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Quality characters in acid lime cultivars (*Citrus aurantifolia* Swingle)

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Abstract : Evaluation studies were carried out in acid lime for selection of cultivars suitable for growing in the tropical region of Tamil Nadu. Six acid lime cultivars viz., PKM1, Saisarbati, Pramalini, Vikram, Tenali and Kasipentla were evaluated for two seasons (July – August and December – February) at Horticultural College and Research Institute, Periyakulam, under the Tamil Nadu conditions during 2006 – 2008. The results revealed that the quality parameters viz., highest juice content, ascorbic acid content and total soluble solids was recorded in the cultivar Vikram during both the season and highest acidity content were recorded in the cultivar Tenali during both the season. The quality character estimates will be more effective in selection of acid lime cultivars for tropical region of Tamil Nadu.

Key words : Acid lime cultivars, Evaluation, Quality

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Acid lime (*Citrus aurantifolia* Swingle) is an important commercial species of citrus considered to be indigenous to India, and is extensively cultivated in many states under tropical and subtropical climatic conditions. India is the largest producer of acid lime in the world, (Chadha, 2002). In Tamil Nadu, it is widely cultivated under rainfed and irrigated conditions in the districts of Dindigul, Trichy, Tirunelveli, Virudhunagar, Ramanathapuram, Madurai, Theni etc., in an area about 1,060 ha with a production of about 4,400 tonnes per annum (Anonymous, 2003). Availability of a wide gene pool in the form of genetic diversity is a prerequisite for crop improvement. Genetic diversity is the extent of genetic variability among the individual in a single species and between the species. In recent years, collection and conservation were primarily made for the quality of fruits. The great genetic diversity is under serious threat of rapid extinction or depletion of the germplasm mainly due to population pressure and farmers preference (Singh *et al.*, 2004). Though acid lime has been in cultivation for many years, no significant achievements have been obtained in cultivar improvement. A successful progress in breeding depends upon the genetic variability present in population.

Acid lime is more popular for its uses in preparation of refreshing juice and in seasoning foods and making of pickles. Acid lime pickles are very popular not only in India but also in other parts of the world. India exports small quantum of acid lime pickles to other countries viz., USA, England etc. It is also used in the manufacture of lime squash either alone or in combination with lemons and other citrus fruits. It is a good source of vitamin C and has good antioxidant properties.

The purpose of the present study was to evaluate different varieties of acid lime cv. PKM1, Saisarbati, Pramalini, Vikram, Tenali and Kasipentla with emphasis on quality attributing characters and increasing adaptability under tropical region of Tamil Nadu

RESEARCH METHODS

The experimental field was situated at the central block of Horticultural college and Research Institute, Periyakulam, which is located at 10°N and 77° E with an altitude of 300 m above MSL. The study was conducted during 2006 – 2008. Six acid lime cultivars viz., PKM - 1, Saisarbathi, Pramalini, Vikram, Tenali and Kasipentla were utilized for the study. The study was carried out in