CASSAVA CHARACTERISTIC

Booklet

2024

1st Edition

Compiled by:

Rootcrop Unit - Agronomy Section,

Crop Research Division, Koronivia

CHARACTERISTICS OF CASSAVA

(*Manihot esculenta*)

VARIETIES IN FIJI

- A Comprehensive Guide -

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We are profoundly grateful to the Ministry of Agriculture and Waterways for the budgetary allocation, which made this publication possible. Our sincere thanks also goes to the Information Section for their assistance with photography, design, artwork, and the overall publication process.

Special appreciation goes to all the root crops staff and field workers across various stations. Their diligent efforts in maintaining the cassava Plant Genetic Resource (PGR) fields are crucial to the success of this project. The meticulous work in the observation, classification, and documentation of cassava varieties has been instrumental in bringing this booklet to fruition. We also acknowledge the staff members who contributed their expertise and dedication to the compilation of this booklet.

This booklet aims to serve as a valuable resource for farmers, students, extension officers, and cassava users, aiding in the accurate identification and effective utilization of different cassava varieties. We hope it will also be a useful tool for researchers engaged in future breeding efforts.

Thank you all for your unwavering commitment and hard work. Your contributions are deeply appreciated and have been vital to the successful completion of this project.

FOREWORD

Cassava (*Manihot esculenta*) is a cornerstone of food security and economic stability in many tropical and subtropical regions around the globe. Its resilience and versatility make it a critical crop for farmers, providing a reliable source of nutrition and income. In Fiji, cassava holds a special place in agriculture, supporting livelihoods and sustaining communities.

This booklet, 'Characterisation of Cassava (*Manihot esculenta*) Varieties in Fiji- A Comprehensive Guide –', is the culmination of dedicated research and duteous documentation by our research team. It aims to provide comprehensive information on thirty-three (33) distinct cassava varieties cultivated in Fiji, primarily those preserved in the Research Station Germplasm blocks. Each variety has been carefully characterised, highlighting its unique morphological features and nutritive values.

Our goal is to equip farmers, students, extension officers, and cassava users with the knowledge needed to accurately identify and utilize these cassava varieties. By offering detailed descriptions and practical insights, we hope this booklet will serve as an invaluable resource, fostering informed decision-making and promoting the sustainable development of cassava cultivation in Fiji.

Furthermore, this booklet represents a significant contribution to the global cassava knowledge base. Researchers will find it a useful tool for future breeding programs, enabling the continued improvement and diversification of this vital crop.

The descriptors used in this booklet are derived from the IITA Crop Descriptors List, ensuring a standardized approach to cassava characterization. We have selected a core set of descriptors to simplify the identification process and enhance the usability of this resource.

I extend my deepest gratitude to everyone involved in the creation of this booklet. Your expertise, hard work, and commitment have made this publication possible. It is my hope that this booklet will empower its readers, support cassava cultivation, and contribute to the agricultural prosperity of Fiji.

Dr Shalendra Prasad
Director of Crop Research
Ministry of Agriculture & Waterways

INTRODUCTION

The global population is projected to reach 8.5 billion by 2030, 9.7 billion by 2050, and 10.4 billion by 2100 (United Nations, 2020). This significant growth underscores the urgent need for substantial investment in agricultural research, both internationally and nationally. Such investments are critical as they will profoundly influence the role of root crops in global food systems and their potential as principal sources of food, nutrition, and cash income in the future. Factors such as climate change, pests, and diseases will continue to impact crop production, necessitating ongoing research and adaptation. (Ministry of Agriculture & Waterways, 2024)

Cassava, native to South America, is a staple crop grown and consumed in tropical and subtropical regions worldwide. Approximately 70% of global cassava production is concentrated in countries like Nigeria, Thailand, the Democratic Republic of Congo, Brazil, and Indonesia. In 2021, Nigeria led the world in cassava production, yielding 60.8 million metric tonnes, followed by the Democratic Republic of Congo, Thailand, and Ghana in subsequent positions. Cassava is a critical source of carbohydrates, owing to its high starch content in tuberous roots (Ceballos et al., 2004). Thailand stands out as the leading exporter of cassava and cassava starch, exporting over 2 million tonnes annually (FAO, 2021).

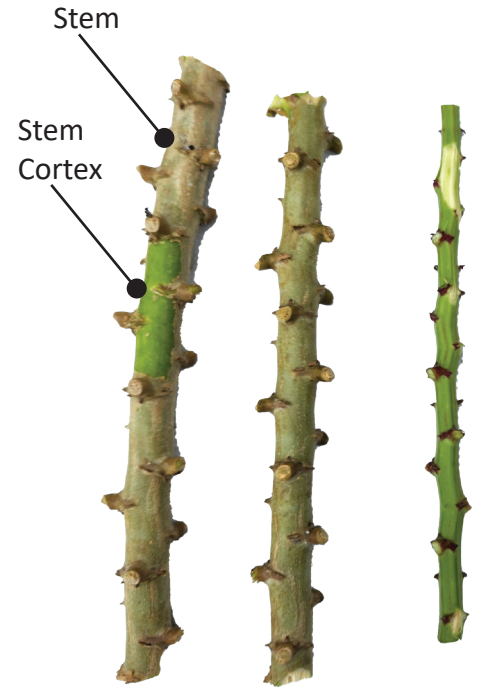
The extensive use of cassava is attributed to its high genetic diversity. Economically, cassava is a significant agricultural product in many countries, used not only for human consumption but also in industrial applications. In Thailand, for instance, cassava factories produce items such as animal feed, chips, and pellets, which are further used in textile, medicine, and chemical industries. Additionally, cassava is used to produce ethanol as a biofuel, with Up Ventures Co., Ltd. leading in ethanol production from cassava chips in Thailand in 2023 (Statista Research Department, 2024).

