Abstract

Custard apple or Sitaphal (*Annona squamosa* L.) is a deciduous tree having yellowish-green fruit. The fruits are highly perishable but nutritionally rich and delicious. The fruits are harvested for a short period of time during pre-winter. Due to bumper harvest in a short period and perishable nature of fruits, the farmers are compelled to sell their produce at a lower price. Post-harvest processing is not yet suitably standardised. Rapid softening of fruits and marketing is a major problem. The shelf-life of custard apple fruit can be increased up to 12 days if stored at 10 °C, whereas the extracted pulp can be stored for six months with potassium metabisulphite. Many value-added products like ready-to-serve beverages, fermented beverage, ice cream, squash, and toffee can be prepared to exploit the nutritional potential and adding a new flavour/taste. Therefore this paper attempts to outline post-harvest, processing value addition and storage of these fruits.

Introduction

Custard apple (*Annona squamosa* L.) is the most favourite minor tropical fruit in India. It is also known as ‘Sitaphal’, ‘Sweetsop’, ‘sugar apple’ etc. It is considered as one of the most delicious and nutritionally valuable fruit. It is generally eaten fresh after ripening. Being rich in nutritional and medicinal properties it is regarded as the ‘New Super Fruit of the 21st Century.’ The edible portion of the fruit is soft, creamy and granular pulp having a good blend of sweetness and acidity. It can be used for weight gain as it is considered as a high-calorie fruit. The 100 g ripe pulp contains carbohydrates (20.0–25.2 g), protein (1.5 g), calcium (17.6–27 mg), phosphorus (14.7–32.1 mg), iron (0.42–1.14 mg), and sufficient vitamins such as carotene (0.007–0.018 mg), thiamine (0.075–0.119 mg), riboflavin (0.086–0.175 mg), niacin (0.53–1.19 mg), ascorbic acid (15.0–44.4 mg) and nicotinic acid (0.5 mg). The fruits have very limited post-harvest shelf-life due to their perishable nature. In India, more than 20–22 percent of fruits are spoiled before consumption due to poor post-harvest handling infrastructure and lack of processing opportunities. The custard apple pulp we used in the ice cream industry, confectionary and some milk products. Due to its perishable nature and short shelf life, the development of novel processed products from the custard apple is required to address nutritional security to consumers, minimise post-harvest losses and better returns to growers. Custard apple is a seasonal and highly perishable fruit which has 3-5 days shelf life period.

So, the suitable post-harvest technology should be developed to extend the shelf life. Custard apple fruit pulp has got many food applications as flavour enhancing ingredient and fruit-based ready to drink fruit beverages. Suitable extraction of pulp and its preservation help for better utilisation of custard...
filled bottles were crown corked by a sterilised crown cork with the help of a crown corking machine. The corked bottles were pasteurised at about 90 °C for 25-30 minutes in an open water bath. The bottles of nectars were kept at ambient temperature for three months storage period. A flow chart for the preparation of blended nectar is produced in Figure 1.

Figure 1: Flow chart for the preparation of blended nectar

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### Conclusion

The custard apple nectar is a potent functional drink and the best example of adding value to a perishable fruit. This delicious and nutrient-rich drink has tremendous potential to add new dimensions to the income-earning pattern to custard apple growers and industries engaged in fruit processing. The custard apple growers are now realising the commercial significance of this proceeds juice which helps them for getting better income. However, in the many parts of the country, custard apple processing is still not exploited to its full potential. Farmers’ awareness, favourable institutional policies and government support can enable in popularising this technology for mass adoption by the farming community, thereby enabling in sustainable and inclusive agricultural development.

### References
