

S. No	Name	Botanical Name	Parts which are used	Addition gm per quintal juice	Brief method of useng
1.	Deola	Hibiscus ficulneus	Stem and roots	40-45	Dipped in water for about 2 - 4 hrs, Pound and rubbed . Thus mucilaginous liquid obtained is added
2.	Bhindi	Hibiscus esculentus	do	45-50	do
3.	Phalsa	Grewia asiatica	Green bark	50-55	do
4.	Semal	Bombax malabaricum	Green bark	55-60	do
5.	Sukala	Kydin calycina	Dry bark	45-60	do
6.	Castor	Ricinus communis	Seed	70-75	Soaked, decorticated & ground with water is mixed offer straining
7.	Groundnut	Arachis hypogaea	Seed	70-75	do
8.	Soybean	Glycine max	Seed	30-40	do

thoroughly mixed with the laddle. The slurry is then poured into the moulding frames of desired shapes and sizes (2.5 cm cubical shape weighing 20 -22 gm or 2.5 cm x2.5 cm x 1.25 cm square shaped weighing 10 -11 gm) developed by IISR, Lucknow.

After about 45 minutes, these frames are dismantled and jaggery is removed and spread for shade drying. Depending upon the interest dry fruits and broken groundnut and *sonth* etc. are sometimes mixed in the slurry prior to moulding.

• Storage of Jaggery

Thus made value added jaggery is stored in IISR designed drying-cum-storage bin made of Galvanized Iron it sheets wherein it is dried in dry weather and protected in wet climate.



• Attractive Packaging

The cubical and rectangular shaped jaggery is then packed in the attractive polyester- polyethylene packets each weighing about 250 gm and sold to the customers.

The Jaggery so prepared and packed has a great potential for export.



Quality Jaggery Manufacturing and its Storage



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● Selection of Sugarcane

Selection of good quality matured sugarcane is an important first step towards manufacturing quality jaggery. Such cane should be harvested close to the ground and cleaned off dry leaves, trashes, green tops, roots and mud clods. The cleaned sugarcane should be immediately transported to the crushing yard and crushed. Delay in crushing may cause inversion losses.

Recommended sugracnae varieties having good jaggery quality

S.No.	State	Early maturing varieties	Mid season and late maturing varieties
1.	Uttar Pradesh	CoS 687, CoS 8436 Co 95255, CoS 94257	Co 1148, CoS 767, BO 91 CoS 92254, CoSe 92423 CoS 8432, UP 39
2.	Bihar	BO 136, BO 137, Co 87263	CoS 767, BO 91, BO 106, Co 1148
3.	West Bengal	BO 90	CoS 1148
4.	Orissa	Co 7704, Co 62175, Co 740	Co 7219, CoJ 8201,Co 7706 Co 62175
5.	Assam	—	Co 8315
6.	Punjab	CoS 8436, Co 89003	CoJ 67
7.	Haryana	Co 89003, Co 7717, CoJ 64	Co 1148, CoS 767
8.	Rajasthan	Co 997, Co 527	Co 419, Co 1007
9.	Madhya Pradesh	Co 775, CoC 671	Co 419, Co 62175, CoLK 8001, Co 1148
10.	Gujarat	Co 775, CoC 671, CoLK 8001	Co 7527, Co 8021, Co 62175, Co 8011, Co740
11.	Maharashtra	Co 419, Co 775, Co 7219, CoC 671	Co 740, Co 7219, CoM 7125 Co 7527, Co 86032
12.	Karnataka	CoC 671, Co 85002	Co 62175, Co 740, Co 8014, Co 8021, Co 8011, Co 86032
13.	Andhra Pradesh	Co 6907, CoT 8201, Co 8014, CoC 671	Co 62175, CoA 7602, Co 7219
14.	Tamil Nadu	CoC 671, Co 7704, Co 8208	Co 6304, Co 8021, Co 86032

For crushing of cane, power crusher of repute, which is able to extract 60 to 70% juice, should be procured, installed and used. Horizontal roller crusher yields 2-4% more juice compared to vertical roller crusher. Always, before and after juice extraction, one should wash rollers and juice pipe line with hot water or steam to avoid microbial contamination.



● Juice Filtration

The extracted juice should be filtered with three layered wire mesh or thick cloth to separate undissolved impurities like trashes, pieces of bagasse, and roots etc. The juice is then collected through underground PVC pipeline into the juice tank covered with thick layered cloth where small particle impurities are filtered from the juice. The clean juice is then pumped into the specially designed open pans kept on furnace.

● Proper Furnace Selection

A furnace, which utilizes lesser bagasse and time for boiling and concentration of juice, should be selected for



construction. The two and three pan furnaces, designed and developed at Indian Institute of Sugarcane Research, Lucknow, work satisfactorily as they utilize waste heat for preheating fresh juice up to 60 - 70°C and consume relatively lesser time.



● Juice Clarification

Clarification of juice loaded in pans is very important for making light yellow coloured, crystallized and impurities free jaggery, which is suitable for storage also. The dissolved impurities in the juice are removed with the help of herbal / vegetative clarificants. Some of these are mentioned below :

Among all the above clarificants Deola gives the best results. A realy to use herbal clarificent in powdered form has been prepared by this Institute. Coagulated scum is removed with the help of long perforated spoon and kept in the scum-settling tank. The settled juice is mixed in the boiling juice.

● Juice Concentration and Moulding in frame

When boiling and concentrating juice reaches the striking point temperature, it is removed from the pan and kept in the wooden cooling pan. It is

