



the

NATIONAL QUALITY STANDARD

for

KAVA EXPORT

VANUATU

the

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for

KAVA EXPORT

VANUATU





PHAMA
**Pacific Horticultural & Agricultural
Market Access Program**
An Australian Government initiative



AECOM

KALANG

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01

SCOPE

1.1

The Quality Standard for Kava Export applies to the products of kava as defined in Section 2 below which are offered for consumption as a food beverage. The standard applies to kava products used as a food beverage and it does not apply to products used for other purposes including pharmaceutical, nutraceutical or medicinal use.

1.2

The Quality Standard for Kava Export applies only in those jurisdictions where the products defined in 2.1 are regulated as kava.

02

DESCRIPTION

2.1

Product Definition

Kava is defined by the plant species *Piper methysticum* Forst. F. consisting of known noble kava varieties and the traditional and ceremonial food beverage obtained by cold water extraction of the plant's underground parts and basal stumps.

Kava product refers to a product:

- a. prepared from the main stump or rhizome, peeled basal stems, and unpeeled roots, derived from noble varieties of *Piper methysticum*, and used for human consumption;
- b. packaged in such a manner as to safeguard the hygienic, nutritional, technological and organoleptic quality of the products;
- c. processed in an appropriate manner, undergoing operations such as harvesting, peeling, cutting, washing, drying, powdering, extraction and concentration in conformity with Section 2.2.

Noble kava varieties are the varieties having a certain chemical composition adequate for consumption as food beverages and that have a history of safe traditional and ceremonial use.

Peeled basal stem refers to the part of the base of the plant up to 10 centimetres above ground.

Plants suitable for consumption and trade will be at least 5 years to be exported. All kava plants will be organically cultivated¹.

Narafala kava² refers to and include all other varieties of kava and cannot be sold or exported as kava for human consumption as a food beverage.

Stems, leaves and peelings (bark) are not permitted for trade and are excluded from this definition.

¹ *The Kava Act of 2002*

² *Source: Kava Act (Amendment) of 2015, Awaiting gazettal.*

TABLE 1: NOBLES KAVA OF VANUATU ³		
Item	Variety	Origin
1	Melomelo	Ambae
2	Asiyai Biyaj	Aneityum
3	Palimet Miela Olitao	Emae
4	Kelai (or Miaome)	Epi
5	Ge wiswisket Ge gusug	Gaua
6	Borogoru	Maevo
7	Silese	Malekula
8	Melmel or Sese Borogu	Pentecost
9	Urukara Bir Sul Bir Kar Palarasul Palasa Poivota	Santo

TABLE 1: NOBLES KAVA OF VANUATU ³		
Item	Variety	Origin
10	Pia Ahouia Leay Amon	Tanna
11	Puariki Pualiu	Tongoa
12	Naga miwok Ge vemea	Vanua Lava

There are over 20 recognised noble varieties in Vanuatu and 13 that are high priority on the main kava producing islands.

³ Source: Kava Act 2002, Republic of Vanuatu

2.2

Types of Kava Products

Kava products covered by this Standard include the following:

2.2.1

Fresh Kava

Fresh kava may be classified into:

- a. one of such product types that have the peeled main stump or rhizome, peeled basal stems, and unpeeled roots. The three product types will be thoroughly washed with water to remove all soil, and contaminants;
- b. one or more of such product types that have the peeled main stump or rhizome, peeled basal stems, and unpeeled roots grounded or pounded and the kavalactones are extracted using cold water extraction and served as a beverage.

2.2.2

Dried Kava

Dried Kava is manufactured when chips of fresh peeled main stumps or rhizomes, peeled basal stems, and unpeeled clean and fresh kava roots are sun dried, hot air dried or dried using other recognized methods. The product may be classified into one of such product types that have the peeled main stump or rhizomes, peeled basal stems and unpeeled roots, that are sliced or powdered.

2.2.3

Kava Extract

Kava Extract is manufactured when soluble components of fresh peeled main stumps or rhizomes, peeled basal stems and unpeeled clean and fresh kava roots or **Dried Kava** are extracted using cold water.

03

QUALITY FACTORS

3.1

Composition

3.1.1

Basic Ingredients

Kava is the peeled main stump or rhizome, peeled basal stems, and unpeeled roots as defined in Section 2.1 (a).

Kava products shall have normal colour, taste and a kavalactone pattern unique to kava and free from foreign matters.

3.2

Colour

3.2.1

Cold Water Extracted Kava

The characteristic yellow to light brown colour refers to the cold water extracted beverage from the kava product.

