

FIJI KAVA

The journey, rediscovering the kava varieties of Fiji

BACKGROUND

Kava (*Piper methysticum*) is a traditional crop grown in a number of Pacific countries. The traditional beverage made from kava is valued for ceremonial purposes and its mild sedative and muscle relaxant effects. The roots and lower stems of the plant are harvested, processed and then either sold or consumed. Kava is also processed into herbal medicines and other food and beverages and sold in markets outside of the Pacific. The effects experienced when consuming kava is due to the chemical components called kavalactones.

IMPORTANCE OF KAVA

The average annual value of kava exports over 2013-2015 was FJ\$7.68 million. Over this period the largest exports of kava were to the United States, New Zealand and Kiribati. It is generally exported as powdered dried roots (waka) and chips (lewena). To maintain and grow exports a better understanding of kava production is required so that the quality and consistency of kava products can be improved.

WHAT DID THE KAVA SURVEY TEAM DO?

During 2014, the survey team visited major kava production areas on the islands of Vanua Levu, Viti Levu, Kadavu, Ovalau and Taveuni and collected samples of roots/waka and chips/lewena from almost one hundred plants. They identified the main varieties and how they were produced.

ISLANDS & PLACES VISITED



WHAT DID THE KAVA SURVEY TEAM FIND?

THE VARIETIES ARE NOT EVENLY DISTRIBUTED

No single kava variety dominated production in Fiji. Three varieties (kava type 9 Matakaro leka, kava type 8 Dokobana vula, and kava type 6 Vula kasa leka) accounted for a third of the survey samples while others (kava type 1 Yalu and kava type 3 Qila balavu) were only found in some locations. Research on the agronomy of the thirteen varieties could help identify if differences in performance (yield and kavalactone production) occurs in different environments and if different varieties are more resistant to stresses such as salinity, drought and disease.

THE NAMES USED TO DESCRIBE THE DIFFERENT KAVA VARIETIES VARIED ACROSS FIJI

The local names used for the different kava varieties varied considerably, and often related to the appearance of the plant or the origin of the planting material. This lack of consistency in how names are applied is an important consideration in improving the consistency of kava produced for export.

KAVALACTONE PROFILES WILL PROVIDE AN IMPORTANT INSIGHT INTO QUALITY

Samples of all plants collected during the survey were sent to the USP IAS laboratory for kavalactone testing. This testing will provide very useful information into what the kavalactone concentrations and profiles are for the kava varieties found in Fiji. Understanding kavalactone profiles and concentrations and how to improve consistency in kava products is an important aspect of producing kava for export markets.

FIJI KAVA CAN BE RELIABLY GROUPED INTO 13 DIFFERENT VARIETIES BASED ON APPEARANCE

The survey found that there were thirteen varieties of kava. Descriptions for each were developed and also an identification key to simplify the identification of the different varieties.

FARMERS SELECTED KAVA VARIETIES FOR SALE ON THE BASIS OF PRODUCTIVITY

Farmers tended to focus on growing varieties of kava that were easy to propagate and grew well under local conditions. Limited consideration was given to the drinking or other qualities of the kava when they were planted. Identifying what tastes and other characteristics consumers and buyers prefer and identifying varieties and conditions that contribute to this is important for expanding markets or trying to improve prices.

OPPORTUNITIES EXIST TO IMPROVE KAVA QUALITY ALONG THE SUPPLY CHAIN

Clear differences were seen in the way that kava was grown and processed by different farmers. Opportunities exist to share information on these different practices and improve the quality of kava products being sold.

NEXT STEPS

A kava quality manual to help improve the quality of Fiji kava for export and share the lessons that have been learnt during this survey has been developed. It will be available for kava farmers processors as well as further training and simplified technical materials. The manual also includes photos and descriptions of the thirteen kava varieties.

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The Value Chain: Opportunities to Improve Quality and Consistency

01 PROPAGATION



Plants are usually propagated from cuttings taken from plants. The cuttings are 1, 2 or 3 nodes long and may have the leaves trimmed. They are either buried or inserted into the ground. Sometimes they are covered in mulch. In some cases plants are propagated by burying the stems growing from existing plants, and cutting the stems once they have rooted.

02 YOUNG PLANTS



Different kava varieties are often grown together which may influence the consistency of the quality in the kava harvested. It is important that the young plants are protected from trampling by animals and kept clear of weeds. Young plants need to be thinned so that they do not compete for nutrients.

03 GROWING



Kava crops are grown for 3 or more years before harvest, sometimes longer. Some weed control may be required. During this time they can also be susceptible to damage from cyclones and drought, as well as disease.

04 HARVESTING



Kava plants are harvested by trimming the stems, then digging around the base of the plant approx. 50cm away from the stem. Where possible large roots are kept intact and not cut. The root ball of the plant is then dug up, broken into pieces and as much soil removed as possible.

05 TRIMMING



The harvested roots are trimmed by cutting the root system into smaller sets of roots to assist in cleaning and make drying easier. This can be done in the kava field or where the roots will be washed. Trimming the roots can also make them easier to carry if they need to be transported.

06 WASHING



The kava roots are usually washed in water. Large farms may have high pressure hoses and tanks to help soak the roots, small farms may use rivers, streams or taps. The roots are rubbed until they are white. In some places where water is not available the kava may be dried and the dry soil scraped from them with a knife.

