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Changes in physico-chemical properties and organoleptic characteristics of custard apple (*Annona squamosa* L.) fruit during storage

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ABSTRACT

The custard apple (*Annona squamosa* L.) is notified as a non-conventional, climacteric and highly perishable tropical type of fruit. The custard apple fruit is mostly used as a dessert because of its delicious taste and nutritive value. The white, creamy flesh has strong aroma reminiscent of a mixture of strawberry, banana and pineapple. The fruits are highly perishable having limited consumable shelf-life after ripening. It is important to understand the consumer shelf-life of fruit so as to optimize the time of harvesting of fruit to prevent losses. In present investigation, efforts were made to study the physico-chemical and organoleptic changes in fruit during storage. The results revealed that the custard apple fruit harvested at the commercial stage of maturity resulted in increase in total soluble solids, total sugar and acidity up to 4th day of storage while further storage caused reduction in these parameters. In terms of organoleptic characteristics of fruit, maximum score was observed in case of fruit storage for till 4th day while subsequent storage of fruit resulted in decrease in consumer acceptability of fruit.

Key words : Custard apple, *Annona squamosa*, Organoleptic characteristics, Consumer shelf-life

INTRODUCTION

Annona is a genus of tropical fruit trees belonging to the family Annonaceae. Five species have been notified as important but under-utilised (Abdul Khader *et al.*, 1977). *Annona squamosa* is a deciduous tropical species, especially when cultivated in areas with a pronounced dry season and without irrigation (Jadhav *et al.*, 1992). The fruits contain vitamin C and minerals such as calcium, phosphorus and potassium. They are also an excellent source of carbohydrate base energy. Annonas are notified as table consumable fresh fruits because of pronounced perishability but made feasible for distant marketing by adopting intensive post harvest commodity treatments (Gutierrez *et al.*, 1994). The freshly harvested, uniformly ripened fruits of custard apples are reported to be of poor quality when stored for prolonged period at ambient temperature specifying little commercial importance. The pulp is of pleasant texture and flavour. It is sweet and slightly acidic. The food value is predominantly associated with sugar (12 to 22 per cent) and protein content (1.6%

per cent) (Pal and Kumar, 1995).

The custard apple (*Annona squamosa* L.) is notified as a non-conventional, climacteric and highly perishable tropical type of fruit. The custard apple fruit is mostly used as a dessert because of its delicious taste and nutritive value (Soliva-Fortuny, 2002). The white, creamy flesh has strong aroma reminiscent of a mixture of strawberry, banana and pineapple (Brown *et al.*, 1988). The fruits are highly perishable having limited shelf-life after ripening.

Custard apple has a limited shelf-life at ambient conditions and is highly perishable. The custard apple fruits are feasible to eat even after the storage period of 8 days. However, consumers judge the quality of fruit on the basis of external appearance which start deprecating after few days of harvesting. The importance of optimizing the harvesting of fruits to determine the acceptable period of consumption after harvesting will go a long way in judging the suitability of harvesting with maximum consumer acceptability. Hence, in present investigation efforts were made to study the changes in physico-chemical properties