EXPERIMENT 5  PREPARATION OF JAM

Structure
5.0 Objective
5.1 Introduction
5.2 Experiment
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5.0 OBJECTIVE

After completing this practical exercise, you should be able to:

- prepare jam from fruits and preserve.

5.1 INTRODUCTION

The jam is a product made by boiling fruit pulp with sufficient sugar to a reasonably thick consistency, firm enough to hold fruit tissues in position. Apple, pear, sapota (Chiku), apricot, loquat, peach, papaya, karonda, carrot, plum, strawberry, mango, tomato, grapes and muskmelon are used for preparation of jams. It can be prepared from one kind of fruit or from two or more kinds. Jam contains 0.5-0.6 per cent acid and inert sugar such as glucose with not more than 40 per cent. As per fruit product order (FPO), Fruit jam should have minimum 68 per cent sugar (TSS) and minimum 45 per cent of fruit portion (25 per cent in case of strawberry and raspberry).

5.2 EXPERIMENT

5.2.1 Requirement

- Peeling and cutting knives;
- Grater or pulper stainless steel utensils;
- Glass jar;
- Refractometer; and
- Thermometer.

5.2.2 Procedure

- Select good quality ripe but firm fruits.
- Wash the fruits and peel them. There is no need of peeling in case of raspberry, strawberry, plums, grapes etc.
- Extract the pulp from fruits and discard peel and stone/seed.
Preparation of Jam

- Crush the pulp to make it uniform;
- Add required quantity of sugar and citric acid as mentioned in Table S.1;
- Boil the pulp along with sugar and citric acid. Add little water to make the pulp soft and to dissolve the sugar;
- Concentrate it till the total soluble solids (sugar) reaches 68 per cent or temperature up to 105°C;
- Add colour and flavour if desired;
- Fill the jam in sterilized wide mouth bottles up to the neck and seal it with cap;
- Invert the bottle till it cool down. It will help to block the air passage from the cap; and
- Store the bottles in cool and dry place.

<table>
<thead>
<tr>
<th>Table S.1: Recipe for Preparation of Fruit Jam</th>
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5.2.3 Observation

<table>
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<tr>
<th>S. No.</th>
<th>Product</th>
<th>Weight of Fruit (kg)</th>
<th>Weight of Pulp (kg)</th>
<th>Volume of Sugar (kg)</th>
<th>Volume of Water (ml)</th>
<th>Quantity of Citric Acid (g)</th>
<th>Total Product (kg)</th>
<th>Approx. Cost (Rs.)</th>
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5.3 PRECAUTIONS

- Firm ripe fruits should be used.
- It is necessary to have pectin, acid and sugar present in correct proportion to get well set jam.
- Jam should be boiled rapidly until end point (68 per cent) is reached.
- Use sterilized bottle and cap for packing jam.