



## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### FAO/WHO COORDINATING COMMITTEE FOR NORTH AMERICA AND THE SOUTH WEST PACIFIC

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#### PROPOSED DRAFT REGIONAL STANDARD FOR KAVA PRODUCT THAT CAN BE USED AS A BEVERAGE WHEN MIXED WITH WATER

*(Prepared by the Electronic Working Group chaired by Vanuatu)*

(At Step 3)

#### 1. Background

1.1 In September 2016, the 14th Session of the FAO/WHO Regional Coordinating Committee for North America and South West Pacific (CCNASWP14) noted the discussion paper on regional standard for kava as a beverage had been on the Regional Committee agenda for a long time. The Committee noted the importance of kava and kava trade in and outside the region and agreed to convene an Electronic Working Group (EWG) led by Vanuatu. CCNASWP14 encouraged all members of the region to actively participate in the EWG to provide comments and improve the discussion paper, and to consider the important issues noted below:

- a) Improve the scope of the standard to specify that kava products intended for human consumption will be prepared using potable water extraction.
- b) Revise the production data as those provided were out of date.
- c) Request Vanuatu, with the assistance of New Zealand and Australia, to revise the project document for new work and for submission to CCEXEC73 through the Codex Secretariat. The scope of the standard would explicitly exclude the use of kava for medicinal purpose and as an ingredient in food.
- d) Establish an EWG, chaired by Vanuatu and open to all Members of the Region and Observers, that subject to approval of the new work by CAC40, would prepare a proposed draft regional standard for kava as a beverage when mixed with potable water. The draft standard would be circulated at Step 3 and considered at CCNASWP15.

1.2 CCNASWP14 also agreed to propose a timeline to the CAC for completion of the new work to include: start date: 2017; adoption at Step 5: 2019; adoption at Step 8: 2021.

1.3 The CAC40 approved the proposal for new work on a Regional Standard for kava as a beverage when mixed with cold water.

#### 2. EWG process

2.1 Vanuatu, as the lead country, invited Codex Members and Observers interested in participating in this work to join the EWG in February 2017.

2.2 The first round of commenting was from 4 December 2017 until 1 January 2018, but later postponed to 15 February 2018. The draft was also circulated on the Codex e-Forum and NASWP email network for those members not registered on the e-Forum platform.

2.3 Another round of discussion was held on the margins of the Regional OCS Webtool training workshop in Vanuatu from 29 – 31 October 2018. The workshop brought government, research experts on kava and industry stakeholders together for two face-to-face meetings to discuss the draft standard.

**2.4** A second draft was circulated on the NASWP email network on 18 June 2019 and again sent out on the Codex e-Forum on 21 June 2019. The due date was 28 June 2019. The current draft is the result of comments from most members of the NASWP region, research experts on kava and industry stakeholders.

### **3. Issues considered**

3.1. The current document is the first draft of the *Regional Standard for Kava Products for Use as a Beverage* which culminates from fifteen years of discussion. The length of time taken is due to kava being relatively new to Codex members and as a traded food commodity and, results of careful analysis of scientific information to agree to an appropriate scope for the proposed standard. Since 2016, comments have been received from Australia, Canada, Federated States of Micronesia, Fiji, Kiribati, New Zealand, Papua New Guinea, Samoa, Solomon Islands, Tonga, United States of America, including Hawaii, and Vanuatu, as well as Non-Governmental Organisations, scientific kava experts, and industry stakeholders. The following points summarise the points raised to the discussion paper:

- a) There are many varieties of the kava plant, some are not recommended for consumption. There are other varieties that are cultivated for purposes other than consumption as a food. The draft standard specifies the varieties which can be considered as food. The draft text has relied on science to define what is included in the draft standard and prepared as food.
- b) The draft standard specifies the parts of the plant which are used to prepare as food, including the preparation methods. It further specifies kava when prepared both in the fresh or dried forms. It was essential to define the final method of preparation using potable water extraction, which precludes the use of other solvents and extraction methods.
- c) The plant varieties and raw materials is provided as a tentative list only. Additional varieties, materials and processing methods can be included if available, when they meet the morphological test and the DNA or the kavalactone and flavokavin ratio tests described by Lebot et al.<sup>1</sup>.
- d) Dried kava products must contain 12% or less moisture to be shelf stable. Minimum kavalactone contents for both the fresh and dried are established so consumers are using products which contain sufficient kavalactones.
- e) CCNASWP15 will establish whether the nutritional information should be included in the standard.
- f) Members of the NASWP were concerned about product safety and hygiene. Inclusion of the *General Standard for Contaminants and Toxins in Food and Feed*, the *General Principles of Food Hygiene*, the *Code of Hygienic Practice for Low-Moisture Foods*, the *Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods* are referenced in the document to ensure these concerns are appropriately addressed.
- g) Member countries agreed that instruction for use must be clearly defined. CCNASWP15 will agree on the wordings of the instruction information included in the draft standard.
- h) Members emphasized that proper labelling should be applied according to the requirements of the *General Standard for the Labelling of Prepackaged Foods*.

