



Research Article

## Weed management studies in onion (*Rabi*)

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**ABSTRACT :** A field experiment was conducted during *Kharif* season 2010 at Main Agricultural Research Station, University of Agricultural Sciences, Dharwad to study the effect of herbicides on weed population, plant height, yield and bulb weight in onion. The data on weed management and yield revealed that Oxyflurofen 23.5 per cent EC application before planting + one hand weeding at 40-60 days after transplanting showed significant reduction in weed population, fresh weight of weeds and dry weight of weeds and also revealed that significant increase in plant height, number of leaves, marketable yield, total yield and average bulb weight.

**KEY WORDS :** Herbicides, Marketable yield, Total yield, Average bulb weight, Onion

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### INTRODUCTION

The bulbous vegetable onion, *Allium cepa* var. *Cepa* L. ( $2n=16$ ) is the most important species of *Allium* group and is regarded as the single most important vegetable spices in the world after tomatoes and is considered as top most export commodity among vegetables. Onion bulb is rich in minerals, especially calcium and phosphorus besides having fairly good quantities of carbohydrates, proteins and vitamin C. It forms an indispensable part of many diets of both vegetarian and non-vegetarian as a flavouring agent. It is consumed in raw form and salads regularly in small quantities comparable with that of hot pepper. The pungency in onion is due to a volatile compound known as allyl propyl disulphide, which is sulphur rich compound. It has got the effects of lowering the blood sugar fat and also having good coagulation effect. The good storage of dry onion has facilitated the world wide trade and is

always in demand even in the smallest local markets. Among many causes of low productivity, onion exhibits greater susceptibility to weed competition as compared to other crops due to its inherent characteristics such as slow germination, extremely slow growth in the initial stages, short stature, non-branching habit, sparse foliage and shallow root system. This favours quick and fast growth of weeds in the initial stages and competition thus tends to be severe. Moreover, use of liberal dose of FYM, fertilizers and frequent irrigations creates favourable conditions for weed growth (Singh *et al.*, 1986). It is an established fact that weeds compete with crop plants for space, nutrients, moisture and light there by reduces the quality and quantity of yield (Moolani and Sachan, 1966). In onion, weeds emerge with transplanting of seedlings and grow along with them. This causes severe competition between the crop and weed (Bhan *et al.*, 1976). If the weeds are present throughout the crop growth period, there may be complete loss of marketable yield.

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### EXPERIMENTAL METHODS

A field experiment was conducted during *Kharif* season 2010 at Main Agricultural Research Station, University of Agricultural Sciences, Dharwad with the objective to study