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Evaluation Of Garlic (*Allium Sativum* L.) Genotypes

N.W. Futane, N.D. Jogdande, V.S. Gonge, A.D. Warade* and S.S. Khandagale

University Department of Horticulture, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola (M.S.) 444 104

ABSTRACT

An experiment was conducted at University Department of Horticulture during *rabi* season of the year 2002-2003 to study the performance of eight genotypes of garlic viz. G-1, G-41, G-50 , G-282, Godawari, Shweta, Local-1, Local-2. The results indicated that, the leaves per plant, weight of fresh bulb, the diameter of bulb, total soluble solids and bulb yield per hectare were maximum in the genotype G-41. However, plant height, weight of '100' cloves and clove thickness were maximum in the genotype G-282. The garlic genotype G-50 recorded the maximum values for the characters number of cloves per bulb and length of clove and, the genotype Godawari took minimum period for maturity.

Key words : Evaluation Garglic Genotype,

INTRODUCTION

Garlic (*Allium sativum* L.) is an important crop widely used as spice or condiments. It has been reported to possesses antimicrobial, antifungal, insecticidal and medicinal properties. It's variety of product like garlic paste, garlic powder, garlic oil, garlic tablets, dehydrated garlic etc. could be prepared for commercial use. The quality of fresh produce as well as it's product is ultimately affected by physical and chemical characteristics of bulb. Agronomic aspects such as time of planting, nutrition, varieties play an important role, hence to increase the production of garlic, knowledge about the performance of genotype to specific agro climatic conditions is essential. Keeping this in view the investigation was proposed.

MATERIALS AND METHODS

The experiment was conducted at University Department of Horticulture, Dr. PDKV, Akola, during *rabi* season of the year 2002-2003 in medium black soil. The treatment consists of eight genotypes of garlic viz. G-1, G-41, G-50, G-282, Godawari, Shewta, Local-1 and Local–2. The experiment was laid out in Randomized Block Design with four replications. Cloves of different genotypes were planted at a spacing of 10 x 10 cm on dated 30th September, 2002. Nitrogen at the rate of 100 kg ha^{-1} and phosphorous 50 kg ha^{-1} was applied. Half dose of nitrogen in the form of urea and full dose of phosphorus in the form of Single Super Phosphate were applied at the time of planting. And remaining half dose of nitrogen was applied 30 days after planting of garlic cloves.

***Author for correspondence**

RESULTS AND DISCUSSION

All the characters under study were significantly influenced by the genotypes of garlic. (Table 1). The genotype G-282 produce significantly maximum plant height at 135 DAT (75.75 cm) and found at par with the genotype G-50 (73.42 cm). The number of leaves at 135 DAT was significantly maximum (9.14) in the genotype G-41 and found at par with the genotype G-50 (8.95). The genotype Local -2 recorded significantly minimum neck thickness (0.86 cm). Significantly minimum period for maturity (137.25 days) was recorded under genotype Godawari and found at par with shweta (145.50 days), G-282 (142.5 days) and G-41 (144.25 days). The genotypes G-41 gave significantly the maximum weight of fresh bulb (31.30 g) followed by the genotype G-50 (25.05 g). The diameter of bulb was significantly maximum in the genotype G-41 (3.63 cm) and found to be at par with the genotype G-1 (3.44 cm). The garlic genotype G-50 produced significantly the maximum number of cloves per bulb (27.15) and being it was minimum in the genotype G-282 (13.70). This clearly demonstrates the inherent capacity of the genotype. The weight of '100' cloves was recorded maximum in the genotype G-282 (171.60 g) while, the minimum was recorded in the genotype Shweta (75.42 g). The genotype G-50 recorded maximum length of clove (3.30 cm) and it was followed by the genotype G-41 (2.90 cm). The genotype G-282 produced the cloves with maximum thickness i.e. 1.28 cm and it was followed by the genotype G-1 (0.96 cm). The total soluble solid was significantly maximum in the genotype G-41 (41.10 %) and found at par with the genotype Godawari (38.70 %).