



## Perspectives in Production of ALCOHOLIC BEVERAGES FROM CASHEW APPLE

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Cashew is one of the important commercial crops of the country. Its importance now derives mainly from the valuable foreign exchange it earns from export of cashew kernels and the employment it provides in its processing. Cashew is grown over 4,20,000 hectares in the country. Of late there has been extensive area development in Kerala, Karnataka, Andhra Pradesh, Orissa, Goa, Tamil Nadu and Maharashtra. Cashew apples like cashew kernels, are also of great economical value.

At present cashew apples are practically wasted except

in Goa, where it is used for the production of "Feni". It is estimated that about 10,00,000 tonnes of cashew apples are available for the utilization. The apples could be successfully utilized for the production of high quality alcoholic beverages having export potential on an industrial scale. The non-alcoholic beverages from cashew apples are cashew apple juice, cloudy juice and cashew apple syrup. In addition, the cashew apples can also be used for the production of vinegar, jam, chutney and pickles.

Even though technical know-how for the preparation of different products from cashew apples is available, they are not commercially utilized in India. The cashew apple juice contains 10-12% sugar and vitamin 'C' 261.5 mg/100 c.c. The pH of the cashew apple juice is 3.8 to 4.0.

The collection of cashew apples is one of the main problems, since the apples are highly perishable and the fruit cannot be kept for more than a day. The micro-organisms will multiply and utilize the sugar.

#### **REMOVAL OF ASTRINGENT AND ACRID PRINCIPLES FROM CASHEW APPLE JUICE**

1. Steaming: Steaming of cashew fruit or juice is the most efficient method to remove the astringent and acrid principles (Tannin). The pressure of steam and time of exposure should vary from 2-6kg and 5-15 minutes respectively according to the quality of the cashew apples.

2. The juice from the fresh fruit can be treated with gelatin (0.25-0.4%) and pectin (0.35%) depending on the undesirable constituents in the fruit. Gelatin alone (0.5%) can be used to precipitate the tannin in the juice.

3. Lime juice (25%) imparts a strong flavour of its own besides raising the acidity.

The removal of astringent and acrid principles by mechanical or chemical process involves one more step in processing and it adds to the cost of final product. The production of alcoholic beverages using cashew apple juice is discussed in brief.

**CASHEW WINE:** After washing, the cashew apples are crushed by means of mechanical crusher to extract the juice. The tannin and acrid principles in the juice are removed by mechanical or chemical process. Later, the juice is inoculated with a fermenting starter of pure wine yeast. The fermentation is completed in about 2 weeks, after which the wine is decanted and heated to about 50°C to stop further fermentation (pasteurisation). The alcohol content of the wine will be about 5%.

In order to increase the alcohol content in the wine, to every 5 parts (by volume) of juice 1 part of sugar is added. The sweetened juice is heated to about 70°C and cooled to room temperature. Starter culture of pure wine yeast is added thereafter. Cane sugar could be used to increase the level of sugar to raise the alcohol content. After adding the yeast the container is sealed in such a way that no air can get in and the CO<sub>2</sub> produced during the fermentation has a free outlet. Long ageing gives good quality wine. The vitamin C will not get lost in the course of fermentation.

The method of preparing the cashew apple wine is worked out at CFTRI, Mysore. The cost of production of wine may be the limiting factor for the industry, marketing and the consumer's preference. In Brazil cashew wine prepared by fermentation of apple is declining in its importance because of its high cost of production.

**CASHEW APPLE BRANDY:** The cashew apple wine is further distilled to get higher content of alcohol and this is used as brandy. The product can find its way into the pharmaceutical industry or can even be exported. The Central Food Technological Research Institute, Mysore has worked out the total cost to set up a unit with a capacity of 30 tonnes cashew apple per day to yield 15 tonnes of juice and run for 75 working days during the season. In Kerala State, steps have been taken to set up a unit for cashew apple utilization in Calicut district, under the Plantation Corporation of Kerala.

**CASHEW FENI:** In Goa, a sort of brandy called "Feni" is made by the distillation of fermented cashew apple juice. In the traditional method the juice of the cashew apple is collected in vats which, when allowed to stay, is acted upon by the yeast present in the apple causing fermentation. The fermented juice is distilled in pots to give "Arrack", which on further distillation produces "Feni" which is 25 U.P. (under Proof). About 8 litres of cashew apple juice is required to produce a litre of Feni.

In Goa, distillation of the liquor is done by old method. Under modern methods, the cashew apple juice is extracted by mechanical means. The juice is then filtered, detanned, pasteurised and cooled. It is inoculated with a strain of pure yeast and after fermentation and racking, the final distillation is also done by modern method.

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