

PHILIPPINE NATIONAL STANDARD

PNS/BAFS 76:2016
ICS

Coconut Sap Sugar - Specifications



BUREAU OF AGRICULTURE AND FISHERIES STANDARDS

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Foreword

The revised Philippine National Standard for Coconut Sap Sugar – Specifications (PNS/BAFS 76:2016) was undertaken by the Bureau of Agriculture and Fisheries Standards (BAFS) through the Technical Working Group (TWG) as provided for in Special Order 336 Series of 2016. The TWG is composed of members from the Philippine Coconut Authority (PCA), Sugar Regulatory Agency (SRA), Food and Nutrition Research Institute (FNRI), Food Development Center (FDC), Philippine Coconut Research and Development Foundation Inc. (PCRDF Inc.), and United Coconut Associations of the Philippines (UCAP).

This standard provides the minimum requirements and specifications for commercially produced Coconut Sap Sugar.

PNS/BAFS 76:2016 was drafted and revised in accordance with the rules given in the Bureau of Product Standards (BPS) Directives, Part 1.

This standard replaces PNS/BAFS 76:2010, Coconut Sap Sugar – Grading and Classification. The revision in this standard considered modifications due to national legal requirements and current developments on food safety and quality related to the production and processing of coconut sap sugar.

Coconut Sap Sugar - Specifications**1 Scope**

This standard provides the minimum requirements for commercial Coconut sap sugar obtained from fresh sap tapped from an unopened inflorescence of coconut trees, *Cocos nucifera* Linn.

2 References

The titles of the standard publications and other references of this standard are listed on the inside back cover.

3 Definitions

For the purpose of this standard, the following definitions apply:

3.1**coconut sap**

liquid oozing out from the tapped unopened inflorescence of the coconut palm

3.2**coconut sap sugar**

a sweetener in solid form, derived from pure fresh coconut sap obtained by boiling

3.3**filth/impurities**

extraneous and foreign matters

4 Minimum Requirements

Coconut sap sugar should conform to the following requirements:

4.1 Physical characteristics

Coconut sap sugar should conform to the physical characteristics specified in Table 1.

Table 1 - Physical characteristics of coconut sap sugar

Parameter	Quality characteristics
Color	Light yellow/Cream to dark brown
Odor	Sweet scent; pleasant nutty aroma
Taste	Sweet
Others	Free from filth and extraneous matters

Coconut Sap Sugar - Specifications

4.2 Chemical properties

Coconut sap sugar should conform to the chemical property requirements specified in Table 2.

Table 2 – Chemical properties of coconut sap sugar

Parameter	Values
Water activity, a_w	≤ 0.60
Moisture content, MC (%)	≤ 3.5
Glucose (%)	2.0 -3.0
Fructose (%)	1.0-4.0
Sucrose (%)	78.0 – 89.0
Ash (%)	≤ 2.4

4.3 Microbiological characteristics

Coconut sap sugar should conform to the microbiological characteristics specified in Table 3.

Table 3 – Microbiological characteristics of coconut sap sugar

Parameter	Values
<i>Salmonella</i> (/25g)	Negative
<i>E. coli</i>	Negative
Coliform count	< 10 cfu/g or < 3 MPN/g
Total plate count	< 500 cfu/g
Yeast and mold count	< 10 cfu/g

5 Contaminants

- 5.1 The coconut sap sugar should be free from filth and extraneous matters.
- 5.2 Coconut sap sugar should conform with heavy metals in amount not hazardous to human health.
- 5.3 No additives permitted.

6 Hygiene

Coconut sap sugar should be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (RCP 1 – 1969, Rev. 4 - 2003), Code of Hygienic Practice for Coconut Sap Sugar (PNS/BAFS 167:2015), BFAD Administrative Order No. 153 Series of 2004, Revised Guidelines on Current Good Manufacturing, Packing, Repacking, or Holding Food.

7 Methods of Sampling and Analysis

The sampling and analytical procedure for coconut sugar should conform with the Association of Analytical Communities (AOAC) 20th ed. 2016, Bacteriological Analytical Manual (BAM) and Compendium of Methods for the Microbiological Examination of Foods by the American Public Health Association (APHA).

