

Development of hybrids in Guava (*Psidium guajava* L.)

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SUMMARY

To develop guava hybrids having few soft seeds with good fruit quality, hybridization involving superior genotypes was undertaken at Horticultural Farm, B. A. College of Agriculture, Anand Agricultural University, Anand. Out of Nineteen crosses made, the seedlings of fourteen crosses were well established in the field. The six hybrids flowered and fruits were harvested from five hybrids and evaluated for fruit characteristics. The fruit of hybrid "Anand Selection (Red) x Exotica" was large in size with pleasant flavour having high T.S.S. with soft seeds.

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Guava (*Psidium guajava* L.) is one of the important tropical fruits of India. It is often referred as 'apple of tropics' because of its nutritive value. It is rich in vitamin-C and is a fair source of useful minerals such as calcium, phosphorus and iron. Though guava fruit is nutritive and sells at moderate prices, it is not quite popular as a dessert fruit, mainly because of its seediness, the seeds being numerous and hard. The number of seeds varies in different diploid varieties from 300 to 500 per fruit (Shanker, 1967), while the fruits of seedless varieties are parthenocarpic with irregular shape and the trees are shy bearers and over-vigorous (Negi and Rajan, 2007). Moreover, the strong flavour and short shelf life are another limiting factors for the development of domestic and export market of guava (Zipori *et al.*, 2007).

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So development of soft and few seeded (10-20 seeds per fruit) or Seedless guava with good shape and pleasant flavour is highly imperative to enhance the demand and income for this 'tropical apple'. Hence, the present investigation was made to develop guava hybrids having less and soft seeds with agreeable flavour, taste and sweetness.

MATERIALS AND METHODS

The present study was undertaken at Horticultural Farm, B. A. College of Agriculture, Anand Agricultural University, Anand. Different guava genotypes maintained at Horticultural Farm have wide range of variability for pulp colour (white, red and pink), seed type (soft and hard), seed arrangement (dense, few and scattered), fruit taste and flavour. Using existing variability in germplasm, hybridization programme involving superior genotypes was undertaken for four years. The important characteristics of parents involved in hybridization are given in Table 1. The cross fruits were harvested and seeds were sown in polythene bags in nursery. The well developed hybrid seedlings were then planted in the field. The visual observations were taken for the growth, flowering and fruiting of hybrids established in the field. All cultural practices were adopted during the period of investigation.

RESULTS AND DISCUSSION

Large scale hybridization was carried out at Horticultural farm, B. A. College of Agriculture, AAU, Anand. Using superior genotypes of guava, fourteen crosses were made during three years. Crossed fruits were obtained in all the crosses and hybrid seedlings were