

Practical 7

IDENTIFICATION AND TASTE OF DIFFERENT VALUE ADDED PRODUCTS OF FRUITS & VEGETABLES

EXERCISE

7.1 : Identification of different value added product made from fruits & vegetables and their taste

OBJECTIVES

- To learn about identification of jam, jelly, marmalade, squashes, preserve, pickles and other value added products.

Delivery schedule: 04 periods

Student expectations/learning objectives

- To know about different value added products of fruits & vegetables
- To identify different value added products of fruits & vegetables available in the market
- To know the taste of different value added products of fruits & vegetables

Pre-learning required: Pre-requisite knowledge about preservation of fruits and their value addition

Handouts/material/equipment's & tools required: Paper sheet and pen to note down the characteristics of different value added products such as jam, jelly, marmalade, preserve, squashes and pickles etc.

INTRODUCTION

Value-addition is the process of enhancing the value of a product or service by one or the other means before the product is being offered to customers. In the case of processed fruit products, they can be considered value-added if the original raw product, such as fruits, are somehow modified, changed or enhanced to increase their value. This incorporates them into other 'secondary' products that have higher net worth, so that each unit of the product can be sold at a higher price and achieves a higher return.

Need for value addition

- Controls/checks postharvest losses
- Regulates prices of produce at glut
- Makes commodity available round the year
- Renders the produce edible
- Improves the nutritional value
- Helps in employment generation
- Establishes agro-based industries
- Generates income
- Promotes export and earn foreign exchange

Identification of certain processed fruit & vegetable products

Among preserved fruits, jam, jellies, pickles and squashes form an important class of products. Apart from fruit juices, squashes are also used in the form of drinks. These are found as attractive items in the functions. Sauces, ketchup, jams and jellies are used with breads etc., during snacks. Pickles and chutney are used along with other foods to make the lunch or dinner tasty. Market opportunities for the sale of these products are increasing with a considerable rate. The consumption of these products is increasing day-by-day and is expected to increase in future also. The demand can be increased by proper advertisement and market management for each items. This industry possesses an excellent future and can allow new entrepreneurs to establish new units for producing newer value added products.

Value added products made from fruits & vegetables

Fruit beverages: Fruit juices are rich sources of vitamins, particularly vitamin-C and minerals. These are easily digestible, highly refreshing and invigorating, thirst quenchers and far superior to most aerated drinks, which have practically no food value. They are beneficial against a number of ailments and tonics for heart and brain and serve as cold drinks in hot summer. Fruit juices are preserved in different forms such as pure juices, squashes, cordials, and fermented juices etc. These are broadly classified as under:



Fruit juices

Pure fruit juice: This is the natural, unfermented juice processed out of the fruit and remains practically unaltered in its composition during preparation and preservation. Fruit juices can be prepared from almost all types of fruits.

Ready-to-serve (RTS) : This is prepared from fruit juice. It contains minimum of 10% fruit and 10% sugars. It not diluted before serving.

Fruit juice beverage: This is a fruit juice, which is considerably altered in composition before consumption. It may be diluted before it is served as a drink.

Fermented fruit beverage: This is a fruit juice, which has undergone alcoholic fermentation by yeast. The product contains varying amounts of alcohol. Grape wine, apple ciders, berry wines etc., are typical examples for this kind of beverages.

Fruit juice squash: This consists essentially of strained juice containing moderate quantity of fruit pulp to which sugar is added for sweetening. Fruit squash can be prepared from mango, lemon, orange etc.

Fruit juice cordial: Sparkling, clear, sweetened fruit juice from which all the pulp and other suspended materials have been completely eliminated (e.g. lime juice cordial, guava cordial).

Jam, Jelly, Marmalade and Preserve: Preparation of jam, jelly and marmalade is based on concentrating fruits to nearly 70 per cent solids (TSS) by addition of sugar and heat treatment. The



Jelly prepared from different fruits

high osmotic pressure of sugar creates unfavourable conditions for the growth and reproduction of most species of microorganisms i.e. yeasts, molds and bacteria, responsible for the spoilage of food. At this concentration of solids, the water activity is reduced (a_w of 0.60-0.75), which ultimately decreases the chances of microbial spoilage.



Jelly, a transparent product packed in bottles



Single fruit or mixed fruit jams



Squashes of different fruits available in the markets

Preserves (*Murabbas*) are prepared from whole fruits and vegetables or their segments by addition of sugar followed by evaporation to a point where microbial spoilage cannot occur. The final soluble solids concentration is reached to about 70 per cent. The finished product can be stored without hermetic sealing and refrigeration.



Coloured fruit candies



Aonla preserve

Pickles: The process of preservation of food in common salt or in vinegar is called pickling. Spices and edible oil may also be added to the product. Pickles may be sour, sweet or mixed and can be prepared easily from different fruits and vegetables at home. They can be grouped as unfermented pickles and fermented pickles. Fermented pickles undergo lactic acid fermentation. On the other hand, in unfermented pickles, the raw material is preserved by use of various spices and oil. Most popular unfermented pickles are mango, lime and mixed pickles.



Some pickles available in the market

Candies : Candies are a variety of confections made with sugar, syrup, etc., often combined with chocolate, fruit, nuts, etc. Candied fruit, also known as crystallized fruit or glazed fruit. Whole fruit, smaller pieces of fruit, or pieces of peel, are placed in heated sugar syrup, which absorbs the moisture from within the fruit and eventually preserves it. Depending on size and type of fruit, this process of preservation can take from several days to several months. Fruits that are commonly candied include dates, cherries, pineapple, and ginger. The principal candied peels are orange and citron.



Aonla candy, a tasty and nutritious product



Display of candied fruits & vegetables in a market

Canned products

Canned products are the preserved food in which the food contents are processed and sealed in an airtight container. Canning provides a typical shelf life ranging from one to five years. The only foods that may be safely canned in an ordinary boiling water bath are highly acidic ones with a pH below 4.6, such as fruits, pickled vegetables, or other foods to which acidic additives have been added.



Canned fruit salad

STUDENT'S ACTIVITIES/EXERCISES

- Purchase different processed fruit products from the market and try to differentiate them based on their taste.

- Purchase some jams and jellies. Note down the differences between jam and jelly.
- List out differences between squash, cordial and nectar.

RESOURCE MATERIAL

- John, R.B.C. (2008). A handbook on post harvest management of fruits and vegetables. Daya Publishing House, New Delhi.
- Sethi, V., Sethi, S., Deka, B.C. and Meena, Y.R. (2006). Processing of fruits and vegetables for value addition. Indus Publishing House, New Delhi.
- Sharma, S.K. (2010). Postharvest management and processing of fruits and vegetables. NIPA, New Delhi.