#### **Kava Toxicity**

- i) Kava toxicity was the main concern raised about the proposal because of the German toxicity claim in 1999<sup>2</sup>, which led to widespread ban in Europe, Australia, Canada and Asia. Recent researches have shown that the original data used by Germany were flawed, and where the real cause of the toxicity problems was compounded issues relating to patient health and medication prescription. Most European nations have now reopened their borders to resume kava trading.

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<sup>1</sup> Lebot V, Michalet S, Legendre L. (2019). Kavalactones and flavokavins profiles contribute to quality assessment of kava (*Piper methysticum*G.Forst.), the traditional beverage of the Pacific. *Beverages* 2019, 5, 34; <https://doi.org/10.3390/beverages5020034>

<sup>2</sup> Kuchta K, Schmidt M, Nahrstedt A (2015) German Kava Ban Lifted by Court: The Alleged Hepatotoxicity of Kava (*Piper methysticum*) as a Case of Ill-Defined Herbal Drug Identity, Lacking Quality Control, and Misguided Regulatory Politics. *Planta Med.* 2015 Dec;81(18):1647-53 <https://www.ncbi.nlm.nih.gov/pubmed/26695707>

- j) Flavokavins remain the contentious issue because of its link to hepatotoxicity and its presence in all kava varieties. Researches have shown that flavokavin levels in the noble kava varieties are very low and should not be a cause for concern under the guidelines in the tables in Section 3.3.

#### **4. Conclusion and recommendations**

**4.1** The EWG completed its task.

**4.2** The CCNASWP15 is invited to

- a) Consider the Proposed Draft Regional Standard for Kava Products for Use as a Beverage in Appendix I.
- b) Consider adopting the Proposed Draft Regional Standard for Kava Products for Use as a Beverage at Step 5/8.

This version includes:

- Changes recommended by the EWG and included in the discussion paper presented at the CCNASWP14.
- Recommendations of the Regional OCS Webtool training workshop held in Vanuatu from 29 – 31 October 2018; and
- Comments from the EWG in the two rounds of consultations up to end of June 2019.

## PROPOSED DRAFT REGIONAL STANDARD FOR KAVA PRODUCTS FOR USE AS A BEVERAGE

### 1. SCOPE

This Standard applies to fresh or dried kava products that are used to prepare a beverage when mixed with potablewater, intended for human consumption, in conformity with the description in Section 2 of this Standard. The standard does not apply to the final kava beverage as such, or kava products used for medicinal purposes, or as ingredients in foods or other tradable product, or for any other purposes.

### 2. DESCRIPTION

Kava products are derived from selected parts of the noble cultivar of the kava plant, *Piper methysticum* G. Forst. in the Family *Piperaceae*. The parts of the kava plant used to produce kava products may include:

- a) Peeled, fresh and/or dried rhizomes, basal stems<sup>3</sup>; and
- b) Fresh and/or dried roots.

Upper stems, leaves and peelings (bark) are excluded.

#### 2.1 Fresh Kava Products

Fresh kava products are prepared using peeled rhizomes, peeled basal stems and/or roots and are fresh frozen at < -10°C.

#### 2.2 Dried Kava Products

Dried kava products may be in the form of intact roots or peeled rhizomes, or peeled chips, or in powdered form and are maintained at 10 – 12% moisture in a sealed container.

### 3. ESSENTIAL COMPOSITION AND QUALITY FACTORS

#### 3.1 Raw materials

Kava plants used as raw material for kava products shall be a Noble variety. The noble variety shall be confirmed using their morphological characteristics, DNA markers and/or, the kavalactone and flavokavain ratio of the plants. Kava of the wild, *Piper Wichmannii* and Two-day (Tudei) varieties are excluded.

