

Class Notes

Class: XII

Topic: Preserves, Candied, Crystallized and Glazed fruits and vegetables, pickles

Subject: AGRICULTURE

Preserves, Candied, Crystallized and Glazed fruits and vegetables

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.

In preserves fruits can be cooked in syrup by three processes that are:

- 1) Rapid process,
- 2) Slow process and
- 3) Vacuum process. Preserves made by vacuum process retain the flavour and colour of the fruit better other methods.

Most suitable fruits for preserves making are Aonla, beal, apple, pear, mango, cherry, karonda, strawberry, pineapple, papaya, etc.

Candied fruits

Fruits/vegetables impregnated with cane sugar or glucose syrup, and subsequently drained free of syrup and dried, is known as candied fruit/vegetable. Most suitable fruits for candied making are Aonla, karonda, pineapple, cherry, papaya, apple, peach and peel of lemon, grapefruit and citron, ginger etc.

The difference between candied and preserves is that the fruit impregnated with syrup having a higher percentage of sugar or glucose. For best candied total sugar content of the impregnated fruit is kept at about 75 per cent to prevent fermentation.

Crystallized fruits/vegetables

Candied fruit/ vegetable when covered or coated with crystals of sugar, either by rolling in finely powdered sugar or by allowing sugar crystals to deposit on them from dense syrup are called crystallized fruits.

Glazed fruits/vegetables

Covering of candied fruits/vegetables with a thin transparent coating of sugar, which impart them a glossy appearance, is known as glazing.

Problems in preparation of preservation and candied fruits

1. **Fermentation:** It is due to concentration of sugar used in the initial stage of preparation of preserves. Sometime fermentation also occurs during storage due to low concentration of sugar and insufficient cooking. This can be prevented by boiling the product at suitable intervals, by adding the required quantity of sugar and by storage in a cool and dry place.
2. **Floating of fruit in jar:** It is mainly due to filling the preserve without cooling and can be avoided by cooling the preserve prior to filling.
3. **Toughening of fruit skin or peel:** It may be due to inadequate blanching or cooking of fruit hence blanching till tender is necessary.
4. **Fruit shrinkage:** Cooking of fruit in heavy syrup greatly reduces absorption of sugar and causes shrinkage. Therefore, fruit should be blanched first or cooked in low-sugar syrup.
5. **Stickiness:** It may develop after drying or during storage due to insufficient consistency of the syrup, poor quality packing and damp storage conditions.

Pickle

The preservation of food in common salt or in vinegar is known as pickling. It is one of the most ancient methods of preserving fruits and vegetables. Pickles are good appetizers and add to the palatability of a meal. They stimulate the flow of gastric juice and thus help in digestion. They are prepared with salt, vinegar, oil or with a mixture of salt, oil, spices and vinegar.

Method of pickle preparation

1. **Preservation with salt:** Salt improves the taste and flavour and hardens the tissues of vegetables and controls fermentation. Salt content of 15 per cent or above prevents microbial spoilage. This method of preservation is generally used only for vegetables and some fruits like lime, mango etc. which contain very little sugar and hence sufficient lactic acid cannot be formed by fermentation to act as preservation.

2. **Preservation with vinegar:** The fruits and vegetables preserved in vinegar whose final concentration, in terms of acetic acid in the finished pickle should not be less than 2 per cent.

3. **Preservation with oil:** The fruits and vegetables should be completely immersed in the edible oil. Cauliflower, lime mango and turnip pickles are the most important oil pickles.

4. **Preservation with mixture of salt, oil, spices and vinegar:** The fruits and vegetables can preserve in mixture of salt, oil, spices and vinegar. Cauliflower, carrot, turnip, red chilli, jackfruit and tomato most important pickle those are prepared by this method.

FLOW-CHART FOR MANGO PICKLE

Mango (peeled and sliced) -1 kg, salt - 200 g, red chilli powder 10 g, asafetida -5 g, fenugreek, black pepper, cardamom (large), cumin and cinnamon (powdered) each 10 g, clove (headless) 6 numbers.

