



Diversity studies in guava genotypes with reference to growth and yield attributes

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ABSTRACT

The present investigation was carried out on ten genotypes of guava viz., GRS₁, GRS₂, GRS₃, GRS₄, GWS₅, GWS₆, GWS₇, GWS₈, GWS₉ and L-49 during winter season of 2009-10 in randomized block design with three replications of each genotype. The results were obtained for the growth and yield characters. The red fleshed genotype GRS₄ recorded the maximum height of plant (4.25 m), which was at par with white fleshed genotype GWS₆ (3.85 m) and red fleshed genotype GRS₂ (3.71 m) as compared to L-49 (3.66 m). There were significant variations in tree volume ranged from 25.22 m³ in genotype GWS₈ to 57.65 m³ in genotype GWS₆ among the guava genotypes. The maximum leaf area was recorded in genotype GWS₆ (77.52 cm²) followed by GWS₇ (73.06 cm²). The minimum days required for maturity were recorded in genotype GRS₄ (114.66), followed by GRS₃ (115.33) as compared to L-49. The highest number of fruits per tree (388.00) was recorded in red fleshed genotype GRS₄ as compared to L-49. Maximum weight of fruit was recorded in L-49 (213.16 g), followed by white fleshed genotype GWS₆ (179.98 g). The red fleshed genotype GRS₄ recorded the maximum fruit yield per tree and yield per hectare (52.60 kg/tree; 21.03 Mt/ha) as compared to L-49.

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Guava (*Psidium guajava* L.) belongs to family Myrtaceae is the “Apple of the tropics” and “Poor man’s apple”, is one of the most important fruit in India. It is now widely grown all over the tropics and subtropics and gradually become crop of commercial significance. It is rich source of vitamin C and it contains three to four times more vitamin C as compared to fresh orange juice, also a good source of vitamin A and B along with the minerals namely iron, calcium, and phosphorus. It is used for preparation of jam and jelly due to its high pectin content. In spite of prominent position of guava in socio-economic, ecological and nutritional scene of the nation, the progress is not commensurate with the actual available potential. Hence, the present investigation was carried out to study the growth and yield characters of various guava genotypes.

MATERIALS AND METHODS

The experiment was conducted at Instructional-cum-Research Farm, Department of Horticulture, College of Agriculture, Latur on well established five years old orchard of guava planted at 5.0 x 5.0 m. Total ten genotypes were identified for study viz., GRS₁, GRS₂,

GRS₃, GRS₄, GWS₅, GWS₆, GWS₇, GWS₈, GWS₉ and L-49. Among them four genotypes were red fleshed and five genotypes were white fleshed and one was Sardar as a control. The recommended package of agronomical practices and plant protection measures obligatory to raise a good crop were followed. The experiment was laid out in Randomized Block Design (RBD) with three replications as per the procedure outlined by Panse and Sukhatme (1967).

RESULTS AND DISCUSSION

The main findings of the obtained from the present investigation are presented in Table 1 and 2 :

Growth attributes:

It is evident from the results (Table 1) that genotype GRS₄ had the maximum height of tree (4.25 m), which was at par with genotype GWS₆ (3.85 m) and GRS₂ (3.71 m). The maximum height of tree might be due to the more vigorous growth. On the other hand, genotype GWS₈ had the lowest height of tree (2.71 m) followed by genotype GWS₅ (2.80 m). Smita (2005) also reported a range of 2.90 to 4.71 m in first year and 3.07 to 4.87 m in the