MANAGING GLYPHOSATE-RESISTANT ITALIAN RYEGRASS USING CLETHODIM BASED PROGRAMS

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Abstract

Glyphosate-resistant Italian ryegrass has become increasingly problematic for growers in the Mississippi Delta since 2005. Currently, there are a limited number herbicide chemistries and application timings which provide adequate control of glyphosate-resistant Italian ryegrass. Should application opportunities be missed/delayed or additional flushes of glyphosate-resistant Italian ryegrass emerge post treatment, alternative control options are needed. Our objectives were to compare the efficacy and to identify the most effective application timings of ACCase herbicides for control of glyphosate-resistant Italian ryegrass.

Research was conducted at two on-farm sites located near Elizabeth, Mississippi from 2009-2010. All treatments were applied with a tractor mounted sprayer equipped with 11002 spray nozzles calibrated to deliver 15 GPA. Data collected included a visual control rating at monthly intervals on a scale of 0 -100 with 0 being no control and 100 being complete control. Factor A was application timing and included applications made in November, January, and March. Factor B was herbicide treatment and included Roundup WeatherMax (22oz/A), Select Max (12 and 16 oz/A), Fusilade DX (12 and 16 oz/A) and Assure II (8 and 12 oz/A). Data was analyzed using mixed procedure with means separated by estimates of the least square means.

Evaluations made 45 DAT indicated Select Max (16 oz/A) controlled glyphosate-resistant Italian ryegrass better than Assure II (12 oz/A) and Fusilade DX (16 oz/A) at January and March timings. November and January applications of Select Max were more effective than March applications. Assure II and Fusilade DX provided better control of glyphosate-resistant Italian ryegrass when applied in November. End of season evaluations made on April 12 showed Select Max at 16 oz/A was the most effective treatment at all three application timings. Control of glyphosate-resistant Italian ryegrass was better following January and March applications compared with those in November. Treatment performance varied across locations indicating that glyphosate-resistant Italian ryegrass emergence timing can differ from field to field.

Select Max is most effective ACCase herbicide for control of glyphosate-resistant Italian ryegrass. Glyphosate-resistant Italian ryegrass emergence after herbicide application compromised control from November treatments. Although applications in March provided similar control to those in January, Italian ryegrass biomass following March applications reduces the utility of spring application. Select Max at 12 to 16 oz/A should be applied when weather permits in January for control of glyphosate-resistant Italian ryegrass.