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# EXPERIMENT 6 PREPARATION OF BECHE-DE-MER

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## 6.1 INTRODUCTION

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Boiled and dried sea cucumber is called beche-de-mer. The method of processing can vary with species. The method given is particularly adapted for *Holothuria scabra* and related species.

### Objective

After performing this experiment, you will be able to:

- prepare beche-de-mer from the given sea cucumber sample.

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## 6.2 EXPERIMENT

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### 6.2.1 Principle

The thick, fleshy body wall is the edible part of the animal. Therefore, its entrails, skin, etc., are to be removed. By cooking, the animal shrinks, but the cylindrical shape is retained. This is further dried or smoked in order to reduce the moisture content and to preserve it. It's a hard dried product and therefore has a long shelf life.

### 6.2.2 Requirements

- Live sea cucumbers (*Holothuria scabra*)
- Sea water or common salt
- Aluminium/ stainless steel vessel
- Spatula, ring net, knife, other utensils
- Polyethylene bag/ polyethylene-lined cartons
- Balance
- Stove
- Drier
- Smoke kiln

### 6.2.3 Procedure

- 1) Sea cucumbers are to be brought in live condition in a box containing sea water. Weigh the animals.
- 2) Make a slit of 2–3 cm near the posterior end of the animal using a sharp knife. Allow the entrails to run out.
- 3) Using clean water; remove slime, sand, remnants of entrails, etc. Squeeze to remove excess water.
- 4) Boil clean sea water or 3.5% salt solution in an aluminium vessel over a stove. Water should be sufficient to immerse all the animals.
- 5) Put sea cucumbers into the water and boil for a period of 30–45 minutes with slow stirring using a spatula.
- 6) In order to check adequacy of boiling take out a piece and drop it vertically on to a hard surface. If it bounces well, stop heating.
- 7) Remove the pieces using a ring net and cool.
- 8) Pack loosely in a wet gunny bag and store overnight for a period of 15–18 hours.
- 9) Remove the softened outer layer. Take care to see that the pieces are cylindrical in shape.
- 10) Wash the material and boil again in sea water for a period of 45 minutes with stirring. This will kill most of the bacteria remaining.
- 11) Dry under sun or in drier. For sun drying, spread pieces on a mat or better, on a rack. If you're using a tray drier, spread the pieces in trays and dry at a temperature of about 50°C. Drying can be stopped when the pieces become dry and hard. The moisture content must be reduced to 8 – 10%.
- 12) Instead of drying, smoking can be followed. Place boiled pieces in a smoke chamber (smoke kiln). Smoke produced by burning wood is passed around the pieces till the required extent of smoking and drying are obtained.
- 13) Weigh the product. Pack in polypropylene bags and seal.
- 14) Store at room temperature in a dry place.
- 15) Observe the characteristics of the product such as shape, colour, toughness, etc.

### 6.2.4 Observations

Species name of the raw material :

Weight of raw material (x) =

Weight of beche-de-mer (y) =

Yield =  $y/x \times 100$  = .....%

Shape, colour and texture of the product:

### 6.2.5 Results

Yield of beche-de-mer from raw material is ..... %

The product characteristics observed are .....

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## 6.3 PRECAUTIONS

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- The animals must be alive at the start of processing and should be kept wet.
- Use only aluminium or stainless steel vessel for boiling. Never use vessels made of copper as the juice from the animal can react with it.
- Never keep the boiled material for a period of more than 18 hours as otherwise it can lead to spoilage.