3.2.2

Acetonic Extract Color Pattern

The confirmatory test using Acetonic extraction and corresponding coloration to determine a sample of a particular consignment were collected from noble kava varieties or not (See Annex 4 of this Standard).

3.3

Filth

Using standard methods heavy filth will not exceed 0.63% of the product dry weight. Heavy filth exceeding 0.63% but less than 0.7% will be considered to be second grade. Heavy filth exceeding 0.7% will be rewashed and re-dried.

3.4

Moisture

The moisture content will not exceed 12.5% when dried to constant weight at 105°C. Moisture content exceeding 12.5% but less than 12.9% will be considered second grade kava. Kava samples with a moisture content in excess of 12.9% will be re-dried.

Powdered type shall have no more than 10.0% moisture.

3.5

Kavalactones

Noble varieties are those with a chemotype starting with 42 or 24 but kavain in third, fourth, fifth or sixth position is not acceptable as a noble variety and therefore not suitable for trade.

3.6

Definition of Defects

The following defects shall be applied to the dried kava.

- a. **Insect-damaged kava:** Kava that is visibly damaged by insects or contains dead insects
- b. **Mouldy kava:** Kava that is visibly affected by mould

3.7

Classification of “Defectives”

A container that fails to meet one or more of the applicable quality requirements, set out in Sections 3.2 and 3.3, shall be considered a “defective”.

04

CONTAMINANTS

The products covered by this Standard shall comply with the contaminants requirements set out in Annex 1.



05

HYGIENE

5.1

It is recommended that the products covered by the provisions of this Standard be prepared and handled in accordance with appropriate international standards. The hygiene requirements for kava products under this standard are outlined in Annex 1.

5.2

The products will comply with any microbiological criteria established in accordance with the requirements set out in Annex 1.

06

LABELLING

6.1

Name of the Product

The name of the products defined in subsections 2.2.1, 2.2.2, and 2.2.3 shall be "**Fresh Kava**", "**Dried Kava**", "**Kava Extract**", respectively.

The region or area of cultivation and the island of origin as well as the product type (peeled basal stems, peeled stumps or unpeeled roots) must appear on the labels and the bags of kava for export.

6.2

Name of the Kava Species

All kava products shall be labelled with the scientific name ***Piper methysticum***, and variety name of the kava that is used as raw material.

6.3

Country of Origin

The label '**Product of Vanuatu**' shall be written in large letters on each bag or package of all kava products prepared for export.

6.4

Other Labelling Requirements

Except when otherwise specified by other national legislation, the products will have a clear marking to indicate that the kava products are prepared for human as food beverage.

07

METHODS OF ANALYSIS & SAMPLING

7.1

Determination of Moisture

Refer to Annex 2: Determination of Moisture

7.2

Determination of Microbes

Refer to Annex 3: Determination of Microbes

7.3

Determination of Noble Kava Varieties

Refer to Annex 4: Determination of Noble Kava
Varieties.



annex 1

GENERAL PRINCIPLES OF KAVA HYGIENE

Introduction

Consumers have the right to expect the kava they drink to be safe and suitable for consumption as food beverage. It is normal that consumers may experience upset stomach and diarrhea if they consume poor quality kava products. Lately Vanuatu has received complaints from New Caledonia, claiming that the country is exporting poor quality kava to its markets. The news can adversely impact on the trade in kava products from Vanuatu and lead to loss of earnings, unemployment and possibly litigation.

International kava trade is increasing, bringing important social and economic benefits to Vanuatu. Effective hygiene control, therefore, is vital to avoid any unexpected adverse effects on consumers and economic consequences and damage to the industry. Everyone, including farmers and growers, manufacturers and processors, kava handlers and consumers, has a responsibility to ensure that kava is safe and suitable for consumption.

Section 1

Objectives

1.1

The General Principles of Kava Hygiene:

Identify the essential principles of kava hygiene applicable throughout the kava processing chain (including primary production through to the final consumer), to achieve the goal of ensuring that kava is safe and suitable for human consumption.

Section 2

Scope, Use & Definition

2.1

Scope

2.1.1

The kava processing chain

This document follows the kava processing chain from primary production to the final consumer, setting out the necessary hygiene conditions for producing good quality kava.

2.1.2

Roles of Government, industry, and consumers

The National and Provincial Governments can consider the contents of this document and decide how best it will encourage the implementation of these general principles to:

- Adequately protect consumers from illness or injury caused by poor quality kava;

- maintain confidence in internationally traded kava products; and
- provide health education programs which effectively communicate the principles of kava hygiene to the industry and consumers.