The following list is non-exhaustive and includes examples of vernacular terms used to describe some Noble varieties in the various regions:

- i. Federated States of Micronesia: *Rahmwahnger*;
- ii. Fiji: *Damu, Dokobanaloa, Dokobanavula, Yonolulu, Loa kasabalavu, Loa kasaleka, Matarobalavu, Mataroleka, Qila balavu, Qila leka, Vulakasabalavu, Vulakasaleka, Yalu*;
- iii. Hawaii: *Hanakapi'ai, Hiwa, Honokanelki, Kumakua, Mahakea, Mapulehu, Moi, Nene, Opihikao, Pana'ewa, Papa 'Ele'ele, Papa 'Ele'ele Pu 'upu'u, Papa kea*;
- iv. Papua New Guinea (from Baluan Island): *Kau kupwe*;
- v. Samoa: *AvaLa'au, AvaLea, Ava Loa, Ava Talo, AvaMumu*;
- vi. Solomon Islands: *Melomelo, [Borugu], Feo, Tahu, Temo*;

<sup>3</sup> Basal stem is up to the first node on each kava branch

- vii. Tonga: *kava Fulufulu, kava Kula, kava Tea, Lekahina, Lekahina 'akau, Lekakula, Lekakula 'akau*;
- viii. Vanuatu: *Ahouia, Amon, Asiyai, Bir Kar, Bir Sul, Biyaj, Borogoru, Borogu, Gorgor, Ge gusug, Ge vernea, Ge wiswisket, Kelai, Leay, Melmel, Melomelo, Miela, Naga miwok, Olitao, Palarasul, Palasa, Palimet, Pia, Poivota, Pualiu, Puariki, Sese, Silese, Urukara*.

### 3.2 Preparation

Kava plants should be cultivated using Good Agricultural Practices [for at least three years growth].

The roots, and/or rhizomes are harvested and washed, and peeled when tissues have been exposed to sunlight. They may be sliced, dried or fresh, and ground into powder and other shelf-stable products.

### 3.3 Chemical and physical characteristics

#### Fresh kava products

Moisture	80% (m/m) gross weight
Total kavalactones	In roots: 3.7 g/kg minimum
Flavokavins	0.15% (mg/100g)

#### Dried kava products

Moisture	12% (m/m) maximum
Total kavalactones	In roots: 3.5g/kg minimum on a <25°C> dry weight
Flavokavins	0.15% (mg/100g)

### 3.4 Quality criteria

Kava products shall be:

- Of known Noble kava variety;
- have no intentional adulteration;
- free of leaves, bark, and/or stems;
- practically free from pests<sup>4</sup>;
- practically free from damage caused by pests<sup>2</sup>;
- free of visible mould.

### [3.5 Nutrition

#### Dried kava products

Starch	43%
Fibre	20%
Sugars	3.2%
Proteins	3.6%
Minerals	3.2%

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<sup>4</sup> Provisions for pests apply without prejudice to the applicable plant protection rules applied by governments in line with the International Plant Protection Convention (IPPC).

### 3.6 Packaging and storage

Kava products shall be packaged in such a manner as to safeguard the hygienic, nutritional, and organoleptic quality of the products.

Kava products shall be stored in such a manner as to avoid pest access or harborage and protect from contamination, and under conditions of temperature and humidity that minimize deterioration and minimize mould growth.

Fresh kava products shall be maintained fresh frozen at < -10°C. Dried kava products shall be maintained at 10 - 12% moisture in a sealed container.

### 3.7 Preparation of kava for use as a beverage

If prepared from dry kava, the powder is mixed with potable water and may be filtered prior to consumption.

If prepared from fresh kava, the ground or macerated kava is mixed with potable water and may be filtered prior to consumption.

## 4. FOOD ADDITIVES

No additives are permitted in the products covered by this Standard, except for carry-over of food additives into foods as prescribed in Section 4.4.1 of the [General Standard for Food Additives](#) (CODEX STAN 192-1995).

## 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](#) (CODEX STAN 193-1995).

The products covered by this Standard shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission.

## 6. HYGIENE

It is recommended that the product covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the [General Principles of Food Hygiene](#) (CAC/RCP 1-1969) and the [Code of Hygienic Practice for Low-Moisture Foods](#) (CAC/RCP 75-2015). The products should comply with any microbiological criteria established in accordance with the [Principles and Guidelines for the Establishment and Application of Microbiological Criteria Related to Foods](#) (CAC/GL 21-1997).

In particular hygienic manufacturing practices shall include:

- Proper personnel health;
- Sanitary maintenance of plant, facilities and premises;
- Condition and cleanliness of food contact surfaces
- Exclusion of domestic animals from premises;
- Vermin control;
- Use of potable water for cleaning and processing;
- Avoidance of cross contamination; and
- Packaging of products in new containers or thoroughly cleaned containers.

