WEED MANAGEMENT SYSTEMS FOR TWIN-ROW COTTON

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Abstract

Experiments were conducted in 2004 through 2007 to evaluate weed management systems in twin-row cotton. Glyphosate tolerant cotton (Delta Pine 555) was planted in twin rows (two rows spaced 19 cm apart) with sets of twin rows spaced 76 cm apart. This twin-row planting pattern was compared to cotton planted in single rows spaced 76 cm apart. Cotton was thinned to one of three final plant densities (3, 6, or 12 plants per m) in each row pattern after cotton emergence. Weed management regimes included one herbicide application (glyphosate plus metolachlor applied to 4-leaf cotton), two herbicide applications (the 4-leaf treatment followed by a second glyphosate application to 8 leaf cotton) or three herbicide applications (the 4-leaf and 8-leaf treatments followed by a directed postemergence application of prometryn plus MSMA at lay-by). One herbicide treatment provided less control of sicklepod, smallflower morningglory and benghal dayflower than two or three herbicide applications while two or three herbicide applications provided similar control. In single rows 3 plants per m resulted in less weed control than 6 or 12 plants per m. There was no differences in sicklepod, smallflower morningglory or benghal dayflower control among plant densities in twin rows. Cotton canopy closed 20 to 30 days sooner when cotton was planted in twin rows compared to single rows. Seed cotton yield was greater in twin rows at 3 plants per m but there were no yield differences between row patterns at 6 or 12 plants per m.