

INTEGRATED WEED MANAGEMENT IN KHARIF MAIZE AT FARMERS FIELD IN CENTRAL PUNJAB

PARAMJIT KAUR SRAW, AMANPREET KAUR & KULDEEP SINGH

Krishi Vigyan Kendra, Jalandhar, Punjab, India

ABSTRACT

*In order to determine the effects of maize (*Zea mays* L.) and cowpea (*Vignasinensis*) intercropping on weed controls on farm trials were conducted at farmer's field in Jalandhar district of Punjab during 2011 and 2012 at four locations in kharif season. The experiment was laid out in a randomized block design with three replications comprising of five treatments, including Atrazine@ 2.0 Kg /ha, maize intercropped with cowpea (2:1) used as fodder 30 DAS, Maize intercropped with Cowpea (2:1) used as live mulch 30 DAS, one Hand Weeding (30 DAS) and unweeded control. The treatments significantly affected the weeds and crop parameters. Weed suppressing effects in intercropping combinations were higher as compared to other treatments. There is 35-56% reduction in weed population in intercropping treatments and Furthermore, cowpea acted as mulch, reducing weed biomass by up to 45.5% and 39.6%. All the treatments showed 16.9 to 27.9 % increase in grain yield of maize over control. Overall highest average grain yield of maize (4.9t/ha) was recorded in maize intercropped with cowpea (used as mulch) followed by maize intercropped with cowpea (used as fodder) 30 DAS which was 27.9 and 22.2 % higher as compared to control. Maize intercropped with cowpea used as fodder 30 DAS gave the maximum net return (Rs 16.4 $\times 10^3$ /ha) but highest benefit cost ratio was obtained in maize intercropped with cowpea used as mulch 30 DAS. The lowest net return (Rs 9.9 $\times 10^3$ /ha) and benefit cost ratio was obtained in unweeded control.*

KEYWORDS: Maize, Intercropping, Cowpea, Mulch, Weeds

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