

Integrated weed management in soybean

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ABSTRACT

A field experiment was conducted during the rainy season of 2002-2003 on “Integrated weed management on Soybean” at Experimental Farm, College of Agriculture, Parbhani, Marathwada Agricultural University, Parbhani. To study the performance of different herbicides in controlling the weed in comparison to manual weeding and to study the effect of weed control treatment on growth and yield of soybean, the highest grain yield was recorded in hand weeding and hoeing at 3 and 6 weeks after sowing which was at par with pre-emergence alachlor (10G) 1.5 kg a.i./ha + HW and hoeing at 6 WAS. Lowest dry weed weight at 40 DAS recorded in treatment of 2 HW and hoeing at 3 and 6 WAS which was at par with weed free.

Key words : Weed, soybean, WAS- weeks after sowing, HW- hand weeding, H- hoeing. PE- pre-emergence, Weed index

INTRODUCTION

Soybean [*Glycine max* (L.) Merrill] is reported to have originated from eastern Asia as its wild type had been identified in China. It is being cultivated since long time in China but afterward it has spread in western countries like Brazil, America etc.

Soybean crop has been recently introduced in India and its importance is increasing day by day because of its high yield potential and protein content. Due to its higher protein content it is known as ‘poor mans meat’.

Apart from higher yield potential, soybean possesses a very high nutritive value. Soybean being a rich source of protein (40 to 42 per cent) has acquired an importance in human diet and as well as cattle feed. Soybean contains 20 per cent oil. Soybean oil has more percentage of unsaturated fat and is cholesterol free. Therefore, it is very safe for regular diet of person having heart problem. Soybean oil contains essential fatty acid because of this soybean become an important crop of industrial use.

Pulses and vegetable oil are the integral part of Indian diet. The per capita availability of pulses and oilseed in India is 35 and 12 g/day as against recommended level of 85 and 45 g/day respectively. This clearly indicates that there is wide scope for expansion of area under soybean as oilseed crop.

After green revolution India become self sufficient in food grain production. But, India is still lagging behind in pulses and oilseed production. Therefore, there is

immediate need of another revolution in case of oilseed and pulses.

In production technology, plant protection is a key in increasing the productivity of crop. Under plant protection weed control plays an important role for increasing the yield. Weed alone was found to reduce the yield to the extent of 58 to 85 per cent (Kolhe *et al.*, 1998).

Weed control is generally neglected even though it is a crucial factor. Due to negligence in weed management crop yield losses up to 20 to 77 per cent (Kurchania *et al.*, 2001). Hence, weed management is an important factor to increase the productivity of crop.

Realizing the need for development of effective and economic weed management practice a field study was conducted by comparing different recent herbicides with manual and integrated method under Parbhani condition during *kharif* 2002 with following objectives:

1. To study the performance of different herbicides in controlling the weed in comparison to manual weeding.
2. To find out effective and economic method of weed control

MATERIALS AND METHODS

The present experiment was laid out in simple Randomized Block Design (RBD) with nine treatments

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