

Jaggery or Sugar: Which is Better and Why

Project Report
Submitted by

Rajdeep Sahrawat
Assistant Professor
Shri Ram College
Muzaffarnagar

funded by

The Gur Khand and Grain Merchant Association
Muzaffarnagar



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Muzaffarnagar**

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Co-ordinator
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दिनांक: 22/06/2019

To,

Dr S C Kulshrestha
Chairman,
Shri Ram Charitable Trust,
Parikrama Marg,
Muzaffarnagar

Dear Sir,

This is to inform you that the Association has approved a grant of Rs: 35,000/- in support of the proposed project title as 'Jaggery or Sugar: Which is Better and Why' as a part of "Gur Mahotsav"

The details of payment are as under:

Cheque No: 030009

Dated: 20/06/2019

Amount: Rs. 35000/-

Bank Name- Allahabad Bank, Muzaffarnagar

Kindly submit us all literature published on the occasion.

Thanking you,

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Sanjay Mittal
Yours faithfully,

(Sanjay Mittal)
President

[Signature]
Co-ordinator
IQAC, Shri Ram College,
Muzaffarnagar

[Signature]
Principal
Shri Ram College
Muzaffarnagar

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SHRI RAM COLLEGE

(Affiliated To CCS University, Meerut & Approved By NCTE)

CIRCULAR ROAD, MUZAFFARNAGAR

'A' Grade Accredited by NAAC

Date: 24.06.2019

Mr Rajdeep Saharawat
Department of Basic Science
Shri Ram College, Muzaffarnagar

We are pleased to inform you that the Project Proposal entitled " **Jaggery or Sugar: Which is Better and Why** " submitted by you to the Management Committee, which is related to The Gur Khand & Grain Merchant Association has been approved and an amount of **Rs. 35,000** has been sanctioned for the Project in your department.

Please start working on the above said project and take necessary action for timely completion of the project.


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Utilization Certificate

S.N.	Detail of sanction of Fund with Project name and Duration	Amount
1.	30-Day project on Jaggery or Sugar: Which is better and why, Date of Sanction of Fund- 22-06-2019 as per Sanction Letter	35000.00
	TOTAL	35000.00

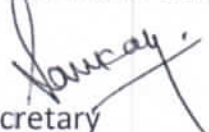
It is Certified that out of Rs. 35000.00 (Rs. Thirty Five Thousand Only) of grants sanctioned by **The Gur Khand and Grain Merchant Association** during the year 2019-20 in favor of **Shri Ram College, Muzaffarnagar**, a sum of Rs. 35000.00 has been utilized for the purpose of the project for which it was sanctioned and that the balance of Rs. Nil remaining unutilized at the end of the year has been surrendered. The Extra amount (If any) is met out by Shri Ram College.

2. Certified that we have satisfied our self that the conditions on which the grant was sanctioned have been duly fulfilled/are being fulfilled and that we have exercised the following checks to see that the money was actually utilized for the purpose for which it was sanctioned.

Kinds of checks exercise-

- 1 Checking of cash book
- 2 Checking of payment vouchers.
- 3 Checking of expenses bills.


For Shri Ram College


Secretary

Place: Muzaffarnagar

Date- 30-08-2019

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For Goel Rakesh & Co.
Chartered Accountants


Rakesh Kumar Goel
Proprietor

M. No. 071858

FRN : 003374C


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Jaggery and Sugar: Which is Better and Why?

Abstract:

Jaggery and sugar are two common sweeteners used throughout the world. Although both are obtained from the same sources, they are much different in their properties and benefits. The two are different in their colour, texture, processing and many other aspects. Jaggery provides a number of health benefits however cannot be recommended for diabetic people. Also prolonged consumption may lead to increase in weight. So use of jaggery is a healthier option but it cannot replace sugar completely.

Introduction:


Jaggery and sugar are two common sweeteners used throughout the world. Although both are obtained from the same sources, they are much different in their properties and benefits. Just as twins are different in many respects; jaggery and sugar, made from the same sugar cane juice, are different from one another. These differences must be kept in mind for their proper use.

The differences in properties of two products of sugarcane are in their colour, texture, composition, processing, availability as well as uses.