The industry will apply the hygienic practices set out in this document to:

- provide kava that is safe and suitable for consumption;
- ensure that consumers have clear and easily-understood information, on labels and other appropriate means, to enable them to protect their kava from contamination;
- prevent the growth/survival of pathogen associated with kava during storage, handling and preparation of kava; and
- maintain confidence in internationally traded kava products.

Consumers will recognize their role by following relevant instructions and applying appropriate kava hygiene measures.

2.2

Use

Each section in this Annex states both the objectives to be achieved and the rationale behind those objectives in terms of the safety and suitability of kava and kava products.

Section III covers primary production and associated procedures. Although hygiene practices may differ considerably for the various kava products yet specific procedures will be applied where appropriate. Sections IV to X set down the general hygiene principles which apply throughout the kava processing chain to the point of sale. Section IX also covers consumer information, recognizing the important role played by consumers in maintaining the safety and suitability of kava.

2.3

Definitions

For the purpose of this Standard, the following expressions have the meaning stated:

Cleaning:

the removal of soil, kava residue, dirt or other objectionable matter.

Contaminant:

any biological or chemical agent, foreign matter, or other substances not intentionally added to kava which may compromise kava safety or suitability.

Contamination:

the introduction or occurrence of a contaminant in kava.

Disinfection:

the reduction, by means of chemical agents and/or physical methods, of the number of micro-organisms in the environment, to a level that does not compromise kava safety or suitability.

Facility:

any building or area in which kava is handled and the surroundings under the control of the same management.

Kava:

in this Annex the word kava refers to the kava plant and kava products that are derived from kava through harvesting and processing into food beverages.

Kava hygiene:

all conditions and measures necessary to ensure the safety and suitability of kava at all stages of the processing chain.

Hazard:

a biological, chemical or physical agent in, or condition of, kava with the potential to cause an adverse health effect.

HACCP:

stands for Hazard Analysis Critical Control Point. It is a system which identifies, evaluates, and controls hazards which are significant for kava safety.

Kava handler:

any person who directly handles packaged or unpackaged kava, kava equipment and utensils, or kava contact surfaces and is therefore expected to comply with kava hygiene requirements

Kava safety:

assurance that kava will not cause harm to the consumer when it is prepared and/or consumed according to its intended use.

Kava suitability:

assurance that kava is acceptable for human consumption according to its intended use.

Primary kava processing:

those steps in the kava handling chain from the farm, including, harvesting, transport, cleaning, washing, drying, storage and transport.

Secondary kava processing:

those steps in the kava handling chain when the kava arrives at the export facility, including initial checks, grading, weighing, varietal determination testing, packaging and shipping.

Section 3

Primary Processing

3.1

Environmental Hygiene

Potential sources of contamination from the environment will be considered. Primary processing of kava should not be carried on in areas where the presence of potentially harmful substances would lead to an unacceptable level of such substances in kava.

3.2

Hygienic Processing of Kava

The potential effects of processing activities on the safety and suitability of kava will be considered at all times. In particular, this includes identifying any specific points in such activities where a high probability of contamination may exist and taking specific measures to minimize that probability.

Farmers will as far as practicable implement measures to:

- harvest kava with the greatest of care and not to damage the lateral roots in the process;
- protect kava from bruising during transport to the village or point of processing;
- begin cleaning the kava within 48 hours of harvest;
- peel all basal stems and stump and to wash kava thoroughly before drying;
- restrict contamination from air, soil, water, fertilizers, pesticides, or any other agent used in production or primary processing;
- protect kava sources from faecal and other contamination; and
- ensure that kava is dried to the point that it snaps when pressure is applied to it.

3.3

Handling, Storage & Transport

Procedures will be in place to:

- sort kava to segregate material which is evidently unfit for human consumption;
- dispose of any rejected material;
- store dried kava in new and clean polythene bags;
- store kava in well ventilated and dry storage facility;
- protect kava from contamination by pests, or by chemical, physical or microbiological contaminants or other objectionable substances during handling, storage and transport. Specific attention and care must be taken not to cause contamination when transporting kava from the village to the anchorage/airport and from anchorage/airport to the exporter facility.

3.4

Cleaning, Maintenance & Personnel Hygiene

Appropriate facilities and procedures will be in place to ensure that:

- any necessary cleaning and maintenance is carried out effectively; and
- an appropriate degree of personal hygiene is maintained.

Section 4

Export Facility: Design & Facilities

4.1

Location

4.1.1

Facilities

Potential sources of contamination need to be considered when deciding where to locate kava export facilities, as well as the effectiveness of any reasonable measures that might be taken to protect kava. Facilities will not be located anywhere where, after considering such protective measures, it is clear that there will remain a threat to kava safety or suitability. In particular, facilities will normally be located away from:

- environmentally polluted areas and industrial activities which pose a serious threat of contaminating kava;

- areas prone to infestations of pests;
- areas where wastes, either solid or liquid, cannot be removed effectively.

