

Integrated weed management in *Rabi* groundnut

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ABSTRACT

The present investigation was undertaken during *Rabi* season of the year 2005-2006 at Water Management Centre, Marathwada Agricultural University, Parbhani. The result revealed that the treatments viz., two hand weeding and hoeing at 15 to 30 DAS, and herbicides in combination with hand weeding were second in order. While only intercultural operations viz., two hoeing at 15 to 30 DAS were third in rank and herbicides alone were next in order of merit. Weed intensity and dry matter of weeds was maximum (53.00/sq. m. and 77.70 g/sq. m., respectively) in weedy check (unweeded control). Weed control efficiency the basis of weed dry matter was maximum in weed free (96.43%) at harvest, which was followed by two hand weeding and hoeing at 15 DAS (95.49 %) and pre-emergence (PE) pendamethalin followed by hand weeding (95.08 %). Unchecked weeds recovered 63 % pod yield loss.

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Key words : Weed, Groundnut, *Arachis hypogaea*, IWM

INTRODUCTION

Groundnut (*Arachis hypogaea*) is an important oilseed crop in India. The biological value of groundnut protein is among the highest of the vegetable protein. Groundnut kernels are rich in vitamins viz., A₁, B₁, B₂, and vitamins. It is a good rotation crop. It builds up the soil fertility and also an effective cover crop for lands exposed to soil erosion. In India, groundnut is grown on 5.7 million hectare with a production of 4.7 million metric tonnes (Anonymous, 2004). In spite of this crop so important, one of the most important reason of low yield is the competition of crop plant with the unwanted associated weeds flora during early growth stages due to late emergence and establishment. Considering the above fact in view, the present investigation were under taken.

MATERIALS AND METHODS

A field experiment was carried out in plot No. A - 8 of Water Management Centre, Marathwada Agricultural University, Parbhani during *Rabi* season of the year 2005-2006 in Randomized Block Design (RBD) with three replication and nine treatments. Details of treatments and applications are given in (Table 1).

Weed count :

A quadrant (1 x 1 m²) was randomly fixed in two

places in each net plot and the monocot and dicot of weed count in the area of each quadrant was recorded. The total weeds per square meter was recorded before hand weeding and hoeing after harvest.

Dry weight of weeds :

Dry weight of weeds were taken separately of dicot and monocot weeds at 15, 30, 60 days after sowing and at the harvest.

Weed control efficiency (WCE): (Gautam *et al.*, 1975)

$$\text{WCE (\%)} = \frac{\text{DMC} - \text{DMT}}{\text{DMC}} \times 100$$

where,

DMC=Dry matter weight of weeds in control plot

DMT=Dry matter weight of weeds in treatment plot

Weed index : (Gill and Vijaykumar, 1969)

$$\text{Weed index} = \frac{X-Y}{Z} \times 100$$

where

X = Denotes the yield from yield free plot.

(Complete removal of weeds)

Y = Yield from treatment for with weed index is to

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