

Coconut Vinegar

Introduction

Coconut vinegar is made from fermented coconut water and is used extensively as a preservative and flavouring agent in pickles, salads, sauces and many other condiments. Coconut vinegar is also made from the sap of the coconut tree and is similar to the fresh coconut water. Naturally fermented coconut vinegar is rich in minerals and vitamins such as Beta carotene, calcium, iron, magnesium, phosphorous, potassium and sodium. Raw, unfiltered organic coconut vinegar is similar to the one that is fermented naturally. Coconut vinegar helps in digestion and improves the quality of cooked meat and fish. It is a healthier alternative to synthetic vinegar. Coconut water is being wasted in copra and DC industry in the country. The Board in collaboration with the CFTRI, Mysore has developed a technology for the production of coconut vinegar from matured coconut water using vinegar generators. The vinegar generator assembly comprises a feed vat, an acidifier and a receiving vat for collection of vinegar. Vinegar has extensive use as a preservative in the pickle industry and flavouring agent in food processing sector. Now natural vinegar enjoys export market in place of synthetic vinegar.

Process

The matured coconut water consisting of about 3 per cent sugar content is concentrated to 10 per cent level by fortifying with sugar. The fortified coconut water is then fermented by inoculating the solution with yeast, *Sacharomyces cerevisiae*. After alcoholic fermentation for about 4 to 5 days, the clear liquid is siphoned off and inoculated with mother vinegar containing acetobacter bacteria. The alcoholic ferment obtained is then fed into a vinegar generator where the feed is uniformly sprayed over the surface of the porous packing medium (corn cobs). Here the alcoholic ferment is oxidized to acetic acid. The product is run out from the packing medium by gravity flow into the receiving vat from where it is recycled into the vinegar generator and the process of acetification is repeated until a strength of 4 per cent is attained. This acetified vinegar is then aged before bottling.

Product Specification

Acidity as acetic (g/100m1)	5.26 - 5.76
Total solids (%)	1.83 - 1.92
Total ash (%)	0.38 - 0.42
Sp. gravity	1.012 - 1.008
Alcohol	Nil

Project Cost

(100 litres/day capacity)	
Land	25 cents
Building (Roofed structure - 750 sq. ft.)	Rs.3.0 lakhs
Plant & Machinery	Rs.2.5 lakhs
Preliminary & pre-operative expenses	Rs.0.25 lakh
Contingencies	Rs.0.20 lakh
Margin money for working capital	Rs.0.25 lakh

Equipment / Machinery

- ❖ Feed trough
- ❖ Vinegar acetifier
- ❖ Receiving trough
- ❖ Wooden storage drums

Yield

Raw material	100 litres coconut water
Coconut vinegar	100 litres

Salient Features

Annual sales turnover	Rs.4.0 lakhs
Net profit	Rs.0.8 lakhs
Return on investment	20 per cent

Sources of Equipment / Machinery

Kindly Contact:-

Coconut Development Board,
S.R.V. School Road, Cochin - 682 011.

[Coconut Products / Machinery Directory](#)

Manufacturing unit

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