4.1.2

Equipment

Equipment will be located so that it:

- permits adequate maintenance and cleaning;
- functions in accordance with its intended use; and
- facilitates good hygiene practices, including monitoring.

4.2

Premises & Rooms

4.2.1

Design and layout

Where appropriate, the internal design and layout of kava facility will permit good kava hygiene practices, including protection against cross-contamination between and during operations by kava handlers.

4.2.2

Internal structures and fittings

Structures within kava facilities will be soundly built of durable materials and be easy to maintain, clean and where appropriate, able to be disinfected. In particular the following specific conditions will be satisfied where necessary to protect the safety and suitability of kava:

- the surfaces of walls, partitions and floors will be made of impervious materials with no toxic effect in intended use;

- walls and partitions will have a smooth surface up to a height appropriate to the operation;
- floors will be constructed to allow adequate drainage and cleaning;
- ceilings and overhead fixtures will be constructed and finished to minimize the buildup of dirt and condensation, and the shedding of particles;
- windows will be easy to clean, be constructed to minimize the buildup of dirt and where necessary, be fitted with removable and cleanable vermin-proof screens. Where necessary, windows will be fixed;
- doors will have smooth, non-absorbent surfaces, and be easy to clean and, where necessary, disinfect;
- working surfaces that come into direct contact with kava will be in sound condition, durable and easy to clean, maintain and disinfect. They will be made of smooth, non-absorbent materials, and inert to the kava, to detergents and disinfectants under normal operating conditions.

4.3

Equipment

4.3.1

General

Equipment and containers will be made of materials with no toxic effect in intended use. Where necessary, equipment will be durable and movable or capable of being disassembled to allow for maintenance, cleaning, disinfection, monitoring and, for example, to facilitate inspection for pests.

4.3.2

Kava control and monitoring equipment

These requirements are intended to ensure that:

- harmful or undesirable micro-organisms or their toxins are eliminated or reduced to safe levels or their survival and growth are effectively controlled;
- colorimetric tests shall be conducted on all inward batch or consignment of kava;

- confirmatory HPTLC tests shall be requested by the buyer/exporter or regulatory authority; and
- temperatures and other conditions necessary to kava safety and suitability can be rapidly achieved and maintained in the facility.

4.3.3

Containers for waste and inedible substances

Containers for waste, by-products and peelings, will be specifically identifiable and suitably constructed at the processing facility. Containers used to hold dangerous substances will be identified and, where appropriate, be lockable to prevent malicious or accidental contamination of kava.

4.4

Facilities

4.4.1

Water supply

An adequate supply of potable water with appropriate facilities for its storage and distribution will be available to clean the kava and to ensure the safety and suitability of kava.

4.4.2

Drainage and waste disposal

Adequate drainage and waste disposal systems and facilities will be provided. They will be designed and constructed so that the risk of contaminating kava or the potable water supply is avoided.

4.4.3

Cleaning

Adequate facilities, suitably designed, will be provided for cleaning kava. Such facilities will have an adequate supply of potable water where appropriate.

4.4.4

Personnel hygiene facilities and toilets

Personnel hygiene facilities will be available to ensure that an appropriate degree of personal hygiene can be maintained and to avoid contaminating kava. Where appropriate, facilities will include:

- adequate means of hygienically washing and drying hands, including wash basins and a supply of potable water;
- lavatories of appropriate hygienic design; and
- adequate changing facilities for personnel.

Such facilities will be suitably located and designated.

4.4.5

Temperature control

Depending on the nature of the kava operations undertaken, adequate facilities will be available for drying, storage, refrigerating and freezing kava, monitoring kava temperatures, and when necessary, controlling ambient temperatures to ensure the safety and suitability of kava.

4.4.6

Air quality and ventilation

Adequate means of natural or mechanical ventilation will be provided, in particular to:

- minimize air-borne contamination of kava, for example, from aerosols and condensation droplets;
- control ambient temperatures;
- control odors which might affect the suitability of kava; and
- control humidity, where necessary, to ensure the safety and suitability of kava.

4.4.7

Lighting

Adequate natural or artificial lighting will be provided to enable the undertaking to operate in a hygienic manner. Where necessary, lighting will not be such that the resulting color is misleading. The intensity will be adequate to the nature of the operation.