8 Packaging

- 8.1 Coconut sap sugar should be packed in suitable containers which will safeguard the integrity of the product.
- 8.2 The packaging materials should be made of substances which are safe and food grade suitable for the intended use.

9 Marking and Labelling

In addition to the requirements of the Codex General Standard for Labeling of Prepackaged Foods Codex Stan 1 – 1985, Rev. 1 – 1991, Codex Alimentarius Vol.1A, the mandatory label information per FDA AO 2014-0030 shall be applied as follows:

- 9.1 Product Name/ Name of the Food
- 9.2 Use of Brand Name and/or Trademark
- 9.3 Complete List of Ingredients
- 9.4 Net contents
- 9.5 Name and address of the manufacturer/re-packer/ packer/ importer/distributor
- 9.6 Lot identification
- 9.7 Storage condition
- 9.8 Expiry or Expiration date/ Use-by-date/ Consume Before Date (Recommended last consumption date)
- 9.9 Food Allergen Information
- 9.10 Direction/Instruction(s) for Use
- 9.11 Nutrition facts/ Nutrition Information/ Nutritive Value

References:

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BFAD AO 153 s. 2004. Revised Guidelines on Current Good Manufacturing, Packing, Repacking, or Holding Food.

FDA AO 0030 s. 2014. Revised Rules and Regulation Governing the Labeling of Prepackaged Food Products Further Amending Certain Provisions of Administrative Order No. 88-B s. 1984 or the "Rules and Regulations Governing the Labeling of Food Products Distributed in the Philippines and For Other Purposes"

FDA Circular 2013-010 Revised Guidelines for the Assessment of Microbiological Quality of Processed Foods

Codex Alimentarius Commission. 2007. Recommended Methods of Analysis and Sampling

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Manohar, Erlene C., Nina Marie L. Kindipan and Lorna V. Sancha. Coconut Sap Sugar. A High Value and Promising Health Food from Coconut. Philippine Coconut Authority.

Manohar, E.C., N. M. L. Kindipan and L. V. Sancha. 2007. Coconut Sap Sugar Production. From Farm to Market and Wealth and Health. Paper presented as Finalist in the Best Paper Competition of 19th Federation of Crop Science Societies of the Philippines Scientific Conference. June 15, 2007. Development Academy of the Philippines, Tagaytay City, Philippines.

Masa, Dina B. and Grace R. Ramat. 2008. Standardization of Process Parameters for Coconut Sugar Production. PCA-Aroman Coconut Seed Production Center, Aroman, Cotabato City. Project Report. April 2 - 10, 2008. 27 pp.

Coconut Sugar. Natures Blessings, Inc. <http://www.naturesblessings.com.ph>.

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Pumono. 1992. ASEAN Food Journal. 7(4), as cited by Ticzon, Sancha and Magat. 1997. Philippine Coconut Authority, R&D Technical Report No. 4, 1997.

Coconut Sap Sugar - Specifications

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Secretaria, M. I., R. M. Ebuna, S. S. Magat. 2003. Producing High Value “Organic and Green” Foods from Coconut Sap at Village Level. Increase your Farm Income thru Product Diversification Scheme. Techno Guide Sheet No. 8, Series of 2003. RDE Branch, Zamboanga Research Center and Davao Research Center, Philippine Coconut Authority, Department of Agriculture. 2pp.

Ticzon, S. G., L. V. Sancha and S. S. Magat. 1997. Sugar from Coconut Sap in Relation to Nut Production: A Review. Diliman, Quezon City. ARDB, 1997. 53 pp. (R&D Technical 1 Report No.4).

Trinidad, T. P., A.C. Mallilin, R. S. Sagum, and R. R. Encabo. Nutritional and Health Benefits of Coconut Sap Sugar. Coconuts Today. vol. 21, pp. 13-15, November 2006 – October 2007.

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Philippine National Standard for Coconut Sap Sugar - Specifications**

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