

Process Technology for Antioxidant Rich Jamun Bar

- ❖ Jamun (*Syzygium cumini* L.), the Indian blackberry is also known as Kola jamu (Assamese), Kalojam (Bengali), Jambu (Gujrati), Kala jamun (Hindi), Neralai (Kannada), Soh jam/ Soh Jamun (Khasi), Naval pazham (Malayalam), Jaam (Manipuri), Jamphool (Marathi), Jamukoli (Oriya), Jamun (Punjabi), Nagapazham (Tamil) in different parts of the country.
- ❖ Jamun fruits contain about 83% moisture, 14% carbohydrates, 0.7% protein, 0.3% fat, about 3% dietary fibre, 18mg vitamin C, 48µg carotene and rich in anthocyanins and phenolic compounds.
- ❖ Jamun fruits are sweet and sour in taste with little astringency attributed to higher tannin content.
- ❖ Jamun fruits are good for digestive system, liver and spleen and known for its antioxidants, antidiabetic, hepatoprotective, hypolipidemic and radioprotective properties. ❖ Fresh ripe Jamun fruit contains about 64% pulp and 36% seed.



PROCESS FOR PREPARATION OF JAMUN BAR

- ❖ Process technology comprised primary washing in potable water, final rinsing by chlorinated water, draining of surface water followed by extraction of pulp using fruit pulper (<1mm sieve size).
- ❖ Thermal pretreatment of pulp (85 °C), followed by rapid cooling, addition of recommended ClassII preservative, packaging in air tight container and storage of pulp at <8 °C temperature.
- ❖ For Jamun bar preparation, taking out the Jamun pulp from cold store, keeping at room temperature for 2 hours, thermal pretreatment (to improve the colour and textural properties), followed by two stage drying (initially at slightly higher temperature followed by the temperature less than 50 °C), shaping/strips cutting and packaging.
- ❖ No artificial colour and table sugar/ sweetener are required in the developed process.

- ❖ Recovery of Jamun bar: about 3.75 kg per 25 kg fresh Jamun pulp.
- ❖ Major equipments and machines for industrial processing: Fruit washer, fruit pulper, homogenizer, pasteurizer, tray dryer.

QUALITY CHARACTERISTICS OF JAMUN BAR

Protein, %	3.88	Fat, %	0.75	Total minerals, %	2.60
Total carbohydrates, %	78.80	Calcium, mg/100g	120.0	Iron, mg/ 100g	1.74
Total Phenols (mg Tannic Acid	1241.54	Equivalent /100 g)	Total Phenols (mg Gallic Acid	919.25	Equivalent /100 g)
Total Flavonoids (mg Quercetin	463.04	Equivalent/100 g)	Antioxidant Activity (% DDPH	80.34	inhibition)
Antioxidant Activity (mg Trolox	213.82	Equivalent/100 g)	Ferric Reducing/Antioxidant Power	880.11	(FRAP) (mg Trolox Equivalent/100 g)
Anthocynins (mg/100g)	301.11	Saponins (mg Diosgenin	301.74	Equivalent/100g)	
Alkaloids (mg Atropine	1.11	Equivalent/100g)	Sensory Acceptability Score	8.52	(9 points hedonic scale)



For more information contact: Director
 ICAR- CIPHET, Ludhiana – 141 004, Punjab, India
 Phone: +91-161-2313103/ 2313112 Fax:+91-161- 2308670
 E-mail: director.ciphnet@icar.gov.in; website:
 www.ciphnet.in



हर कदम, हर उमर
 किसानों का हमसाथर
 भारतीय कृषि अनुसंधान परिषद
 AgriSearch with a human touch

Technology Developed by: R.K. Vishwakarma, Mridula D., Sonamati R. Kumar, Simran Arora & R.K. Singh

Published by: Dr R.K. Singh, Director (Acting), ICAR-CIPHET, Ludhiana, Punjab under CRP on SA project entitled 'Establishment of Modern Agro-Processing Centre for fruits and vegetables'.

© August 2020, ICAR-Central Institute of Post-Harvest Engineering & Technology, Ludhiana, Punjab