4.4.8

Storage

Adequate facilities for the storage of kava and non-kava chemicals (e.g. cleaning materials, lubricants, fuels) will be provided separately. Where appropriate, kava storage facilities will be designed and constructed to:

- permit adequate maintenance and cleaning;
- avoid pest access and harborage;
- enable kava to be effectively protected from contamination during storage; and
- where necessary, provide an environment which minimizes the deterioration of kava (e.g. by temperature and humidity control).

Section 5

Control of Operation

5.1

Control of Kava Hazards

Kava Exporters may control kava hazards through the use of systems such as HACCP, including a ban on narafala kava. Control procedures will include subjecting kava to colorimetric and HPTLC testing. They will:

- identify any steps in their operations which are critical to the elimination of hazards for the safety and integrity of kava prepared for export;
- implement effective control procedures at those steps;
- monitor control procedures to ensure their continuing effectiveness; and
- review control procedures periodically, and whenever the operations change.

These systems will be applied throughout the kava export chain to control unwanted kava products.

Control procedures may be simple, such as mandatory testing of incoming kava stocks to the kava export facilities, calibrating equipment to ensure a test is carried out each time and is done correctly.

5.2

Key Aspects of Hygiene Control Systems

5.2.1

Time and temperature control

Systems will be in place to ensure that temperature is controlled effectively where it is critical to the safety and suitability of kava. Temperature control systems will take into account:

- the nature of the kava, e.g. types of micro-organisms;

- the method of packaging and processing; and
- the kava product and its storage requirements.

Such systems will also specify tolerable limits for time and temperature variations.

5.2.2

Microbiological and other specifications

Management systems described in paragraph 5.1 offer an effective way of ensuring the safety and suitability of the kava product. Where microbiological, chemical or physical specifications are used in any kava product control system, such specifications will be based on sound scientific principles and state, where appropriate, monitoring procedures, analytical methods and action limits.

5.2.3

Microbiological cross-contamination

Pathogens can be transferred from one kava product to another, either by direct contact or by kava handlers, contact surfaces or the air. Raw, unprocessed kava will be effectively separated, either physically or by time, from ready-to-export kava products, with effective intermediate cleaning.

Access to processing areas may need to be restricted or controlled. Where risks are particularly high, access to processing areas will be only via a well-managed entrance. Personnel may need to be required to put on clean protective clothing including washing of hands before entering.

5.2.4

Physical and chemical contamination

Systems will be in place to prevent contamination of kava by foreign bodies such as glass or metal shards from machinery, dust, harmful fumes and unwanted chemicals. It is a serious issue to consider with pounding or preparing kava powder for export.

5.3

Incoming Material Requirements

No fresh kava material will be accepted by a facility if it is known to contain narafala kava, undesirable micro-organisms, pesticides, and toxic substances, decomposed or extraneous substances which would not be reduced to an acceptable level by normal sorting and/or processing. Where appropriate, specifications for fresh kava products will be identified and applied.

Fresh kava materials or ingredients will always be inspected and sorted before processing. Where necessary, laboratory tests will be conducted to establish the integrity of the kava product for further processing and for use. Only suitable raw materials from noble kava varieties will be processed for export.

5.4

Packaging

Packaging design and materials will provide adequate protection for products to minimize contamination, prevent damage, and accommodate proper labelling. Packaging materials must be non-toxic and not pose a threat to the safety and suitability of kava under the specified conditions of storage and use. Where appropriate, reusable packaging will be suitably durable, easy to clean and, where necessary, disinfect.

5.5

Water

5.5.1

In contact with kava

Only potable water will be used in kava handling and processing at the export facility.

Water recirculated for reuse will be treated and maintained in such a condition that no risk to the safety and suitability of kava results from its use. The treatment process will be effectively monitored.

5.5.2

As an ingredient

Potable water will be used wherever necessary to avoid kava contamination.

5.6

Management & Supervision

The type of control and supervision needed will depend on the size of the business, the nature of its activities and the types of kava products involved. Managers and supervisors will have enough knowledge of kava hygiene principles and practices to be able to judge potential risks, take appropriate preventive and corrective action, and ensure that effective monitoring and supervision takes place.

5.7

Documentation & Records

Where necessary, appropriate records of processing, production and distribution will be kept and retained for a period that exceeds the shelf-life of the kava product in the export facility. Documentation can enhance the credibility and effectiveness of the kava quality control system.

5.8

Recall Procedures

Managers will ensure effective procedures are in place to deal with any kava safety hazard and to enable the complete, rapid recall of any implicated lot of the prepared kava product from the market. Where a product has been withdrawn because of an immediate health hazard, other products which are produced under similar conditions, and which may present a similar hazard to public health.

Recalled products will be held under supervision until they are destroyed, used for purposes other than human consumption, determined to be safe for human consumption, or reprocessed in a manner to ensure their safety.

