

Stabilization of watermelon squash with xanthan gum and its organoleptic evaluation

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SUMMARY : Squash of watermelon var. Arka Manik 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, an exocellular polysaccharide produced by obligatory aerobic microorganism, *Xanthomonas campestris*. The prepared squash was 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 were noticed during storage period. Viscosity of squash increased with increased concentration of xanthan gum and decreased with increase in temperature. Squash containing 0.2 per cent xanthan gum, 25 per cent pulp, 40°B TSS and 1 per cent acidity was adjudged the best for overall acceptability by sensory evaluation at 180 days of storage period. Utilization of watermelon fruits in the preparation of watermelon squash has advantages in attracting the consumers with feel of healthy product throughout year.

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Watermelon (*Citrullus lanatus*) is an important summer season crop and is highly relished due to its cool and thirst quenching property. The pulp is juicy and sweet, with an attractive red colour that attracts consumers. The edible portion of the fruit forms about 60 per cent of the whole fruit and juice is the major product for which the fruit is processed (Teotia *et al.*, 1988). Watermelon juice contains a fair amount of vitamin C, vitamin 'A' precursor (Lycopene) and a high content of potassium which is believed to have valuable diuretic properties (Gusina and Trostinskaya, 1974). The content of edible flesh of watermelon fruit per 100g is 92 per cent water, 0.2 per cent protein, 0.3 per cent minerals and 7.0 per cent carbohydrates (Chadha, 2001).

Gowda and Jalali (1995) reported that the use of watermelon for processing has not received much attention.

Watermelon is used in juice based drinks, particularly as an ingredient in mixed fruit drinks (Hooper, 1995). Watermelon is largely grown and is available in plenty especially during the summer (Bose *et al.*, 2001). Utilization of watermelon fruits during the season to make value added products avoids the seasonal scarcity. Moreover, there is always a demand for a new product, which is rich in nutrients and delicately flavoured. In this context, the present study was undertaken to utilize watermelon fruit to prepare squash by supplementing with xanthan gum.

EXPERIMENTAL METHODS

Watermelon (var. Arka Manik) was procured from the New Market of Kolkata. Fruits which are uniform in shape, free from bruises and anthracnose with a nice sheen on their outer skin and creamy yellow spot under side giving dull sound on thumping with knuckle were selected. Fruits were washed with filter water and sliced into quarters. Each quarter was cut into half again with sharp stainless steel knife. The flesh that is full of seeds was removed by a cut along the seed line. The remaining seeds were removed with the tip of utility knife and a sharp knife was run along the rind to separate the flesh. The seedless flesh thus separated was sliced for juice extraction by mashing in grinder. Watermelon squash was prepared

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