

OSMO-AIR DEHYDRATED PINEAPPLE SLICES

Osmo-air dehydration is a novel approach in the dehydration of fruits. It involves two stages of dehydration. The first stage is the removal of water using sugar syrup as osmotic agent. The second stage is dehydration in an air circulation drier where the moisture content is further reduced to about 15%. The process is found to give a better dehydrated product, which would be nearer to fresh fruit from colour, flavour and texture point of view. The sugar syrup is found to have protective effect not only on retention of fresh fruit flavour during drying but also during subsequent storage.

Canned pineapple is the most popular canned fruit throughout the world. But it has become highly prohibitive in India mainly due to high cost of container, processing and distribution. Investigations were therefore taken upto develop a process for osmo-air dehydrated pineapple tit-bits. Of all the fruits tried pineapple was found to give the best osmo-air dehydrated product. The dried product was found to be soft in texture, sweetish in taste, yellowish in colour with good retention of flavour. It could be consumed as snack fruit. It can find place in military ration and other special rations meant for expeditions. Osmo-air dehydrated pineapple slices, when reconstituted by soaking in dilute sugar solution at room temperature overnight, are found to give slices almost equivalent to canned pineapple slices. The reconstituted slices were found to be approximately cheaper by 50% as compared to canned slices. The shelf-life of the product was found to be about 5 months at RT. The process has thus indicated the commercial possibilities in this country where the canned products are becoming increasingly prohibitive.

The sugar syrup could be recycled upto six times and at the end it could be converted into pineapple syrup with quite acceptable flavour and could easily be marketed. During preparation of pineapple for osmo-air dehydration about 10-15% juice will be available as by product, which could also be easily marketed as juice or utilized in the preparation of osmotic syrup.

Machinery & Equipment:

All the machinery and equipments required in this process are indigenously available. If the process is taken up by an existing pineapple processing unit, additional investment required is only about Rs.60,000/- on a 96 tray cross flow air drier, for producing about 100 kgs. of dried products per day of 10 hours working using 1.38 tonnes of pineapple. For a new unit the total investment on plant and machinery would be approximately 1.7 lakhs for the same capacity of 100 kgs. of finished product a day.

Assistance that can be rendered to the Licencee:

The following assistance can be rendered to the Licencee.

1. Process Know-how
2. Demonstration of the Process
3. Training of the Personnel
4. Advice on machinery and equipment

Note: CFTRI does not guarantee the performance of the machine. Indenter may kindly confirm the performance, etc., from the fabricator of the machine, before a decision is taken to purchase the same.