

## Sugar Cane Juice Packing with Using Natural Absorbant and Preservative

Suraj Hyaling , Omkar Nage , Sarthak Kale , Sumit Mohan , Prof.P.S.Kale

Student of Department of Chemical Engineering & Prof. Dept. Chemical Engineering  
Pd.Dr.V.V poly .College,Ioni ,Pravanagar , Ahmadnagar-413736

\*\*\*

**Abstract** -Sugarcane juice is a refreshing sugary soft drink found in every part of India. It is a vital commodity in the global market as it provides immense health benefits. In the health-conscious consumer-driven market, sugarcane juice competes with other soft drinks and the sugarcane farmers are reaping the economic benefits. However, the development of suitable preservation technologies, along with sugarcane juice processing, is imperative to enhance its shelf life. Numerous preservation methods of sugarcane juice, including chemical, thermal, and non-thermal methods, have been investigated by various researchers. Among the various techniques that are in vogue, pasteurization is being widely used to preserve sugarcane juice. However, pasteurization causes loss of flavor, aroma, color, taste, and essential nutrients. Recently, nonthermal methods are gaining greater attention for the preservation of fresh juices, which can maintain the nutritional and sensory attributes. In this review article, various techniques used for the preservation of sugarcane juice are analyzed and way forward is presented so that it will help ascertain the optimal technique to preserve sugarcane juice.

### 1. INTRODUCTION

There has been increasing demand for soft drinks and fruit-based beverages. Sugarcane juices can be one such drink that can be available for consumers in tetra packs or glass bottles or plastic bottles. Sugarcane is widely used in a variety of products such as making our and Khansari. India is among the top five producers of Sugarcane. Sugarcane itself has a lot of medicinal and curative properties. Bottled or Tetra-Packed sugarcane juices can be very useful to consumers as they can be carried, stored anywhere easily. 200 ml package can be useful for a single person to consume easily and s/he can get a good amount of nutrition compared to other beverages. It contains natural sugars, minerals like iron, magnesium, phosphorous, calcium, and organic acids e.g. malic acid, succinic acid, acotinic acid, amino acid, protein, starch, gums, waxes, non-sugar phosphatides. Sugarcane juice is not only like any other sweet juice but it has many other nutrients. Sugarcane juice is extracted from the cane by pressing it through iron rollers. It is nutritious and refreshing. It contains about 15 % natural sugar and is rich in organic salts and vitamins. The juice can also be used for drinking or sweetening. In hot summer days, it is a

cooling drink. A little lime juice may be mixed in the juice to improve its flavour. Sugarcane juice is used as a delicious drink in both urban and rural areas in many countries. Sugarcane juice is highly nutritious and thirst-quenching drink.

### 2. Procedure

#### 2.1. Natural Absorbant and Preservative:-

- 2.1.1. Green mango panah
- 2.1.2. Amla Syrup

#### 2.2. Steps for sugarcane preservation process:-

1. **Harvesting:-** Harvest the cane at 10-12 months crop age at ground level.
2. **Cleaning of canes:-** Discard the molds and insects infected canes, clean the good canes and wash them with a heavy flow of water to remove dirt, soil, and microorganism. The handling area should be cleaned with disinfectant. Scrap the rind of canes. After rind scraping washes the cane with boiling water.
3. **Cleaning of juice crusher:-** Wash the crusher with boiling water followed by a 10ppm sodium hypochlorite solution to avoid any contamination from the juice crusher.
4. **Crushing:** Crush the canes in stainless steel crusher.
5. **Juice collection and filtration:** Filter the juice through a multi-layer clean muslin cloth to remove the suspended and floating material and collect the juice in sterilized containers.
6. **Cleaning of glass bottle:** Clean the glass bottle thoroughly and sterilize them before filling the juice.
7. **Bottling:** Fill the juice in a sterilized glass bottle under aseptic conditions and packed airtight. Allow for In-bottle pasteurization (65°C/25min) followed by cooling to room temperature and then keeping in refrigerator.

**Table -1:** Sample Table format

Samples	Sugar cane Juice	preservative	Increase validity	Colour
1	50 ml	20 ml	36 hr	Greenish
2	60 ml	25 ml	42 hr	Greenish
3	70 ml	30 ml	48 hr	Greenish

### 3. CONCLUSIONS

Sugar Cane juice Packing with Using Natural absorbent And preservative is very complex for this project. We are thankful to our principal Prof. V. R. Rathi Sir for their inspiration. process, which consists of hundreds of reactions and This work is also a product. Several factors have significant effects on the outcome of the blessing guidance and support of reactions and the products.

Based on previous research, my parents and family members, and friends, our cordial thanks to all who have contributed indirectly processes and reactions. With the temperature increasing.

### ACKNOWLEDGEMENT

It gives us an immense pleasure to express my sincere and heartiest gratitude towards my guide Prof.P.S.Kale for his guidance, encouragement, moral support and affection during the course of my work. She has proven to be an excellent mentor and teacher. We all are especially appreciative to his willingness to listen and guide me to find the best solution, regardless of challenge. We are also extremely grateful to Prof. N. M. Garad, Head of Chemical Engineering Department, for their motivation and support during the work from time to time. We also like to thank Prof. A. S. Shirsath Prof. S.C. Dighe, Prof. Ashwini kharde &Prof. P. R. Gulve for Sugar Cane Juice Packing with using natural absorbent and preservatives.

### REFERENCES

1. Mechanical Operations (found . Principle and oper)
2. Sugar cane Juice Clarification for Sirup Manufacture
3. Fruits and Vegetable Preservation. Prof.R.P.Shrivatv Sunjeev Kumar

### FUTURE SCOPE

The sugarcane juice preserved and packed in aseptic packing and bottle has a good storage life and is available during off-season also. The juice is available in many flavors including classic plain, mint, ginger, lemonade, pepper, sweet & salt etc. Sugarcane juice is a high-energy drink that is natural, sweet and is a healthy alternative to refined sugar added drinks.