



CSIR-IHBT

CRISPY FRUITS TECHNOLOGY

Presently, the Indian fruit market estimated at over \$ 100 billion is likely to grow to \$ 150 billion by 2025. The production of fruits and vegetables is gradually increasing due to improved horticultural practices and availability of suitable cultivars. But more than 25% of fruit losses are due to inadequate storage and processing facilities in the country.

Post harvest losses in fresh fruits mainly apple, mango, kinnow, apricot and other fruits in the country, which resulted inadequate returns to growers. The institute developed Crispy Fruits Technology to reduce fruit losses in the country. These crispy fruits are either sold directly to the market or processed as an ingredient for many food products.



The developed processing technology is simple, cost effective and preserve fruits at low temperature with various benefits are:

- Crispy fruits in addition to prolonged shelf-life also retain near original colour, texture, taste and aroma
- Retain nutritional values of fresh fruits
- Do not contain any added preservatives
- Stable at room temperature for easy storage
- Easy to transport due to 80% reduced weight on processing
- Excellent reconstitution capacity- can regain its original texture, taste, color and aroma using the technology developed by CSIR-IHBT

Background

The fruit processing industry is one of the largest industries in India, ranking fifth in terms of production, consumption, export and expected growth. UN FAO SAVE FOOD Initiative 2012 estimated that 45% of fruit and vegetables leaving the farm gate are never consumed. Post-harvest management is influenced by storage temperature and packaging of fresh produce the two most important factors. Himachal Pradesh aptly known as the fruit basket of the country by virtue of its agro-climatic conditions suitable for growing a variety of fruits. These fruits are either sold directly to the market or processed in the form of jams, jellies and squashes. However, there is still a loss of 25% of the total produce due to their spoilage in storage as the fresh fruits. Thus, there was a need to develop technology for fruit preservation and value addition.

Benefits/Applications

Crispy fruits serve as health snacks and good substitute to unhealthy snacks like potato chips and other fried snacks available in the market. It can be used as convenience foods, as ingredients for ice creams, smoothies, thick shakes, yogurts, desserts, flavouring infant foods, preparing food premixes and bakery products.

Dry technique	Nutritional loss (%)
Sun drying	42 - 45
Overn drying	35 - 45
Our technology	12 - 15

Societal applications

This technology provides benefit to farmers and local growers for remunerative returns, particularly those engaged in growing apple, kinnow, pine apple, apricot and mango. Also this technology can be easily applied to bulk preservation of onion, tomato, ginger and turmeric to improve the livelihood generation particularly in the North-eastern region.



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