Section 6

Facility: Maintenance & Sanitation

6.1

Maintenance & Cleaning

6.1.1

General

Facilities and equipment will be kept in an appropriate state of repair and condition to:

- facilitate all sanitation procedures;
- function as intended, particularly at critical steps (see paragraph 5.1);
- prevent contamination of kava products, e.g. from metal shards, flaking plaster, debris and chemicals.

Cleaning will remove kava residues and dirt which may be a source of contamination. The necessary cleaning methods and materials will depend on the nature of the kava business.

Cleaning chemicals will be handled and used carefully and in accordance with manufacturers' instructions and stored, where necessary, separated from kava, in clearly identified containers to avoid the risk of contaminating kava.

6.1.2

Cleaning procedures and methods

Cleaning can be carried out by the separate or the combined use of physical methods, such as heat, scrubbing, vacuum cleaning or other methods that avoid the use of water, and chemical methods using detergents, alkalis or acids.

Cleaning procedures will involve, where appropriate:

- removing gross debris from surfaces;
- rinsing with water which complies with section 4, to remove loosened soil and residues of detergent;
- dry cleaning or other appropriate methods for removing and collecting residues and debris.

6.2

Cleaning Programmes

Cleaning and disinfection programs will ensure that all parts of the facility are appropriately clean, and will include the cleaning of cleaning equipment.

Cleaning and disinfection programs will be continually and effectively monitored for their suitability and effectiveness and where necessary, documented.

Where written cleaning programs are used, they will specify:

- areas, items of equipment to be cleaned;
- responsibility for particular tasks;
- method and frequency of cleaning; and
- monitoring arrangements.

6.3

Pest Control Systems

6.3.1

General

Pests pose a major threat to the safety and suitability of kava products prepared for export. Pest infestations can occur where there are breeding sites. Good hygiene practices will be employed to avoid creating an environment conducive to pests. Good sanitation, inspection of incoming materials and good monitoring can minimize the likelihood of infestation and thereby limit the need for pesticides control.

6.3.2

Preventing access

Buildings and facilities will be kept in good repair and condition to prevent pest access and to eliminate potential breeding sites. Holes, drains and other places where pests are likely to gain access will be kept sealed. Wire mesh screens, for example on open windows, doors and ventilators, will reduce the problem of pest entry. Animals will be excluded from the grounds of kava processing facilities.

6.3.3

Monitoring and detection

Facilities and surrounding areas will be regularly examined for evidence of infestation.

6.3.4

Eradication

Pest infestations will be dealt with immediately and without adversely affecting the kava products safety or suitability. Treatment with chemical, physical or biological agents will be carried out without posing a threat to the safety or suitability of the kava products.

6.4

Waste Management

Suitable provision must be made for the removal and storage of waste. Waste must not be allowed to accumulate in kava handling, kava storage, and other working areas and the adjoining environment except so far as is unavoidable for the proper functioning of the business.

Waste stores must be kept appropriately clean.

6.5

Monitoring Effectiveness

Sanitation systems will be monitored for effectiveness, periodically verified by means such as audit pre-operational inspections or, where appropriate, microbiological sampling of environment and kava contact surfaces and regularly reviewed and adapted to reflect changed circumstances.

Section 7

Facility: Personal Hygiene

7.1

Health Status

People known, or suspected, to be suffering from, or to be a carrier of a disease or illness likely to be transmitted through kava, will not be allowed to enter any kava handling area if there is a likelihood of their contaminating kava. Any person so affected will immediately report illness or symptoms of illness to the management. Medical examination of a kava handler will be carried out if clinically or epidemiologically indicated.

Kava handlers shall undergo annual health examination to declare them fit and healthy to handle kava.

7.2

Illness & Injuries

Conditions which will be reported to management so that any need for medical examination and/or possible exclusion from kava handling can be considered, include:

- jaundice;
- diarrhoea;
- vomiting;
- fever;
- sore throat with fever;
- visibly infected skin lesions (boils, cuts, etc.);
- discharges from the ear, eye or nose.

7.3

Personal Cleanliness

Kava handlers will maintain a high degree of personal cleanliness and, where appropriate, wear suitable protective clothing, head covering, and footwear. Cuts and wounds, where personnel are permitted to continue working, will be covered by suitable waterproof dressings.

Personnel will always wash their hands when personal cleanliness may affect kava safety, for example:

- at the start of kava handling activities;
- immediately after using the toilet; and
- after handling raw kava or any contaminated material, where this could result in contamination of other kava items; they will avoid handling ready-to-export kava, where appropriate.

