

Performance of tamarind (*Tamarindus indica* L.) collection for pod yield and quality

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Spices are the important agricultural commodities produced and exported from India. Among them, tamarind (*Tamarindus indica* L.) is a valued spice, produced and exported from India. It is a perennial evergreen tree, grown for its dry fruit (pod). The major constituent is tartaric acid (8-18%). The fruit pulp, seed, shell, leaf, flower, tree timber have one or another uses and have industrial value. It is being used in the manufacturing of several products such as tamarind juice concentrate, pulp powder, pectin, pickle, chutneys, sauces, soups, jam, syrups, candy, tartaric acid, alcohol, refreshing tamarind drinks and tamarind kernel powder. Tamarind seeds are ground to make delicious feeds for live stocks. Almost every part of tamarind finds some use, but the most important is the fruit pulp which is the richest source of tartaric acid.

Tamarind trees grown throughout the tropics are derived from seeds picked up at random in Africa and India. In India wide variations exist among the seedling populations of Tamarind in Tamilnadu, Karnataka and Maharashtra. Tamarind, mostly self sown or sown with seeds of unknown parentage, result in wide variation among seedling progenies. Owing to its wide geographical distribution and adaptability to different agroclimatic zones, large genetic diversity is present in its seedling population.

In tamarind significant improvement is possible by selecting the plus trees (desirable seedling trees) and further maintenance is made by multiplication through clonal propagation. A germplasm of 31 tamarind collections were evaluated for their yield performance at Department of Spices and Plantation Crops, Horticultural College And Research Institute, Periyakulam Tamil Nadu. Continuously for three years from 2015 to 2018. Totally 31 tamarind collections made from different regions of the state and neighbouring states, were taken for the experiment. Data on pod and yield characters were recorded and statistically analysed.

A significant variation on pod, yield and other pod characters were observed. A wide variation on the number of pods per kg (30.25 g to 52.14 g per kg), pod length (4.80 cm to 16.70 cm) pod circumference (3.10 cm to 7.10 cm), pulp weight (4.40g to 7.14g) and pod yield per hectare (88.24 g to 247.69) and seed weight (2.37g to 7.20 g) were noted.

A medium variation was also noted for pod weight (13.87g to 21.02 g) pod shell weight (2.10 g to 6.74 g) fibre weight per pod (0.63g to 1.13 g) and number of seeds per pod (4 to 8). Wide variation for most of the attributes is observed in tamarind and there is much scope for identification of divergent types of tamarind.

Key word: Tamarind, genotypes, evaluation, pod yield, quality