researchers in search of an alternate compound with a different mode of action.

The USDA turned to SePRO Corporation in 2011 to inquire about the potential use of Sonar® for the control of Palmer amaranth. Sonar Aquatic Herbicide is the nation's leading herbicide for the control of weeds in lakes and ponds. Sonar restores infested water bodies by controlling target weeds at low rates while allowing desired plants to reclaim their place in the ecosystem. However almost a decade before Sonar was introduced to the aquatics market in 1986, it had also been investigated and proven highly effective for weed control in cotton under the trade name Brake. Recognizing that the alternate mode of action offered by Brake was integral in the effort to manage glyphosate-resistant Palmer amaranth, the Brake Cooperative Research Program was initiated by SePRO Corporation with support from Cotton Incorporated and the National Cotton Council.

New Formulation

Fomesafen requires low moisture for activation but provides shorter residual control while fluridone requires more moisture for activation but has longer residual control. Cotton is very tolerant to fluridone. The combination of the two complementary active ingredients, re-introduced under Section 18 in South Carolina in 2013 as Brake F2, has shown a tremendous advantage with crop safety with growers reporting extended control of up to 6 to 10 weeks or longer, depending on soil type and conditions.

“The key to glyphosate-resistant Palmer amaranth control is a comprehensive integrated weed management strategy. Brake F2 can be used as the foundation residual treatment in such a program,” said Dr. Tyler Koschnick, Vice President of Research and Regulatory at SePRO. “Brake F2 provides good crop safety and residual Palmer amaranth control. An early post-plant treatment with an overlapping residual as well as scouting for escapes and use of a late post and/or layby applications are all still essential to achieve the necessary zero-tolerance control.”

Cotton growers are working together to control glyphosate-resistant Palmer amaranth and prevent further herbicide resistance through the use of comprehensive integrated weed management

programs. SePRO and Nichino America continue to refine best-management guidelines to provide optimal control of Palmer amaranth in cotton.

“Nichino America is excited about our new association with SePRO and Brake F2. We look forward to representing this great new tool for glyphosate-resistant Palmer amaranth control in the cotton herbicide market,” said Jeff Johnson, President of Nichino America.

SePRO Corporation is a research-based Life Sciences Company focused on the specialty chemical and pharmaceutical industries. SePRO is recognized as an industry leader in providing the highest level of technical service to customers who operate in specialty niche markets. SePRO’s key business segments include the U.S. Aquatics Industry, Greenhouse/Nursery Markets, Professional Turf/Landscape Management and the Pharmaceutical industry, operating as ParaPRO, LLC. For more information, call **800-419-7779** (toll-free) or visit **sepro.com**.

Nichino America, Inc. manufactures and sells several proprietary crop protection products known for their targeted performance, flexibility and ease of application and fit with today’s environment. Among the company’s products are Applaud[®], Apta[™], Bexar[™], Centaur[®], Courier[®], FujiMite[®], Miteus[™], Portal[®], Torac[™], Turismo[®], and Vetica[®] insecticides, ET[®] herbicide/defoliant, Pyresta[®] and Venue[®] herbicides, and Artisan[®] and Convoy[®] fungicides. For more information, call **888-740-7700** (toll-free) or visit **nichino.net**.

Please consult with your local dealer in SC, GA, TN, or NC for more information on Brake F2. Always read and follow label directions.

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¹“Pigweed in the Cotton: A ‘Superweed’ Invades Georgia,” Andre Gallant, modernfarmer.com, July 18, 2013.

²“Palmer amaranth Weed Creeping Across Midwest From South,” Steve Karnowski, Huffingtonpost.com, October 26, 2013.

³“Palmer amaranth Tough For Cotton Farmers,” Clint Thompson, caes.uga.edu, June 5, 2013.