EVALUATION OF STAPLE PLUS AND ROUNDUP ULTRA MAX WEED CONTROL PROGRAMS

D.K. Miller, P.R. Vidrine, S.T. Kelly and D.R. Lee
Louisiana State University AgCenter
Baton Rouge, LA

Abstract

Research was conducted in 2001 at the Northeast Research Station in St. Joseph, La on a silt loam soil (pH 6.8, OM 0.5%) to evaluate weed control programs with Staple Plus (pyrithiobac plus glyphosate) and Roundup Ultra Max (glyphosate). EPOST, MPOST, or LPOST application was to cotyledon to one, two to three, or three to four-leaf cotton, respectively. Staple Plus treatments were applied as Staple (pyrithiobac) plus glyphosate (Roundup Original). Treatments evaluated included Staple Plus (0.5 oz ai/A + 0.75 lb ai/A or 0.7 oz ai/A + 1.0 lb ai/A) applied MPOST; Staple Plus (0.3 oz ai/A + 0.5 lb ai/A) applied EPOST followed by Staple Plus (0.3 oz ai/A + 0.5 lb ai/A or 0.5 oz ai/A + 0.75 lb ai/A) applied LPOST; Staple Plus applied EPOST followed by LPOST (0.5 oz ai/A + 0.75 lb ai/A); glyphosate (Roundup Ultra Max) (0.75 or 1.0 lb ai/A) applied MPOST; glyphosate applied EPOST followed by LPOST (0.75 or 1.0 lb ai/A); and Staple plus Cotoran (fluometuron) (0.5 oz ai/A + 0.9 lb ai/A) applied PRE followed by Staple Plus (0.5 oz ai/A + 0.75 lb ai/A) applied LPOST. A nontreated control was included for comparison. Nonionic surfactant was included with all Staple Plus treatments at 0.25% v/v. Herbicides were applied broadcast to all rows of each 4 x 12 m, four row plot. Weeds evaluated included barnyardgrass (*Echinochloa crus-galli* L.), goosegrass (*Eleusine indica*), hemp sesbania (*Sesbania exaltata*), sicklepod (*Senna obtusifolia*), smooth pigweed (*Amaranthus hybridus* L.), pitted morningglory (*Ipomoea lacunosa*), and entireleaf morningglory (*Ipomoea hederacea*). Multiple weed flushes were observed due to above average rainfall season long. Efficacy of treatments was determined with a visual rating 21, 35, and 67 d after EPOST application. Late season rainfall resulted in heavy weed infestation and disease, therefore yield could not be determined.

At 21 DAT, Staple Plus programs resulted in hemp sesbania, smooth pigweed, sicklepod, and pitted and entireleaf morningglory control ranging from 88 to 95, 95, 81 to 94, 85 to 93, and 91 to 95%, respectively. Single application at the high rate MPOST provided control equal to lower rate sequential applications. Sequential applications or the high rate were needed for good grass control. Control of these weeds was not increased with addition of Staple plus Cotoran PRE to Staple Plus programs. Roundup Ultra Max programs resulted in hemp sesbania and smooth pigweed control ranging from 91 to 93 and 81 to 91%, respectively. Control of barnyardgrass, goosegrass, and pitted and entireleaf morningglory ranged from 54 to 73, 55 to 73, 66 to 75, and 66 to 76%, respectively.

At 35 DAT, results were similar with Staple Plus providing good to excellent control of broadleaf weeds and fair to good control of grasses. Roundup Ultra Max programs provided good control of hemp sesbania and smooth pigweed and fair to poor control of grasses and fair to good control of other broadleaves evaluated.

At 67 DAT, Staple Plus at the highest rate applied MPOST resulted in at least 85% control of all weeds except sicklepod (80%). Control was equal to sequential applications. Roundup Ultra Max at the highest rate sequential application resulted in 81, 83, and 80% control of barnyardgrass, hemp sesbania, and goosegrass, respectively, which was equal to control with Staple Plus. Morningglory control ranged from 75 to 88%.