RESEARCH ARTICLE

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Effects of modified atmosphere packaging on microbial load of fresh cut guava fruits at different packaging material (LDPE and PP) and different storage temperature

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ABSTRACT

The study of infant feeding practices was conducted to find out the current feeding practices of infants in rural areas of Parbhani. The effect of socio-economic status of the family and educational status of mothers on feeding practices was observed. The survey of 130 women having the infants of 3-18 months were randomly selected and personally interviewed. It was evident from the results that 46.9 per cent rural mothers were giving the pre-lacteal foods to infants. Foods other than milk, like biscuits, rice with milk, rice with dal, forex, cerelax, chapatti, bread were given to 51.53 per cent infants after six months of age. It was observed that 70.42 per cent of low income group mothers breastfed their infants upto age of 18 months and 82.53 per cent illiterate mothers breastfed their infants up to age of 18 months that means there was direct effect on socio-economic status of the family and educational status of mothers on infant feeding practices.

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Key Words : Modified atmosphere packaging, Fresh cut, Guava fruit

INTRODUCTION

The International Fresh-cut Produce Association (IFPA) defines fresh-cut produce as "any fruit or vegetable or combination thereof that has been physically altered from its original form, but remains in a fresh state" (IFPA and PMA, 1999). Fresh cut fruits are products with minimal processing, modified by cutting, washing, packaging and refrigeration. Fresh-cut produce sales are estimated to be $10 billion, which is 10 per cent of the total produce sales (Bett *et al.,* 2001). India is the second largest producer of fruits after China. Guava *(Psidium guajava)* is the fourth most widely grown fruit crop in India. The popular varieties of guava are Allahabad Safeda, Lucknow-49, Nagpur seedless and Dharwar. Bihar is the leading state in guava production followed by Andhra Pradesh, and Uttar Pradesh. The other states where guava is grown widely are Gujarat, Karnataka, Punjab and Tamil Nadu.

Today's consumer is demanding for foods that require minimal process, for example, fresh-cut fruits and vegetable (FCFV). This is mainly because of busy lifestyles, an increase in health consciousness and increased purchasing power of the consumer.

The present study was carried out with the following objective: to assess the microbial load of modified atmosphere packaged fresh cut guava fruit at different packaging material (LDPE and PP) and different storage temperatures (refrigeration 4°±1°C and room 30°±2°C temperature).

METHODOLOGY

Fresh mature guava fruit at various stages of ripeness, free from surface damage were procured from the local markets. Modified atmosphere packaging instrument were utilized in the present study. (Quick Seal MAP 250 PN and Vacuum sealing machine Sevana, India). Fresh cut guava fruits were packed in 2 different types of polymeric films, polypropylene (PP) film of 16 cm x 22 cm size and low density polyethylene (LDPE) film of 19 cm x 24 cm size.

Washing and slicing of guava fruit:

All guava fruits were pre-cleaned with tap water, removed unwanted part with a stainless steel knife and then sliced (diameter of 8 cm, thickness of 0.7 cm and weight of one slice 23.3 g) with a stainless steel knife.