

PHILIPPINE NATIONAL STANDARD

PNS/BAFPS 28:2006
ICS 67.160.20

Chilled young coconut water/drink – Specification



BUREAU OF PRODUCT STANDARDS

Foreword

The development of Philippine National Standard Specification for Chilled Young Coconut Water/Drink was initially undertaken upon the request of the Philippine Coconut Authority (PCA). Consequently, the Bureau of Agriculture and Fisheries Product Standards (BAFPS) created the Technical Working Group for the Development of Philippine National Standard of Buko Juice through Special Order No. 13 series 2005.

In close collaboration with the Regional Offices of PCA, the TWG conducted a series of public consultative meetings to thresh out comments from all concerned stakeholders.

BAFPS deemed it necessary to adopt a standard providing common understanding on the scope of the standard, classifications, essential composition and quality factors, permitted sweeteners, contaminants, packaging requirements, labeling and methods of analysis and sampling.

Chilled young coconut water/drink – Specification

1 Scope

This standard applies to chilled packaged products from young coconut (*Cocos nucifera* L.), with or without addition of tender young coconut solid endosperm, potable water, and permitted sweeteners. Fresh young coconut water/drink should be stored at refrigeration temperature not exceeding 4°C. Young coconut water is also known as “buko juice” in the Philippines.

2 References

The titles of the standards publications referred to in this standard are listed on the inside back cover.

3 Classifications

For the purpose of this standard, the following classifications shall apply:

3.1 Buko juice**3.1.1 100% Buko juice**

Refers to the unmodified natural aqueous liquid of 6-9 month-old coconut, the appearance of which ranges from clear to slightly turbid.

3.1.2 Buko Juice with tender solid endosperm

Refers to buko juice with the addition of tender solid endosperm from 6 to 8 month-old coconut.

3.2 Buko juice drink**3.2.1 Buko juice with water, with or without sweetener, without tender solid endosperm**

Refers to buko juice with the addition of potable water, with or without permitted sweeteners and without tender solid endosperm. Addition of potable water is no more than 20%.

3.2.2 Buko juice with water, with or without sweetener and with tender solid endosperm

Refers to Buko Juice with the addition of potable water, with or without permitted sweeteners and with tender solid endosperm from 6 to 8 month-old coconuts. Addition of potable water is no more than 20%.

4 Essential composition and quality factors

4.1 Physico-chemical properties

Table 1 – Buko juice/buko juice drink physico-chemical requirements

Physico-chemical properties	Buko juice	Buko juice drink
Total soluble solids (TSS), °Bx	4.0-7.5	6.0-10.0
Total titrable acidity (TA), %m/m	0.03-0.08	0.02-0.10
pH	4.60-5.10	4.30-6.25
Specific gravity	1.023-1.070	1.020-1.220
Potassium content (ppm)	not less 1,400	not less than 1,100

4.2 Sensory properties

The product shall have the characteristic appearance, taste and aroma of a young coconut aged 6-9 months.

5 Sweeteners

Sweeteners, which includes sugar and permitted artificial sweeteners may be added and when used shall be in accordance with the regulations of the Bureau of Food and Drugs (BFAD). All sweetened buko juice/drink shall be labeled as such.

6 Microbiological standards

Table 2 – Microbiological standards for buko juice/drink

Total plate count (TPC)	<10,000 cfu/mL
Yeast and mold count (YMC)	<250 cfu/mL
Total coliform count	<10 cfu/mL

7 Hygiene

It is recommended that the product covered by the provisions of this standard shall be in accordance with the appropriate Sections of the General Principle of Food Hygiene recommended by the Codex Alimentarius Commission (CAC/RCP 1-1969, Rev.3-1997) and should conform with the Bureau of Food and Drugs (BFAD) Administrative Order (A.O.) # 153 series 2004 on Good Manufacturing Practices (GMP).

8 Packaging

Buko juice/drink shall be packaged in food grade containers that will adequately protect the product from contamination and hazards of transportation and handling. Each package shall be labeled using legible characters and the ink used shall be non-toxic.

9 Labelling

The label of each package shall have the following information in addition to the other requirements stated in the current Bureau of Food and Drugs (BFAD) labeling requirements.

9.1 Name of product:

- a. "Buko Juice" – refers to 100% buko juice, buko juice with tender solid endosperm;
- b. "Buko Juice Drink" – refers to buko juice with added water, with or without sweetener, with or without tender solid endosperm;
- c. "Consume Before" date;
- d. Storage instructions: "Store products at 4°C";
- e. PCA registration no. and bar code; and
- f. BFAD certificate of product registration number.

10 Methods of analysis and sampling

10.1 Potassium content

Digestion/Extraction (dry ashing), Detection (Flame Photometry-Sherwood Flame Photometer/B&L AAI)

References

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

- APCC Codes and Standards for Aqueous Coconut Products. Asian and Pacific Coconut Community.
- Azanza, M.P.V., Zamora-Luna, M.B., and Mera, M.M. 2002. Development of HACCP System for Micro to Small-Scale Operations of Young Coconut Beverage (Buko Juice). DA-BAR/UP CHE Project.
- Bonvalet, A., Ferran, J. and Casassas, E. 1986. "Analyse Minerale De Tissue Vegetaux A faible Teneur En Silice." *Oleagineux*, Vol.41, n°3.
- Pabustan, Carmelita D. 2004. Buko Water as a Health and Refreshing Beverage. Paper presented during the Product Development Department (PDD) In-House Review, June 28-29, 2004, Pansol, Calamba, Laguna.
- Paguirigan, Fleda L, Marie Michelle J. Molina, Levi Lorenzana, Nelly Valencia and Dina \ B. Masa. 2000. *Buko Drink: Enhancing Its Quality and Marketability*. Coconut Week 2000 Symposium Proceedings. Philippine Coconut Authority, Diliman, Quezon City, Philippines
- Plant Tissue Laboratory, Philippine Coconut Authority, Diliman, Quezon City (February and May 2005)
- Product Development Department-Philippine Coconut Authority. Analysis conducted 5-30 August 2005.

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