

# *Caribbean Community*

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CRS 3 (2010) (English): Packaged  
Natural Coconut Water



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## **CARICOM REGIONAL STANDARD**

**Specification for packaged natural  
coconut water**

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**CRS 3: 2010**



**Caribbean Community**



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**ATTACHMENT PAGE FOR CRS AMENDMENT SHEETS**

## Committee representation

This CARICOM Regional Standard was developed under the supervision of the Regional Technical Committee for Foods (RTC 3) by Sub-Committee C - Coconut Water (hosted by the CARICOM Member State, Jamaica) which at the time comprised the following members:

### Members

Mr. Donald Hinds (**Chairperson**)

Dr. Donna Minott-Kates (Vice Chairperson)

Ms. Bernadette Ambrose

Mr. Vaughn Barnaby

Mr. Sean Black

Mr. Pash Fuller

Mr. Anthony HoSang

Ms. Jacqueline Morgan

Mr. Lorrel Palmer

Mr. Leo Stone

Mrs. Marchelle Turner-Pitt

Mrs. Vonetta Nurse Thompson (**Technical Secretary**)

### Representing

Food Storage & Prevention Infestation Division, Ministry of Industry, Investment & Commerce

University of the West Indies, Mona Campus

Caribbean AgriBusiness Association

Rural Agricultural Development Authority

Caribbean AgriBusiness Association

Consumer Affairs Commission

Bonfire Farms

Heart Rinse

Nu-Taste

Magnacorp Investments Limited

Ministry of Health & Environment

Bureau of Standards Jamaica



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## Foreword

This Standard was prepared through the CARICOM Regional Organisation for Standards and Quality (CROSQ) in order to outline the specifications for packaged natural coconut water offered for sale in CARICOM Member States.

It was necessary to develop this standard so as to streamline the industry and clearly differentiate the product of undiluted natural coconut water.

This document must be read in conjunction with the CARICOM Regional Code of Practice, CRCP 2, Code of hygienic practice for packaged natural coconut water.

It was approved by the Thirtieth Meeting of the Council for Trade and Economic Development on 3-4 March 2010.

In the development of this standard, assistance was derived from the following:

- a) Jamaican Standard, JS 300:2005, Specification for packaged natural coconut water;
- b) Food & Agricultural Organization of the United Nations, 2007 - Rosa Rolle, Good practice for the small-scale production of bottled coconut water;
- c) Jackson JC, Gordon A, Wizzard G, McCook K and Rolle R, Changes in chemical composition of coconut (*Cocos nucifera*) water during maturation of the fruit, Journal of the Science of Food and Agriculture 84: 1049-1052, 2004;
- d) Lewis, Maurice, Scientific Research Council (unpublished data);
- e) United States Department of Agriculture National Nutrient Database for Standard Reference for Nuts, Coconut Water (liquid from coconuts, Release 20, 2007;
- f) Food Composition Tables for use in the English-speaking Caribbean, Caribbean Food & Nutrition Institute/Pan American Health Organization, 2<sup>nd</sup> Edition, 1998.

## 1 Scope

This standard applies to packaged natural coconut water, as defined in clause 3, which is offered for consumption. It only applies to coconut water which has been packaged in its natural state without the use of additives.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. The latest edition of the referenced documents (including any amendments) applies.

*CARICOM Regional Code of Practice, CRCP 2, Code of hygienic practice for packaged natural coconut water*

*CARICOM Regional Standard, CRS 5, Labelling standard for pre-packaged foods*

*CARICOM Regional Standard Code of Practice, CRS 6, General principles of food hygiene*

*CODEX Alimentarius Commission, Pesticide residues in food - Maximum residue limits*

## 3 Terms and definitions

For the purposes of this standard the following terms and definitions shall apply.

### 3.1

#### **additive**

substance, natural or artificial, added to the product to enhance its quality or preservation

### 3.2

#### **coconut water**

undiluted, natural, untreated clear liquid endosperm of the coconut

### 3.3

#### **contaminant**

physical, chemical and biological matter which is not naturally found in the product

### 3.4

#### **natural coconut water**

untreated coconut water without the use of additives

### 3.5

#### **normal colour**

clear to translucent

### 3.6

#### **packaged natural coconut water**

coconut water filled into hermetically sealed containers of various compositions, forms and capacities

### 3.7

#### **solid endosperm**

white tissue of coconut

## 4 Specifications

### 4.1 Harvesting

Processors shall ensure that coconuts used for the commercial packaging of natural coconut water are harvested between seven to nine months after pollination. Free fall of coconuts shall not be allowed; coconuts shall be lowered to the ground.

