Development technology of banana wine

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SUMMARY: Banana has higher carbohydrate content, so it can be used for wine production. Therefore, this research was undertaken with overall objectives of the preparation of banana wine, chemical analysis and sensory evaluation of banana wine. Banana wine has lot of medicinal value moderate use of alcohol help to reduce oxidative stress, protect the brain of elder, sharpens the brain. The fresh, graded, ripped bananas were selected. They were peeled and uniform juice was extracted. The ascorbic acid, pectin's enzyme, yeast (Saccharomyces cerevaceae) and sugar were added with appropriate proportion. The sample was allowed for primary fermentation for 7-8 days under 18 °C. Then the sample was filtered and allowed it for secondary fermentation again 7-8 days. The sample was filtered again and kept in refrigerator. The precaution was taken that there should be less contamination and oxidation. In chemical analysis alcohol, sugar and pH value were observed 10.5, 0.4 and 4.1 respectively. Sensory evaluation shows that colour and taste was slightly good while odour and palatability was moderately good. The overall acceptability was moderate. It is concluded that banana wine is an innovative and nutritious food drink.

KEY WORDS: Wine banana processing, Wine yeast

Banana (Musa paradisiacal) is called as poor people fruit. In India, cultivation of banana fruit is on large scale i.e. 13.90 million tons and available at cheaper rate in market. Maharashtra is the country’s largest producer of bananas; growers here have been facing problems like fluctuation in rates and incidence of disease. The state has 72,000 hectares (ha) under banana plantation, while more than 40,000 ha of this is concentrated in the four talukas of Raver, Yawal, Chopda and Bhusaval in Jalgaon district. Due to its perishable nature and lack of storage facilities much of the produce is wasted. At the time of glut in market, the farmers face to economical losses. So to avoid this there is vast scope for banana wineries in India.

In India there are total 61 wineries, Maharashtra share is 58. As many as 30 wineries are in Nasik, 11 in Pune, 10 in Sangli, 3 in Solapur, 3 in Buldhana and one in Osmanabad. Maharashtra registered around 59.84 per cent growth in wine production to 2.11 crore litres. In the last seven years, the grape wine export has increased almost from 75,000 litres 525,000 litres. Out of total consumption of grape wine in India, around 80 per cent wine consumption is from the major cities- Mumbai (39%), Delhi (23%), Bangalore (9%) and Goa (9%), while the rest of the grape wine consumption i.e. 20 per cent is from the rest of India. Till now in India, wine is produced mainly from grapes, apple, strawberry, etc. Because of high glucose content, the ethanol content is more. Due to which high amount of wine can be prepared from banana at cheaper rate.

EXPERIMENTAL METHODS

All the experiments related to research work entitled-preparation of banana wine was conducted at laboratory of K. K. Wagh College of Biotechnology, Nashik.

Ingredient used:
Banana pulp, granulated sugar, pectinase enzyme, potassium metabisulphite or camden tablets or ascorbic acid, wine yeast (Saccharomyces cerevisiae) 2-3 per cent sterilized water, sodium metabisulphite.

Equipments used:
Fomenter/incubator, refractometer, thermometer, hydrometer, grinder, muslin cloth, centrifugal separator, balance.

Procedure:
– Fresh and graded bananas were selected for extraction of juice by grinder.
– Centrifugal separator was used to separate clear juice of banana and maximize the extraction of juice 0.2