

Yield Enhancement and Reduced Nutrient Removal by Weeds in Winter Irrigated Cotton Using Potassium Salt Based Glyphosate

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Abstract : Field experiment was conducted at Eastern Block farm, Department of Farm Management, Tamil Nadu Agricultural University, Coimbatore during winter season of 2011-2012 to evaluate potassium salt based glyphosate (Roundup Crop Shield 460 SL) with and without intercultural operations on seed cotton yield and weed nutrient removal in irrigated cotton. The experiment was laid out in Randomized Block Design with treatments replicated thrice. The treatments consisted of POE glyphosate (Roundup Crop Shield 460 SL) at 1350 (T1), 1800 (T2), 2250 (T3) g a.e. ha⁻¹, 1800 g a.e. ha⁻¹ + IC (T4), PE pendimethalin at 750 g a.i. ha⁻¹ + IC (T5), HW at 35 and 70 DAS + IC (T6), HWW at 35 and 70 DAS + IC (T7), PWW at 35 and 70 DAS + IC (T8), HW at 25 and 45 DAS (T9) and Unweeded control (T10). Among the weed management methods, decreased nutrient removal by weeds were observed with POE glyphosate at 1800 g a.e. ha⁻¹ + IC which was comparable with PE pendimethalin at 750 g a.i. ha⁻¹ + IC. Higher seed cotton yield was obtained with POE glyphosate at 1800 g a.e. ha⁻¹ at 35 and 70 DAS with + IC at 45 and 55 DAS which was comparable with PE pendimethalin at 750 g a.i. ha⁻¹ + IC at 45 and 55 DAS. Comparing treatments without intercultural operation, intercultural operation carried out treatments performed better and recorded more seed cotton yield.

Keywords : cotton, weed, glyphosate, nutrient

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020