### 4.2 Composition

**4.2.1** Packaged natural coconut water shall be composed of the undiluted, natural, untreated, clear liquid endosperm of the coconut, excluding the solid endosperm.

**4.2.2** The composition of packaged natural coconut water shall be as outlined in Table 1.

**Table 1 — Composition of coconut water**

Total Solids	Range g/100 ml
Reducing sugar	3.19 - 5.50
Non-reducing sugar	0.28 - 1.44
Total sugars	3.34 - 6.52
Organic acids <sup>a</sup>	0.072 - 0.090
Total fat	0.55 - 1.55
Ash	0.39 - 0.84
<sup>a</sup> Titrateable acidity (expressed as citric acid)	

### 4.3 Physiochemical limits

Packaged natural coconut water shall be in conformity with the physiochemical quality specifications outlined in Table 2.

**Table 2 — Physiochemical limits for coconut water**

Parameter at 25° C	Limits min - max
pH	4.6 - 5.5
°Brix	3.8 - 6.9

### 4.4 Microbiological limits

Packaged natural coconut water shall be in conformity with the microbiological quality specifications outlined in Table 3.

**Table 3 — Microbiological limits for coconut water**

Parameter	Microbiological limits colonies/ml
Total Aerobic Plate Count	$<5.0 \times 10^3$
Total coliform	$<1.0 \times 10$
Faecal coliform	Absent
<i>Escherichia coli</i>	Absent
Yeast & mould	$<1.0 \times 10$
<i>Staphylococcus aureus</i>	Absent
<i>Salmonella</i>	Absent

#### 4.5 Organoleptic requirements

The coconut water shall have the normal colour, flavour and odour characteristic of the product.

#### 4.6 Defective product

Packaged natural coconut water that fails to meet one or more of the applicable quality requirements, as outlined in 4.1 to 4.5 shall be considered as defective.

### 5 Quality control

Quality control shall be performed as outlined in 14 of CRCP 2.

### 6 Food additives

No natural or artificial substance or ingredient shall be added to the coconut water to enhance its quality or preservation. Chemicals present in the product should only be those present as a result of the natural development of the fruit while on the tree.

### 7 Contaminants

Packaged natural coconut water shall:

- be free from adulterants, extraneous matter and other contaminants such as heavy metals;
- comply with the maximum pesticide residue limits established by the Codex Alimentarius Commission for similar products, as outlined in CODEX Alimentarius Commission Pesticide residues in food - maximum residue limits; and
- comply with the maximum residue limits established by the CODEX Alimentarius Commission for other agents used in the growing process.

## **8 Hygiene**

**8.1** All steps in the packaging of coconut water shall be performed without unnecessary delay and under conditions which shall prevent the possibility of contamination, deterioration or the development of pathogenic and spoilage micro-organisms.

**8.2** Products covered by the provisions of this standard shall be prepared and handled in accordance with the appropriate sections of CRS 4 and CRS 6.

## **9 Labelling**

The labelling of packaged natural coconut water shall be in accordance with CRS 5. In addition, the following specific provisions apply:

- a) the name of the product shall be 'Packaged Natural Coconut Water';
- b) the label shall include the statement 'Keep refrigerated'; and
- c) if froze, the label shall include the statement 'If frozen, thaw and shake well'.

**End of document**





## **CARICOM REGIONAL ORGANISATION FOR STANDARDS AND QUALITY**

The CARICOM Regional Organisation for Standards and Quality (CROSQ) was created as an Inter-Governmental Organisation by the signing of an agreement among fourteen Member States of the Caribbean Community (CARICOM). CROSQ is the regional centre for promoting efficiency and competitive production in goods and services, through the process of standardization and the verification of quality. It is the successor to the Caribbean Common Market Standards Council (CCMSC), and supports the CARICOM mandate in the expansion of intra-regional and extra-regional trade in goods and services.

CROSQ is mandated to represent the interest of the region in international and hemispheric standards work, to promote the harmonization of metrology systems and standards, and to increase the pace of development of regional standards for the sustainable production of goods and services in the CARICOM Single Market and Economy (CSME), and the enhancement of social and economic development.

### **CROSQ VISION:**

The premier CARICOM organisation for the development and promotion of an Internationally Recognised Regional Quality Infrastructure; and for international and regional harmonized CARICOM Metrology, Standards, Inspection, Testing and Quality Infrastructure

### **CROSQ MISSION:**

The promotion and development of standards and standards related activities to facilitate international competitiveness and the sustainable production of goods and services within the CARICOM Single Market and Economy (CSME) for the enhancement of social and economic development



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