



## Influence of different weed management practices on growth and yield of garlic (*Allium sativum* L.)

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**Abstract :** Field experiments were conducted for two seasons on medium black soils to know the Influence of different weed management practices on growth and yield of garlic (*Allium sativum* L.). The experiment was conducted with BLG-1 genotype. The experiment was laid out in Randomised Block Design with three replications having fifteen treatments each. The treatments consisted of six herbicides with two concentrations each along with two manual weeding treatments and an unweeded control. The cultural practices were practiced as per the package of practices of University of Agricultural Sciences, Dharwad. Among the different treatments, the herbicides like chlorimuron and chlomazone were highly toxic to garlic crop and resulted in 100 per cent mortality of the crop. While, least toxicity was observed in hand weeding treatments and the herbicides like oxyfluorfen and pendimethalin. The treatment weed free control was superior for all the growth parameters at all the stages of crop growth during all the seasons, and was followed by oxyfluorfen @ 0.10 kg and 0.20 kg a.i. ha<sup>-1</sup> and pendimethalin @ 1.0 kg a.i. ha<sup>-1</sup>. While, the least values for all the parameters was observed in unweeded control at all the stages. The yield parameters and yield were significantly higher in weed free control and was followed by oxyfluorfen (0.10 kg a.i./ha), oxyfluorfen (0.20 kg a.i./ha) and pendimethalin (1.0 kg a.i./ha). While, unweeded control recorded the least yield during all the seasons.

**Key Words :** Weed management, Yield, Garlic, Growth

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### INTRODUCTION

Garlic (*Allium sativum* L.) is one of the most important and widely consumed bulbous spice crops belonging to the family, Alliaceae. It is grown for its bulbs throughout India. The bulbs can be consumed as a spice or condiment in the form of various processed products such as garlic paste, pickles and in several food preparations like chutneys, curried vegetables, curry powders, meat preparations etc. Garlic is among the most ancient cultivated vegetables giving pungency. It is native of Central Asia and Southern Europe especially Mediterranean region. It is being grown in India and China in large areas. The world's area and production of garlic is 1.0 million ha and 10.12 million tonnes, respectively.

India is next to China in area and production in the world. In India, it is being cultivated over an area of 1.20 ha with a production of 5 lakh tonnes (Pandey and Bhonde, 2001).

Weed infestation is one of the major problems that the farmer is exposed to in the course of crop production apart from the non-availability of better inputs. One of such problems is the weed infestation. Garlic is a shallow rooted, narrowly spaced crop with slow initial growth and short stature. Therefore, it is incapable to compete with aggressive weeds and weeds may reduce the bulb yields to the extent of 40 to 60 per cent (Sandhu *et al.*, 1997). Weed control in garlic by hand weeding is becoming expensive, time consuming and laborious. Sometimes due to scarcity of labour at critical stage of crop growth the yield levels may reduce drastically. One of

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