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Weed management in ber (*Ziziphus jujuba* L.)

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ABSTRACT : Cultural and chemical weed control in ber orchard was studied for three years and pre-emergence application of atrazine @ 2 kg/ha followed by glyphosate @ 2 l / ha after weed emergence was effective in controlling weeds in ber. The weed population, fresh and dry weight of the weeds (42.00, 74.67 and 21.67, respectively) were the least in this treatment. The weed control efficiency (71.66 %) was also maximum in this treatment while the yield per tree was maximum in T_7 (pendimethalin + glyphosate) (13.28 kg per tree).

KEY WORDS : Weed Management, Ber, *Ziziphus jujube*, Atrazine

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Ber (*Ziziphus jujuba* L.) is an important commercial fruit crop in the arid and semi-arid regions of India. It is drought tolerant and fetches additional and alternative source of income for dryland farmers. In Tamil Nadu there is a good scope for its area expansion as it comes up well under rainfed condition. In the event of non availability of labour, cultural and chemical weed control has to be done though chemical weed control is not common in dryland areas. But not much of research has been conducted on weed management in ber under rainfed vertisols. Hence, an experiment was formulated to study the efficacy of cultural methods and chemical weed control in ber.

RESEARCH METHODS

Field experiment was conducted during three years from 2004-2007 in ber var. Kaithali with ten treatments and three replications under Randomized Block Design. The treatments comprised of T_1 (weeding by using power tiller three times a year), T_2 (Hand weeding three times in a year), T_3 (cowpea as cover crop), T_4 (Clusterbean as cover crop), T_5 (Pendimethalin + Paraquat), T_6 (Atrazine + Paraquat), T_7 (Pendimethalin + Glyphosate), T_8 (Atrazine + Glyphosate), T_9 (mulching) and T_{10} (control).

RESEARCH FINDINGS AND DISCUSSION

Observation on weed population, fresh and dry weight of weeds are presented in Table 1. The weed flora *viz.*, *Cyperus rotandus, Cynodon dactylon, Rynchosia minima, Brachiaria repens,Chloris barbata,Corchorus olitorius, Digeria muricata, Phyllanthus maderaspatensis, Dactyloctenium aegyptium, Leucas aspera* were identified in the trial field.

The results of treatment on weed population revealed that number of weeds were the least in the treatment T_8 with atrazine and glyphosate (42.00 No.) followed by T_6 and T_5 (57.00 and 57.67 No., respectively) while the highest number of weeds were recorded in control (150.57 No.) (Table 1).

The fresh weight of the weeds was least in the treatment with atrazine and glyphosate (T_8) (74.67 g) followed by T_1, T_5, T_9, T_6 and T_4 (106.33 g, 108.33 g, 131.33 g, 135.33g and 160.00 g, respectively) which were at par. The maximum fresh weight of weeds was observed in T_{10} followed by T_3, T_4 and T_2 which were at par. The dry weight of the weeds was also minimum in the treatment with atrazine and glyphosate ie T_8 (21.67 g) which was also at par with T_1, T_3, T_5, T_6, T_7 and T_9 while the maximum dry weight was observed in the control (146.00 g)

The weed control efficiency was maximum in the treatment with atrazine and glyphosate T_8 (71.66%) which was also at par with T_1, T_2, T_5, T_6 and T_7 (56.92, 47.19, 58.92, 62.42 and 46.10%, respectively). Bajwa *et al.* (1990) observed maximum weed control in ber by application of dalapon followed by paraquat @ 5 kg/ha. Bajwa *et al.* (1993) also opined application of glyphosate to be effective in killing weeds in ber.

The effect of weed control treatments on growth and