07 CUTTING LEWENA



The basal root and stem up to 1 node above the roots is cut into even thickness pieces 1 to 1.5 cm thick. The aim is to cut them reasonably thin so that they can dry quickly and evenly to avoid spoilage from mould.

08 DRYING



It is important the kava is thoroughly dried and then stored in a dry place to avoid spoilage. Kava is usually dried in the sun, often on sheets of corrugated iron placed on elevated frames to avoid contamination. In rainy weather they should be covered or brought under shelter. Copra driers may be used, but care must be taken to avoid smokey smells.

09 PRODUCTS



Kava is sold at market in a range of forms including roots as bundles or packaged into waka, peeled and unpeeled lewena. Selling the kava as separate parts free from contamination helps to ensure consistency of the product. Kava is purchased by weight and the price will vary depending on the part of the plant being sold.

10 MIDDLEMAN & EXPORTERS



Middlemen are found in most municipal market and they act as brokers buying and selling kava brought into the market, but also shipping the kava between markets where local production cannot meet supply. These middlemen may also be exporters or purchase kava to sell to exporters. Some kava growers may by-pass middlemen and sell directly to manufacturers or exporters.

11 POUNDING



When kava is prepared for drinking it must be pounded either by machine or by hand. Pounded kava is often available at markets, at kava shops or even through some supermarkets. Pounded kava is generally regarded by local consumers as a lower quality product than kava that is purchased and freshly pounded.

12 TALANOA SESSION



Kava is consumed in social and ceremonial settings. Taste (particularly bitterness), strength of the mix and colour are some of the qualities that drinkers consider when consuming kava. These qualities are determined by the kava being used, but also by the person responsible for the mixing.

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The 13 varieties of kava in Fiji

01 YALU



Stems are dark green with either no or very few visible lenticels. Lenticels are brown and may be seen below the upper node on internodes. Some dark green lenticels may be seen in areas where there is chlorosis on the stem. The absence of lenticels means that the stem is smoother to touch than other varieties. The internodes are usually short.

02 YONOLULU



Stems are green with few large green lenticels that occur in the top two thirds of the internode. The small number of lenticels means that the stems feel relatively smooth. Some dark green colouration may be seen above the lower node of the internode. The internodes are usually short and thick.

03 QILA BALAVU



Stems are green with few lenticels which occur mainly in the top two thirds of the internode. The lenticels are a darker green than the surrounding stems and often have raised brown centres. The size of the dark colouration around lenticels varies between plants. Some dark green colouration or striping may be seen above the lower node of the internode in some plants. The internodes are generally long.

04 DAMU



Stems have very few lenticels, occurring mainly in the top third of each internode, and the stems exhibit some purple colour. Colouration in the internode varies between plants, from mainly green through to dark purple. Colour in the internode is darkest above the lower node and becoming lighter towards the top of each internode. Lenticels are purple and often with raised brown coloured centres. Internodes vary in length and are often short and thick but may be long.

05 QILA LEKA



Stems are green with very fine, slightly darker green, striations running lengthwise along the node. The stems have many lenticels which are less well defined shape than in other kava varieties. The lenticels are the same green colour as the striations, are raised and may have brown centres. The internodes are generally short.

06 VULA KASA LEKA



The stems are pale green with many small dark green lenticels spread over the length of each internode. The internodes are usually short and the stems are generally thick, with pronounced nodes and a narrow "waist" in the internode.

07 VULA KASA BALAVU



The stems are pale green with many small dark green lenticels spread over the length of each internode. The internodes are generally long and thinner than Vula kasa leka.

08 DOKOBANA VULA



Stems are green with many lenticels over the length of each internode. Lenticels are very dark green in colour, often with raised brown centres. Some dark green, verging towards purple pigmentation may be seen just above the lower node of internodes. In some plants dark green triangular stripes may develop from the lower node and stretch up towards the upper node of the stem. These stripes may or may not be present and vary in size. Internodes tend to be long.

09 MATAKARO LEKA



Stems are green with many lenticels spread along the length of the internode. The lenticels tend to be dark purple, but may be green near the top of internodes. The internode tends to be green in colour although some purple colouration may be seen above the lower node of the internode. The internodes are short.

10 MATAKARO BALAVU



Stems are green with many lenticels spread along the length of the internode. The lenticels tend to be dark purple, but may be green near the top of internodes. The internode tends to be green in colour although some purple colouration may be seen on the internode above the lower node. Internodes are long.

11 DOKOBANA LOA



Stems have many lenticels that are distributed evenly over the length of each internode. The lenticels are purple in colour, and the internodes have purple pigmentation which is darkest above the lower node and fades towards the upper node of the internode. The internodes are generally short.

12 LOA KASA LEKA



Stems have many lenticels along the length of the internode and are dark purple to black in colour. Lenticels are raised, often with dark brown centres. Some green colour may be seen through the purple pigmentation, but the dark colouration dominates. The internodes are generally short.

13 LOA KASA BALAVU



Stems have many lenticels along the length of the internode and are dark purple to black in colour. Lenticels are raised, often with dark brown centres. Some green colour may be seen through the purple pigmentation, but the dark colouration dominates. The internodes are generally long.