

Sugarcane Juice – A Natural Medicine

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INTRODUCTION

Sugarcane (*Saccharum officinarum*), is a giant grass belonging to the family Poaceae (previously known as Graminae). The word SACCHARUM has been derived from Sanskrit word SARKARA which shows the knowledge of sugarcane in India As per Sugarcane Statistical Report (2019), India is the second largest producer of sugarcane in the world, next to Brazil, contributing nearly 5.14 hectare area and 359.33 tonnes production. The total production of sugarcane in India has been increased from 352.14 M tonnes during 2018-19 to 359.33 tonnes during 2019-2020. The two largest sugarcane producing states in the country are Maharstra and U.P. accounting for more than 85 per cent of the annual crop production. In 2017-18, sugarcane was planted in 5.14 million hectares across the country, of which 2 million hectares was in Maharashtra and over 3 million hectares in Uttar Pradesh. In 2018-19, the total production of sugarcane in the country was around 352.14 million tonnes, producing about 67.6% of white sugar and 21.2 % gur and khandsari whereas in 2019-20 the total production of sugarcane was around 359.33 million tonnes, producing nearly 273.073 million tonnes white sugar and 45.63 million tonnes gur and khandsari . In Uttar Pradesh, most of cane planting takes place between February and May and the rest in September-October (Agriculture Ministry, 2018-19).

Kingdom: Plantae

Division: Magnoliophyta

Class: Liliopsida

Order: Poales

Family: Poaceae

Genus: *Saccharum*

The sugarcane plant contains four principal parts, the leaf, the stalk, the root system and the flower. The stalk is cylindrical in shape and is composed of number of section or internodes. The sugar content of sugarcane is completely dissolved in juice contained in millions plant cells which must be ruptured for the juice to be expressed.

Sugarcane juice is available almost throughout the country but juice composition may vary according to cane variety, cultural practices, geographical location mechanical treatment during harvesting and transportation and also maturity at harvest.

Nutritional Factor (per 100gm serving)

COMPOSITION	AMOUNT
WATER	90.2%
TOTAL CARBOHYDRATE	9.1 g
CALCIUM	10 mg
IRON	1.1 mg
THIAMINE	0.02 mg
RIBOFLAVIN	0.02 mg
VITAMIN C	5 mg
CALORIFIC VALUE	36 Kcal

Non- nitrogenous organic acids present in cane juice (Source:- Walford, 1996)

Acids		Concentration (ppm)
Natural	Oxalic acid	40-200
	Citric acid	900-1,800
	Tartaric acid	10-180
	Malic acid	1,200-1,800
	Aconitic acid	5000-8000
	Succinic acid	100-200
	Glycolic acid	Trace – 150
Formed during processing	Lactic acid	250-670
	Acetic acid	200-300

Amino acid composition of cane juice (Source:- Walford, 1996)

Compound	Free	% dry solids
Amino acids	Aspartic	0.11 0.06
	Glutamic	0.05 0.08
	Alanine	0.06 0.05
	Valine	0.03 0.04
	Threonine	0.02 0.04
	Isoleucine	0.01 0.03
	Glycine	<0.01 0.04

HEALTH BENEFITS

- 1 Helps in the treatment of kidney stones, urinary tract infections and improve proper functioning of the kidneys.
- 2 Cane juice helps to strengthen your liver and is good remedy for jaundice.

3. A glass of chilled juice will help to enhance your health and increases your energy level, due to rich in carbohydrate, protein, potassium, iron and various other nutrient that makes it perfect energy drinks.

4. Due to laxative properties sugarcane juice helps in bowel movement and relieving constipation.
5. Highly recommended for diabetics as it has low glycemic index.
6. Due extremely rich in minerals sugarcane juice helps in prevent tooth decay and bad breath.

CONCLUSION

Freshly drawn sugarcane juice has many health benefit and helps to cure many disease but the main problem arises while storing the juice. Due to present of enzyme i.e. invertase and polyphenoloxidase which is responsible for discoloration and overall appearance of the sugarcane juice respectively. Sugarcane juice can be preserved by adding natural preservative such as seedless lemon juice, mint etc. or before processing sugarcane juice should be kept in microwave to deactivate the enzymatic activity. The incorporation of natural preservatives in the juice enhanced the quality of juice.

Hence, juices which are made with the addition of natural preservatives have a potential to be commercialized as a beverage.

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