Difference between sugar and jaggery:

In spite of production of two items from the same thing that is sugarcane, the two products are very much different from each other. The difference between the two can be summarised in following table:


S.N.	Character	Jaggery	Sugar
01	Colour	Jaggery shows true Eastman colors, ranging from golden yellow to golden brown, brown, dark brown, and like the color of dark chocolate, depending upon the extent to which it is cooked.	Sugar typically has a bright white color
02	Texture	Jaggery is semi-solid, softer than sugar, and amorphous.	Sugar is solid, hard, and crystalline.
03	Composition	Jaggery is predominantly made up of sucrose ($C_{12}H_{22}O_{11}$), with traces of mineral salts, iron, and	Sugar is made up of only sucrose


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		some fiber.	(C ₁₂ H ₂₂ O ₁₁).
04	Health Benefits	<p>01. Jaggery is far more complex than sugar, as it is made up of long chains of sucrose. Hence, it takes time to digest.</p> <p>02. This provides energy for a longer time and is not harmful to the body.</p> <p>03. Jaggery also contains iron, which is good for health, particularly for those who are anemic or lack iron.</p> <p>04. Jaggery also contains traces of mineral salts which are very beneficial for the body.</p> <p>05. Jaggery is very good as a cleansing agent. It cleanses the lungs, stomach, intestines, oesophagus, and respiratory tracts.</p>	<p>01. Being one of the simplest available forms of sucrose, sugar is instantly absorbed in the blood and releases a burst of energy.</p> <p>02. It may be harmful to organs such as the kidneys, eyes, and brain, particularly for patients with diabetes.</p> <p>03. Sugar solution in water is considered cool in nature. So, in some places, it is not recommended to consume sugar when someone has a cold.</p>
05.	Cultural Aspects	Jaggery has an important place in Indian culture and also in the culture of any country where it is made, probably because it is indigenous. In India, it is offered to gods and goddesses and is used in many religious ceremonies because it is considered holy, as it does not involve any use of bone charcoal.	Sugar is believed to have been used in Polynesia by people, and eventually, making its way to India.
06.	Industrial Aspects & Marketing	Jaggery manufacturing has been practiced for centuries much before sugar came into being. This industry is still not organized and out of the realms of the rural areas despite a huge demand. Most of the jaggery comes from remote places and reaches the	The sugar industry is very organized and highly mechanized. As almost all the sugar coming into the market is manufactured in sugar mills run by big companies. Hence,


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		market through agents. Unlike sugar, jaggery is known by the place of its manufacture and not by its brand.	sugar is branded and it has a big influence on the CPI and thus on the economy.
07	Culinary & Industrial Uses	<p>01. Jaggery is used in curries, lentil soup, and other preparations.</p> <p>02. It is an integral part of the country's sweets made by combining ground nuts, grams, sesame seeds, rice flakes, puffed rice, popped rice, cashew nuts, almonds, wheat, and gram flour snacks with jaggery. These sweets are extensively consumed during winter all over India as they provide nutrition and warmth to combat cold.</p> <p>03. There is one big industrial use of jaggery in the manufacturing of alcoholic beverages, particularly rum. Rum, in many cases, is made by fermenting jaggery.</p>	<p>01. It is used in bakery items like bread, cakes, biscuits, cookies, and other products.</p> <p>02. Sugar is included in sorbets, syrups, jams, jellies, sauces, marmalade, squashes, soft drinks, packed fruit juices, sweetened milk, milk chocolates, ice creams, ice candies, condensed milk and this list can go on infinitely.</p> <p>03. It is also used in some medicines.</p> <p>04. Sugar is caramelized and mixed with a number of food items and drinks, including alcoholic beverages, to add taste, color, and aroma.</p>
08	Availability	If you are not living in a country where jaggery is manufactured, it might be very difficult to find. It contains a lot of moisture, often melts on heating, and contracts fungal infections quite easily. For this reason, it is exported to very few countries from where it is produced.	Sugar is available almost anywhere in the world now. Availability is never a problem with sugar. Just reach out your hand and you can probably find it.

Jaggery versus sugar: which is better?


