CANNING OF SHRIMP IN BRINE (WET PACK)

Aim: To study the canning of shrimp using brine as the filling medium.

Introduction: Shrimp has become the backbone of the seafood in India, because of its export value in frozen form; besides minor quantities of small size grade shrimp (90-140 pieces per kg.) are being exported in canned form. The choice of small shrimp of canning is partly due to the poor market for this size and partly to the need to use mild sterilization process. Though many species of shrimp belonging to the genus *Peneaus, Pandalus* is canned in the world, *Parapeneopsis stysifera, Metapeneaus dobsoni* are the two most important species of shrimp being processed in canned form, either as dry pack or wet pack in brine / oil and exported from India. Shrimp is generally canned as **'wet pack"** where it is canned in brine. Wet pack is the most popular form, many species of Penaeid shrimp are suitable for canning.

Product Code : SRL - Shrimp in brine.

SR3 - Shrimp in oil.

Can Used : 8-Oz. Shrimp can, S-R Lacquered.

Std. Net Weight. : 210 grams

Std. Solid Weight : Not less than 64% of water capacity of container (= 128 grams for 4 ½-Oz. can)

Materials and Equipments:

Fresh whole shrimp, deveining blades, blanching containers, table salt, citric acid and other canning equipments.

Procedure:

Raw Material : The shrimps should be as fresh as possible. For this the shrimps should be taken for processing as soon as possible after the catch.

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Washing : They should be washed thoroughly with fresh water to make them free from slime, blood, mud etc. and then stored in ice immediately. The handling should be minimum necessary.

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Weighing :

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Beheading : The head, shell and intestine also called as vein are removed. These constitute about 60% weight of total weight of the whole shrimp. Care should be taken that the vein is completely removed.

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Peeling : Removal of exoskeleton on the abdomen. Pickers while peeling do size grading.

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Deveining : Removal of the gut using deveining blade.

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Washing : Wash thoroughly with chilled water.

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Weighing :

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Blanching : The dressed prawns are then blanched in 8-10% brine solution The brine solution is made first and heated to boil. The shrimps are then dipped in the solution (5-7 min.). The blanching helps to inhibit the enzymic action and cleansing the material about 0.1% citric acid is also added (1000 ml water + 80 to 100gm salt +1g citric acid)

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Fan Drying :for 3 minutes cooling is usually done under the fan in small cabinet racks in order to reduce the time taken for cooling.

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Grading :The blanched shrimps are cooled and graded for the different sizes.

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Weighing :

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Packing :After grading the prawns are filled in the S-R lacquered and cleaned cans to the desired weight. Incase 4 ½-Oz. cans weight should pack 128 grams + 3grams extra while filling the cans a headspace of about 1/8" is left. Care should be taken that the cans are not over filled.

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Filling :2% brine solution is made with fresh potable water. The salt used in this solution should be pure (over 98% NaCl and free from calcium and magnesium) 1000ml water + 20gms salt + 2gm citric acid. The brine solution should be hot (about 97^0C while filling).

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Seaming :Vacuum seaming or after proper exhausting.

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Can washing :

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Retorting : At 115^0C (10 psi) for 20-25 minutes. The purpose of processing is to destroy the bacteria and spores which would cause spoilage of the product and which might cause food poisoning to the consumer.

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Cooling : Cans are cooled by potable water in a tank or by water spray till the temperature of the cans reaches about 40^0C. A small amount of

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chlorine (1 ppm) may be added to cooling water for additional precautions.

Drying :

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Labeling : The cans are labeled according to the requirement. The label should cover the entire sides of the can and separate label may be put on the top. An attractive label will have a greater consumer appeal.

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Storage : The finished cans should be stored in a cool, dry place.

Note:

1) The shrimp should necessary be kept in crushed ice during its processing, till the blanching process.
2) Proper blanching results in the exudation of excess moisture from the shrimp and production of characteristic red or pink colour, besides curling of shrimp.

Observations:

Weight of raw material (Head on) :

Weight of peeled and deveined shrimp :

Weight of blanched shrimp :

Number of cans produced :

Number of persons involved & Man hours :

Calculations:

Calculate the dressing yield, blanching loss, canning yield, yield rate and efficiency.