

# CODEX ALIMENTARIUS

INTERNATIONAL FOOD STANDARDS



Food and Agriculture  
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## **REGIONAL STANDARD FOR FERMENTED NONI FRUIT JUICE**

**North America and South West Pacific**

**CXS 356R-2023**

**Adopted in 2023**

## 1. SCOPE

This standard applies to fermented noni fruit juice, as defined in Section 2 below, which is used as a food or food ingredient. This standard does not apply to non-fermented noni fruit juice, other noni products from fruit, leaves, bark or flowers, or noni products for medicinal purposes.

## 2. DESCRIPTION

### 2.1 Product definition

The fermented noni fruit juice is the juice product that is derived from the fermenting of fresh fruits of noni plants,<sup>i</sup> *Morinda citrifolia* L. variety *citrifolia*<sup>ii</sup> of the Rubiaceae family.

### 2.2 Noni fruit

Fresh, firm and mature to ripe noni fruit, with greenish-yellow to white colour, is harvested, washed and left to dry. Optionally, the fruit may be crushed to a pulp (excluding seeds). Fruit that is over-ripe, fallen, green, bruised and/or damaged, or containing foreign materials such as sticks, stem, leaves, bark and root material should be rejected and not be used in the production of fermented noni fruit juice.

### 2.3 Fermentation of noni fruit juice

Whole fruit or fruit pulp are fermented spontaneously or by starter culture. Juice is extracted from the fermented products. The resultant fermented noni fruit juice is pasteurized or otherwise treated to eliminate pathogens of public health significance.

## 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

### 3.1 Ingredients

The fermented noni fruit juice as defined in Section 2.

### 3.2 Fermented noni fruit juice

a)	Brix value (soluble solids)	5.5° minimum
b)	pH	3.5-3.9
c)	Ethanol	less than 0.5% v/v
d)	Deacetylasperulosidic acid	Present
e)	Scopoletin	Present <sup>iii</sup>

### 3.3 Definition of defects

To the extent possible, fermented noni fruit juice shall be free from objectionable matter (e.g. noni leaves, seed fragments, fruit skin fragments, stems, insects, etc.) and according to good manufacturing practice.

## 4. FOOD ADDITIVES

No additives are permitted in the product as defined by the scope.

<sup>i</sup> Common names of noni are: great morinda, beach mulberry, Indian mulberry, ach, mengkudu, nono, nonu, noni and cheese fruit.

<sup>ii</sup> Two types of large fruit with oval leaves and small fruit with elongated leaves (Wagner, Herbst and Sohmer, 1990, "The Manual of the Flowering Plants of Hawaii" (Copyright 1990, Bishop Museum, Honolulu).

<sup>iii</sup> Scopoletin is present naturally in fermented noni fruit juice. Some reports have shown potential toxicity of scopoletin. Therefore, the scopoletin levels should be kept as low as technologically feasible until a safe level is established by the Joint FAO/WHO Expert Committee on Food Additives (JECFA).

## **5. CONTAMINANTS**

The products covered by this standard shall comply with the maximum levels for contaminants that are specified for the product in the *General Standard for Contaminants and Toxins in Food and Feed* (CXS 193-1985),<sup>1</sup> and the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

## **6. HYGIENE**

It is recommended that the products covered by the provisions of this standard be prepared and handled in accordance with appropriate sections of the *General Principles of Food Hygiene* (CXC 1-1969),<sup>2</sup> and other relevant Codex texts such as codes of hygienic practice and codes of practice.

The product should also comply with any microbiological criteria established in accordance with the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* (CXG 21-1997).<sup>3</sup>

## **7. PACKAGING**

The fermented noni fruit juice products must be packed in containers that safeguard the hygienic, and organoleptic quality. The materials used for packaging must be new (for the purposes of this standard, this includes recycled material of food-grade quality.) The containers shall meet the quality, hygiene, ventilation and resistance characteristics to ensure suitable handling, shipping and preserving of the fermented noni fruit juice. Packages must be free of all foreign matter and smell.

## **8. WEIGHTS AND MEASURES**

### **8.1 Fill of the container**

#### **8.1.1 Minimum fill**

The container should be well filled with the product and the product shall occupy not less than 90 percent of the water capacity of the container. The water capacity of the container is the volume of distilled water at 20 °C which the sealed container will hold when completely filled.

## **9. LABELLING**

The products shall be labelled in accordance with the *General Standard for the Labelling of Pre-packaged Food* (CXS 1-1985).<sup>4</sup>

### **9.1 Name of the product**

The name of the food product shall be “fermented noni fruit juice”. The term “noni fruit juice” may be replaced by a term which has customarily been used to describe the product in the country in which the product is intended to be sold (e.g. “nonu juice” or “nono juice”).

### **9.2 Labelling on non-retail containers**

The labelling of non-retail containers should be in accordance with the *General Standard for the Labelling of Non-Retail Containers of Foods* (CXS 346-2021).<sup>5</sup>

## **10. METHODS OF ANALYSIS AND SAMPLING**

For checking the compliance with this standard, the methods of analysis and sampling contained in the *Recommended Methods of Analysis and Sampling* (CXS 234-1999)<sup>6</sup> relevant to the provisions in this standard, shall be used.

## NOTES

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<sup>1</sup> FAO and WHO. 1985. *General Standard for Contaminants and Toxins in Food and Feed*. Codex Alimentarius Standard, No. CXS 193-1985. Codex Alimentarius Commission. Rome.

<sup>2</sup> FAO and WHO. 1969. *General Principles of Food Hygiene*. Codex Alimentarius Code of Practice, No. CXC 1-1969. Codex Alimentarius Commission. Rome.

<sup>3</sup> FAO and WHO. 1997. *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods*. Codex Alimentarius Guideline, No. CXG 21-1997. Codex Alimentarius Commission. Rome.

<sup>4</sup> FAO and WHO. 1985. *General Standard for the Labelling of Food*. Codex Alimentarius Standard, No. CXS 1-1985. Codex Alimentarius Commission. Rome.

<sup>5</sup> FAO and WHO. 2021. *General Standard for the Labelling of Non-Retail Containers of Foods*. Codex Alimentarius Standard, No. CXS 346-2021. Codex Alimentarius Commission. Rome.

<sup>6</sup> FAO and WHO. 1999. *Recommended Methods of Analysis and Sampling*. Codex Alimentarius Standard, No. CXS 234-1999. Codex Alimentarius Commission. Rome.

Members of the Codex Alimentarius Commission in the Region of North America and South West Pacific are indicated on the Codex website at <https://www.fao.org/fao-who-codexalimentarius>.