

Effect of xanthan gum on storage stability and sensory attributes of guava squash

■ J. SHANKARA SWAMY, A. HARSHAVARDHAN REDDY AND A. K. BANIK

SUMMARY : A study was undertaken to produce a stable and organoleptically preferred guava squash with proper suspension of fruit pulp. This was done by supplementing the squash with xanthan gum, an exocellular polysaccharide produced by obligatory aerobic microorganism, *Xanthomonas campestris*. Squash of guava cv. 'Allahabad Safeda' was prepared with 25 per cent pulp, 40°B (Brix) T.S.S. (Total soluble solids), 1 per cent acidity and with different concentration levels (0.1 to 0.5 per cent) of xanthan gum. The prepared recipies were subjected to physico-chemical analysis at 0, 30, 60, 90, 120, 150 and 180 days of storage and sensory evaluation at 180 days of storage. An increasing trend in pH and total soluble solids and decreasing trend in titrable acidity and ascorbic acid was noticed during storage period. Viscosity of the squash decreased with increase in temperature. Guava squash containing 0.1 per cent xanthan gum, 25 per cent pulp, 40°B T.S.S and 1 per cent acidity was found to be the best recipe for overall acceptability.

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Guava (*Psidium guajava* L.), called 'apple of the tropics', is one of the most common fruits in India. It is quite hardy, prolific bearing and healthy remunerative subtropical fruit. It thrives on all types of soils but sensitive to water logging conditions (Bose *et al.*, 2001). Guava is commercially cultivated in gangetic alluvial zones north and south Parganas, Nadia, and Murshidabad district and lateritic zones of Paschim, Medinipur and Birbhum district covering an area of nearly 8.27 thousand hectares (Anonymous, 2004). Fruit of guava contains 82.50 per cent water, 4.45 per cent reducing sugars, 9.73 per cent total soluble solids, 0.48 per cent ash, 260 mg vitamin C /100g of fruit and 2.45 per cent acidity (Phandis, 1970).

Guava fruit is available twice in a year—in rainy season and in winter. It is plentiful during the rainy season and its disposal becomes a serious problem. Its utilization is very little in processing industry. Jam and jelly manufactured from guava pulp are not acceptable like other fruit products because of their gritty texture (Ramanarao *et al.*, 1956).

This gritty texture is due to the presence of corky cells in the pulp. Guava can be processed into potential fruit beverage because of its excellent flavour and nutritive value. The fruit beverages are becoming popular in comparison to synthetic or aerated drinks.

Keeping the above facts in view, the present study was undertaken to utilize guava fruit in the development of value added squash with proper suspension of fruit pulp by supplementing the soluble dietary fibre in the form of xanthan gum. This would result in better utilization of guava fruit by the processing industry and minimizing the loss of guava fruits during the rainy season.

EXPERIMENTAL METHODS

Guava (cv. Allahabad Safeda) was procured from local Barajaguli market of Kolkata. Fruits with the same level of maturity, ripe and firm, free from blemishes and bruises were carefully selected for the study. Guava squash was prepared as described in flow chart (Fig.A) with the following recipies.

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Table A : Recipies for guava squash

Recipie No.	Pulp content (%)	TSS (°Brix)	Acidity (%)	Xanthan gum (%)
G ₁	25	40	1.0	0.0
G ₂	25	40	1.0	0.1
G ₃	25	40	1.0	0.2
G ₄	25	40	1.0	0.3
G ₅	25	40	1.0	0.4
G ₆	25	40	1.0	0.5