7.4

Personal Behaviour

People engaged in kava handling activities will refrain from behavior which could result in contamination of kava, for example:

- smoking;
- spitting;
- chewing or eating;

7.5

Visitors

Visitors to kava manufacturing, processing or handling areas will, where appropriate, wear protective clothing and adhere to the other personal hygiene provisions in this section.

Section 8 Transportation

8.1

General

Kava must be respected as a kava product, adequately handled and protected during transport. The type of conveyances or containers required depends on the nature of the kava and the conditions under which it is transported.

8.2

Requirements

Where necessary, conveyances and bulk containers will be designed and constructed so that they:

- do not contaminate the kava or packaging;
- can be effectively cleaned and, where necessary, disinfected;
- permit effective separation of different kava from non-kava items where necessary during transport;

- provide effective protection from contamination, including dust and fumes; and
- can effectively maintain the temperature, humidity, atmosphere and other conditions necessary to protect kava from harmful or undesirable microbial growth and deterioration likely to render it unsuitable for consumption.

8.3

Use & Maintenance

Conveyances and containers for transporting kava will be kept in an appropriate state of cleanliness, repair and condition. Where the same conveyance or container is used for transporting different kava, or non-kava items, effective cleaning and, where necessary, disinfection will take place between loads.

Section 9 Product Information & Consumer Awareness

9.1

Lot Identification

Lot identification is essential in product recall. Each container of kava will be permanently marked to identify the producer and the lot.

9.2

Product Information

All kava will be accompanied by or bear adequate information to enable the next person in the kava processing chain to handle, display, store and prepare and use the product safely and correctly.

9.3

Labelling

Packaged kava will be labelled with clear instructions to enable the next person in the kava processing chain to handle, display, store and use the product safely.

9.4

Consumer Education

Health education programs will cover general kava hygiene. Such programs will enable consumers to understand the importance of any kava product information and to follow any instructions accompanying products, and make informed choices.

Section 10

Training

10.1

Awareness & Responsibilities

Kava hygiene training is fundamentally important. All personnel will be aware of their role and responsibility in protecting kava from contamination or deterioration. Kava handlers will have the necessary knowledge and skills to enable them to handle kava hygienically.

10.2

Training Programmes

Factors to take into account in assessing the level of training required include:

- the nature and type of the kava products the business is dealing with for export, in particular its ability to sustain growth of pathogenic or spoilage micro-organisms;
- the manner in which the kava is handled and packed, including the probability of contamination;
- the extent and nature of processing or further preparation before export;
- the conditions under which the kava product will be stored; and
- the expected length of time before consumption.

10.3

Instruction & Supervision

Periodic assessments of the effectiveness of training and instruction programs will be made, as well as routine supervision and checks to ensure that procedures are being carried out effectively.

Managers and supervisors of kava processes will have the necessary knowledge of kava hygiene principles and practices to be able to judge potential risks and take the necessary action to address deficiencies.

10.4

Refresher Training

Training programs will be routinely reviewed and updated where necessary. Systems will be in place to ensure that kava handlers remain aware of all procedures necessary to maintain the safety and suitability of kava.

annex 2

DETERMINATION OF MOISTURE

2.1

Apparatus

- (a) **Grinding Mill** - capable of grinding rapidly and uniformly without development of appreciable heat. The ground kava should pass through 1.0 mm I.S sieve.
- (b) **Moisture dishes** - made of aluminium or stainless steel approximately 7.5 mm wide and 2.5 mm deep with tight fitting lids.
- (c) **Electric oven** - well ventilated and thermostatically controlled to maintain temperature between 130 - 133° C.
- (d) Desiccator containing an effective desiccant

2.2

Procedure

Mix the test sample and grind suitable quantity to give sufficient ground material for replicate determination. Ensure that the sample is neither too coarse nor too fine and passes through 1.0 mm sieve.

Weigh accurately about 5 gm of sample in a previously dried and tared dish and place the dish with its lid underneath in the oven for 2 hours. The time should be reckoned from the moment the oven attains 130° C after the dishes have been placed. Remove the dish after 2 hours, cool in the desiccator and weigh.

2.3

Calculation

$$\text{Moisture percent} = \frac{(W1 - W2) \times 100}{W1 - W}$$

Where

- W1** Weight in gm of the dish with the material before drying
- W2** Weight in gm of the dish with the material after drying
- W** Weight in gm of the empty dish

annex 3

DETERMINATION OF MICROBES

Introduction

Illnesses caused by pathogen associated with kava are not well documented but they constitute a major burden to consumers, kava business operators and the national government. They can be a major hindrance to Vanuatu kava export when Vanuatu's export markets begin to document the adverse effects of poor quality products on their consumer health. The microbiological safety of kava will be managed by the effective implementation of national control measures, where appropriate, throughout the kava processing chain to minimize contamination and improve kava safety.