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Jaggery that is made from the juice of raw and concentrated sugarcane is the one that is commonly used. Jaggery is made by boiling the juice of sugarcane and then heating it for producing thick crystals. Jaggery consists of sugar in the form of sucrose and is widely used in different food products in the form of a sweetener. It is considered healthier in comparison to refined sugar because there are different plant minerals and phytochemicals preserved in jaggery.

Nutritional Value of Jaggery

The carbohydrate content of jaggery is around 98% while its sugar content is 97%. 10 grams of this unrefined sugar offers 38 calories. The nutritional value of this unrefined sugar might not satisfy the mineral and vitamin requirements of individuals. Jaggery comes in colors ranging from dark brown to golden brown and consists of 20% invert sugars, 20% moisture and 50% sucrose.

NUTRITIONAL FACTS PER 100 GRAMS

358Calories

27 mg Sodium

453 mg Potassium

85 g Total Carbohydrate

VITAMINS AND MINERALS

0.22Calcium

32 %Iron

Health Benefits of Jaggery

Mentioned below are the best health benefits of Jaggery:

1. PURIFIES BLOOD

One of the most popular advantages of jaggery is that it possesses the ability of purifying blood. If consumed regularly, jaggery goes a long way in cleansing blood and in leaving the body healthy. It also helps in preventing different blood disorders and diseases by boosting the count of hemoglobin. Jaggery also boosts immunity and thus helps in the prevention of different blood-related problems

2. RICH IN IRON

Jaggery is quite rich in its content of folate and iron and therefore it helps in the prevention of anemia. It also offers instant energy preventing weakness and fatigue of the human body

3. FILLED WITH MINERALS

Jaggery is packed with minerals and antioxidants like selenium and zinc and these help in preventing free-radical damage. These minerals and antioxidants also help in boosting the body's resistance to different infections.


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4. DIGESTIVE PROCESS

It is quite effective in maintaining proper functioning of the digestive system. Properly functioning digestive system means proper prevention of digestive issues and improvement in digestion at the same time. Jaggery stimulates the secretion of digestive enzyme and therefore speeds up the procedure of digestion. Proper digestion helps in regulating bowel movement and in preventing issues like constipation, intestinal worms and flatulence

5. IMPROVES METABOLISM

The high mineral content of jaggery and high levels of potassium helps in the management of weight. This is done by reducing the retention of extra water in the human body. The potassium content of jaggery maintains electrolyte balance, improves metabolism and builds muscles help in weight loss.

6. WATER RETENTION

Minor health issues like water retention, migraine, bloating and cough and cold that are experienced by individuals on a regular basis can easily be dealt with the help of jaggery. The only thing that needs to be done is mixing jaggery with warm water or adding it in tea for reaping instant benefits.

7. RELEASED HORMONES

Women who experience mood swings prior to having their periods can greatly benefit from having jaggery. Mood swings are the cause of fluctuating hormone levels in the body. Jaggery helps in the release of happy hormones called endorphins. These relax the body making women feel better.

8. IMPROVES NERVOUS SYSTEM

Jaggery also helps in preventing major issues faced with the nervous system of the body. It contains several natural properties which are of good help in keeping the nervous system functioning properly. This in turn helps individuals in staying healthy and normal.

9. PREVENTS RESPIRATORY ISSUES

Having jaggery on a regular basis can help in prevention of different respiratory issues like bronchitis and asthma. Experts are of the view that taking jaggery in the form of a natural sweetener in perfect combination with sesame seeds can be highly beneficial for the respiratory system in human beings. Jaggery contains properties that help in regulating the temperature of the body and this is something that is highly beneficial for the patients of asthma. It is also worth noting that jaggery contains anti-allergy properties as well

10. JOINT RELIEF

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For the one who tend to suffer from pains and aches in their joints, having jaggery can offer the much required relief. If experts are to be believed, jaggery when taken along with ginger can work wonders in alleviating joint pain. Having a glass of milk along with jaggery on a regular basis can also help in strengthening the bones and in preventing bone and joint problems like arthritis.

Conclusion:

Both jaggery and sugar are produced from the same sugarcane juice but due to their processing the two products are different from each other. The above mentioned healthy benefits of jaggery prove it a better choice over sugar. However consuming high amount of jaggery for a long time can lead to increase in weight. So it may be concluded that although jaggery is a good choice over sugar but upto a certain limit.



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