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PRODUCTION OF RTS FRUIT JUICE & BEVERAGES

1. INTRODUCTION

A variety off soft drinks are being presently produced in the country such as sweetened carbonated (aerated) soft drinks, still beverages containing fruit juice/pulp and soda water falling under the category of RTS (ready-to-serve) beverages. Among these the share of fruit juice based beverages are very small compared to synthetic carbonated drinks/soda waters. However, the trend is slowly changing for the obvious advantages of nutritious beverages over the synthetic aerated waters. The present volume of the soft drinks business is of the order of Rs. 800 crores per annum.

Manufacture of RTS fruit beverages based on fruit juices/pulps are only considered here, as they are nutritious.

2. INSTALLED CAPACITY

Capacity of the unit	:	5000 bottles (200 ml)/day/shift
Working	:	300 days per annum

3. AVAILABILITY OF RAW MATERIAL – Sources

The raw material needed for fruit juice/pulp based RTS beverages are : Fruit pulp/juice, sugar, citric acid, preservatives and permitted colours, flavours and other additives. Almost all varieties of the pulpy fruits can be used for the extraction of their pulp or juice. Atleast 3 or 4 varieties of the different fruits are available in almost all parts of the country. The following fruits are well suited for RTS beverages.

1. Mango	2. Guava
3. Oranges	4. Pineapple
5. Grapes	6. Papaya
7. Acid limes	8. Litchi
9. Passion fruit	10. Apples
11. Banana	12. Pomegranate

During the season the fruits are to be processed and the pulp/juice are to be preserved for the regular use. This can be done either in OTS cans (3.1 kgs or 5.20 kgs) or chemically preserved with sulphur dioxide or sodium benzoate (storage in wooden barrels or HDPE containers). Canned pulp/juice are preferred, as they are superior to chemically preserved pulp in all respects. The pulp can either be extracted at the unit or can be purchased from other manufacturers or got done on contact basis.

Sugar required for the production of RTS beverages can be obtained from the local sugar factories or from wholesale dealers. Other raw materials such as citric acid, colour, flavour and preservatives are available indigenously and can be obtained from the manufacturers directly or through heir dealers.

Bottles (200 ml or 250 ml) are to be obtained periodically depending upon the sales volume. However, for doing a turnover, of 10.0 lakhs bottles, we need 2.0 lakh returnable bottles in circulation, though 1.0 lakh bottles will be sufficient on a 1:10 ratio of utilization. The deposit taken on crates and bottles must form atleast 50% of this investment. Crown corks are to be procured from standard suppliers.

4. TECHNOLOGY/MANUFACTURING PROCESS – Availability

The preserved fruit pulps, sugar syrup, citric acid, preservatives, colour, flavour, etc. are blended according to the formulation, homogenised and bottled. The bottles are then processed in retorts and cooled carefully. After inspection they are marketed.

The returnable bottles are to be carefully washed and inspected before re-use. The unit has to be organised with good manufacturing practices.

5. PLANT AND MACHINERY

5.1 Principal equipments

Pulper (optional), homogeniser, SS steam jacketed kettle mixing tanks, bottle filling machine, bottle washing (brushing) unit, crown corking machine, retorts, hoist, etc.

5.2 Auxiliary equipments

Boiler, working tables, weighing scales, handling vessels, knives, trolleys, etc.

6. PROJECT COST (in Rs. '000)

a)	Land & land development (600 M^2)	149.00
b)	Building & civil construction (150 M^2)	1520.00
c)	Plant and machinery	2978.00
d)	Other fixed assets	285.00
e)	Pre-operative expenses	446.00
	Total fixed capital	5378.00
	Working capital margin	635.00
	Total Project cost	6013.00

7. ANY OTHER SPECIAL FEATURE

The plant can be operated in full capacity in summer months. Products like mango, pineapple, grapes, mixed fruit based RTS beverages have to be produced regularly. The idle capacity if any can be utilized for making tomato products, jams, etc. in lean period, so that the viability of the unit can be better achieved.