Section 1

Scope & Definitions

1.1

Scope

These principles and guidelines are intended to provide a framework for the government and kava businesses on the establishment and application of microbiological criteria that can be applied for kava safety and other aspects of kava hygiene. Microbiological criteria refer to, but are not limited to the following:

- Bacteria, viruses, moulds, yeasts, and algae;

1.2

Definitions

Microbiological criterion:

a risk management metric which indicates the acceptability of a kava, or the performance of either a process or a kava safety control system that is validated through sampling and testing for microorganisms.

Other definitions relevant to these guidelines include:

- *Appropriate Level of Protection (ALOP)*
- *Performance Criterion (PC)*
- *Lot*
- *Sample*
- *Kava safety control system*
- *Validation*
- *Verification*
- *Attributes sampling plans*
- *Variables sampling plans*

Section 2

General Principles

- A microbiological criterion must be to protect the health of the consumer and where appropriate, also ensure fair practices in kava trade.
- The purpose of establishing and applying a microbiological criterion must be clearly articulated.
- The establishment of microbiological criteria should be based on scientific information and analysis and follow a structured and transparent approach.

Section 3

Establishment & Application of Microbiological Criteria

3.1

General Considerations

The need for a microbiological criterion should be demonstrated, e.g. by epidemiological evidence that the kava under consideration may represent a significant public health risk and that a criterion is meaningful for consumer protection, or as the result of a risk assessment.

3.2

Purpose

There are multiple reasons for establishing and applying microbiological criteria. The purposes of microbiological criteria include, but are not limited to, the following:

- i) Evaluating a specific lot of kava to determine its acceptance or rejection, in particular if its history is unknown.
- ii) Verifying the performance of a kava safety control system or its elements along the kava processing chain, e.g. prerequisite programs and/or HACCP systems.
- iii) Verifying the microbiological status of kavas in relation to acceptance criteria specified between kava business operators.
- iv) Providing information to kava business operators on microbiological levels, which should be achieved when applying best practices.

3.3

Sampling Plan

Sampling of kava for analytical purposes shall be conducted according to the following plan:

1. Samples shall be collected by a Government officer;
2. The officer will prepare the sample and transport or freight it for laboratory analysis at a designated laboratory.

3.4

Analytical Methods

Depending on the microbiological limit (e.g. presence/absence of a specific pathogen associated with kava associated with kava), an appropriate analytical method should be selected.

The analytical methods used should be reasonable with regard to complexity, availability of media, equipment, ease of interpretation, time required and costs.

3.5

Action to be taken when the Microbiological Criterion is not met

In situations of non-conformance with the microbiological criterion (unsatisfactory results), actions to be applied should include corrective actions related to the purpose of the testing. These actions should be based on an assessment of the risk to the consumer where relevant; the point in the kava processing chain, and consider the history of conformance of the kava business operator. Kava business operators should re-evaluate their kava safety control systems, including GHP and operational procedures.

In the event of a non-conformance with a microbiological criterion for a pathogen associated with kava, actions should include;

1. Appropriate product containment and disposal. This can include further processing;
2. Withdrawal and/or recall, reprocessing;
3. Rejection or destruction of the kava, and/or further investigation to determine appropriate actions to be taken; and
4. Other actions will include more frequent sampling, inspection and audits, fines or official suspension of operations of the particular export facility or exporter.

3.6

Documentation & Record Keeping

Records will be maintained when documenting all instances of non-conformance with the microbiological criterion, together with records of the corrective actions taken, both to manage kava safety risks and to prevent further instances of non-conformance.

annex 4

DETERMINATION OF NOBLE KAVA VARIETIES

Colorimetry is a technique used to determine the concentration of colored compounds in a solution. A colorimeter is a device used to test the concentration of a solution by measuring its absorbance of a specific wavelength of light.

The color or wavelength of the filter chosen for the colorimeter is extremely important, as the wavelength of light that is transmitted by the colorimeter has to be the same as that absorbed by the kava acetonetic extract being measured.

Colorimetric Testing Procedures

1. Cut kava into pieces
2. Oven dry kava to a constant weight
3. Grind into powder form
4. Take 10g sample
5. Add 30mL acetone
6. Shake well (centrifuge if you can)
7. Let the solution stand overnight
8. Take 10mL and read color against the Kava Acetonetic Solution Color Chart

Results of a kava acetic solution test



Source: Vincent Lebot, 2016

Kava Acetonic Solution Color Chart