When tested by appropriate sampling and examination methods, the products:

- Shall be free from microorganisms in amounts which may represent a hazard to health;
- Shall be free from parasites which may present a hazard to health; and
- Shall not contain any substance originating from microorganisms in amounts which may represent a hazard to health.

## 7. LABELLING

The requirements of the [General Standard for the Labelling of Prepackaged Foods](#) (CODEX STAN 1-1985), the [Guidelines on Nutrition Labelling](#) (CAC/GL 2-1985) and the [Guidelines for Use of Nutrition and Health Claims](#) (CAC/GL 23-1997) apply to kava products. In addition to these requirements the following specific provisions apply:

### 7.1 Name of the produce

The name of the food shall be “fresh kava” or “dried kava” together with

- a) the name of the variety(ies) of kava plant from which the kava product is derived; and
- b) the part of the kava plant from which the kava product is derived.

### 7.2 Origin of the produce

Country of origin<sup>5</sup> and, optionally, island or district where grown, or national, regional or local place name. The [Principles for Traceability / Product Tracing as a Tool Within a Food Inspection and Certification System](#) (CXG 60-2006) shall be adhered to when tracing a product to its origin.

### 7.3 Instructions for use

The label of each container of kava products shall have a clear, conspicuous and easily readable message, which includes the following points:

- a) the statement “Steps to prepare the kava beverage” or a similar statement followed by specifically numbered actions to prepare the kava beverage;
- b) the first action referred to in Section 7.3(a) should read “Use only potable water to prepare the kava beverage” or a similar statement;
- c) [the statement “Use kava beverage in moderation. Excessive use may cause drowsiness” or a similar statement concerning the consumption and effects of kava beverage.]

### 7.4 Labelling of non-retail containers

Information required in Sections 7.1 to 7.3 of this Standard and Section 4 of the [General Standard for the Labelling of Prepackaged Foods](#) (CODEX STAN 1-1985), and, if necessary, storage instructions, shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the producer, packer, exporter or distributor shall appear on the container. However, lot identification, and the name and address of the producer, packer, exporter or distributor may be replaced by an identification mark, provided that such a mark is clearly identifiable with the accompanying documents.

### 7.5 Optional Labelling

Kava products may have a clear marking to indicate that they are not intended for medicinal purposes, including other labelling requirements stipulated by the laws of the importing and exporting countries and where kava products are distributed.

## 8. METHODS OF SAMPLING AND ANALYSIS

For checking the compliance with this Standard, the methods of analysis and sampling contained in the [Recommended Methods of Analysis and Sampling](#) (CODEX STAN 234-1999) relevant to the provisions in this Standard, shall be used.

*The information below is intended to be forwarded to CCMAS for incorporation in CODEX STAN 234:*

Provision	Method	Principle	Type
Noble kava varieties	Lebot V, Legendre L (2016), Comparison of kava ( <i>Piper methysticum</i> Forst.) varieties by UV absorbance of acetonetic extracts and high-performance thin-layer chromatography. <i>Journal of Food Composition and Analysis</i> 48:25-33. <a href="http://dx.doi.org/10.1016/j.jfca.2016.01.009">http://dx.doi.org/10.1016/j.jfca.2016.01.009</a> and Lebot V, Michalet S, Legendre L. (2019). Kavalactones and flavokavins profiles contribute to quality assessment of kava ( <i>Piper methysticum</i> G. Forst.), the traditional	High performance thin layer chromatography	IV

<sup>5</sup> The full or a commonly used name should be indicated.

	beverage of the Pacific. Beverages 2019, 5, 34; <a href="https://doi.org/10.3390/beverages5020034">https://doi.org/10.3390/beverages5020034</a>		
Moisture	<a href="#">The Fiji Kava Standard 2017</a> . Section 8.1	Gravimetry	I
Flavokavins	Lebot V, Legendre L (2016), Comparison of kava ( <i>Piper methysticum</i> Forst.) varieties by UV absorbance of acetonic extracts and high-performance thin-layer chromatography. Journal of Food Composition and Analysis 48:25-33. <a href="http://dx.doi.org/10.1016/j.jfca.2016.01.009">http://dx.doi.org/10.1016/j.jfca.2016.01.009</a> and Lebot V, Michalet S, Legendre L. (2019). Kavalactones and flavokavins profiles contribute to quality assessment of kava ( <i>Piper methysticum</i> G.Forst.), the traditional beverage of the Pacific. Beverages 2019, 5, 34; <a href="https://doi.org/10.3390/beverages5020034">https://doi.org/10.3390/beverages5020034</a>	High performance thin layer chromatography	IV