

# Growth, Yield and Quality Attributes of Single Clove of Garlic as Influenced by Herbicidal and Manual Options in Managing Weeds

Mallik S<sup>1</sup> and Sharangi A B\*<sup>2</sup>

<sup>1,2</sup>Research Scholar and Professor, Department of Spices and Plantation Crops, Faculty of Horticulture, Bidhan Chandra Krishi Viswavidyalaya (Agricultural University), Mohanpur-741252, Nadia, West Bengal, INDIA  
E-mail: <sup>1</sup>smallik90@yahoo.com, <sup>2</sup>dr\_absharangi@yahoo.co.in

---

**Abstract**—A field experiment was conducted at the Horticultural Research Station Mondouri, BCKV during 2013-14 and 2014-15 to study the effect of weed control methods on weed population dynamics as well as their effects on yield and quality in garlic (single clove). The treatment combinations used were Oxyfluorfen 23.5% EC (Gola) applied before sowing and at 60 days after sowing (DAS), Pendimethalin 30% EC (Stomp) applied before sowing and at 60 DAS, Quizalofop Ethyl 5% applied before sowing and at 60 DAS, Oxyfluorfen 23.5% EC applied before planting + one hand weeding at 45 DAS, Pendimethalin 30% EC applied before planting + one hand weeding at 45 DAS, Quizalofop Ethyl 5% applied before planting + one hand weeding at 45 DAS, combined spray of Quizalofop Ethyl 5% and Oxyfluorfen 23.5% EC at the time of sowing and at 60 DAS, combined spray of Pendimethalin 30% EC and Quizalofop Ethyl 5% at the time of sowing and at 60 DAS, weedy check (Control). The most predominant weed flora in the experimental field were *Chenopodium album*, *C. murale*, *Amaranthus viridis*, *Anagallis arvensis*, *Convolvulus arvensis*, *Parthenium hysterophorus*, *Spergula arvensis*, *Digera arvensis*, *Cyprus rotundus*, *Euphorbia hirta* and *Cynodon dactylon*. Garlic yield in all the treatments were significantly increased except in control. The maximum weed control efficiency (WCE,%) , highest bulb yield ( $t\ ha^{-1}$ ), TSS ( $^{\circ}$  Brix), Vit C (mg/100g), RSA (%) and minimum weight loss during storage (g) were found with Pendimethalin 30% EC applied before sowing + one hand weeding at 45 DAS and was found to be the best treatment as compared to control and other herbicides. A gradual loss of weight was observed in case of single clove garlic.

**Keywords:** Garlic, *Allium sativum*, weeds, herbicides, single cloves.