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## Effect of juice extraction methods on the quality of raw mango squash

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**SUMMARY**: The cultivar *c.v* '*vellari*' does not have much preference in pickling as it lacks the sourness required for pickles, so value addition to this produce as a beverage was studied. The juice of raw mango was extracted by scraping the flesh followed by extracting the juice (treatment 1); boiling with skin and then extracting the juice (treatment 2) and pressure cooking with skin and then extracting the juice (treatment 3). The squash made from the juice obtained by the three methods were analysed for physico chemical and sensory quality on a fortnightly basis for three months. The acidity, pH and brix of the juice obtained from all the treatments was seen to change gradually. On organoleptic evaluation, the first treatment turned out to the most acceptable and no significant change occurred in it during the storage period. It was found that raw mango squash prepared this way can successfully be manufactured on a commercial scale with significant stability in appearance, flavour and taste.

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There has been a spectacular growth in the consumption of fruit drinks in our country (Ministry of food processing industries, 2008). The extreme hot summer of Kerala is responsible for the demand for fruit based beverages in the state. Fruit juices are now a regular part of the diet of most people. Considering its commercial production, the cost of processing expensive raw materials like grapes, oranges and exotic mango varieties from outside the state can be saved to a great extent through utilizing under exploited fruits of the state. One such fruit is the raw mango cv. 'VELLARI'. This variety neither has application in pickling, (as it lacks the sourness required for pickles), nor is it acceptable as a table fruit on ripening. This mango belongs to the genus *mangifera* of the family Anacardiacea.

Raw mangoes in general are said to retain the body salts. It also contains antioxidants including vitamins 'C' which helps to retain iron in the blood. It is also rich in pectin, oxalic acid, citric acid, malic acid and succinic acid

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which have various regulatory roles in body function. (Sharma, 2006)

Mango is grown traditionally in all the districts of Kerala as an inevitable component of homesteads. It is the major fruit crop in the state, occupying an area of 85,428 ha. The systematic cultivation with promising varieties is limited to the northern districts. In districts like Thiruvananthapuramand Kollam, there is a large area under mango cultivation which are mostly seedling mangoes which are inferior in quality and referred to as wild mangoes to which category cv. 'VELLARI' too belongs (NHM, 2003).

## **EXPERIMENTAL METHODS**

The raw mangoes harvested on the  $110^{\text{th}}$  day after flowering were collected. In the first treatment, the deskinned mangoes were grated to extract the juice and the concentrate (squash) was prepared with sugar (40%), pulp (25%) and water (35%). Citric acid was added at the rate of 1 per cent, colour (0.1%) and potassium meta bisulphite (0.2%) were added to improve sensory and keeping qualities.

Similarly, the pulp extracted by boiling (treatment 2), or pressure cooking (treatment 3) was rendered into juice concentrate. All concentrates were stored in room temperature after pasteurization for 15 minutes at 80°C.

The physico - chemical and sensory evaluation of