In Fiji, cassava production has seen a significant increase, with gross volume production rising from 63,677.2 metric tonnes in 2016 to 71,890 metric tonnes in 2020, achieving a gross value of FJ$57,022.70 in 2019. This growth is partly due to increased export demand and value addition. According to the 2020 Statistics of the Agriculture Sector report, cassava is grown throughout Fiji, with the highest producing areas being Ba (11,480.20 metric tonnes), Tailevu (11,367.20 metric tonnes), Naitasiri (10,117.30 metric tonnes), and Macuata (8,752.80 metric tonnes).

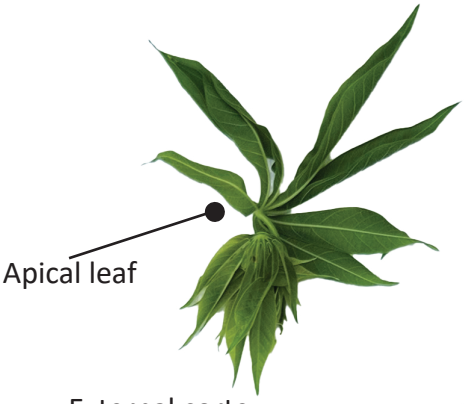
Cassava is one of the most frequently consumed staple foods in Fiji, with around 59.2% of the population consuming it daily (J. Lako, 2019). Over the past three decades, cassava in Fiji has gained significant economic importance beyond its traditional value, benefiting subsistence farmers through local and export markets. Cassava is an easy crop to cultivate, thriving in various soil types and demonstrating efficient growth in fertile soils. It is also drought-tolerant and requires less labor for management. In addition to its tuberous roots, cassava leaves are consumed as green vegetables, used in medicine, and incorporated into sauces in African cuisine.

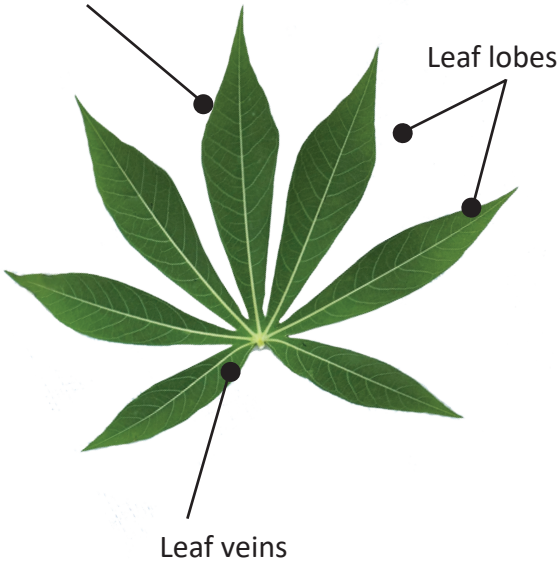
To fully realize the potential of cassava, there is a need to expand its value beyond food. Promoting the cultivation of cassava through the development of varieties suited to specific environments and market niches is essential. For example, yellow cassava varieties like Beqa, Naqonenaka, Aikavitu, and some yellow open-pollinated accessions are high in beta-carotene, which is an excellent source of Vitamin A (en.wikipedia.org). By developing and promoting such varieties, we can unlock new opportunities and ensure the continued relevance of cassava in global food systems.

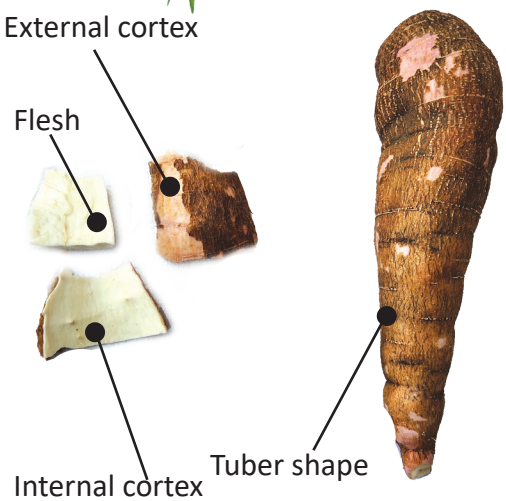
ANNOTATION


Stem
Stem Cortex


Petiole


Apical leaf

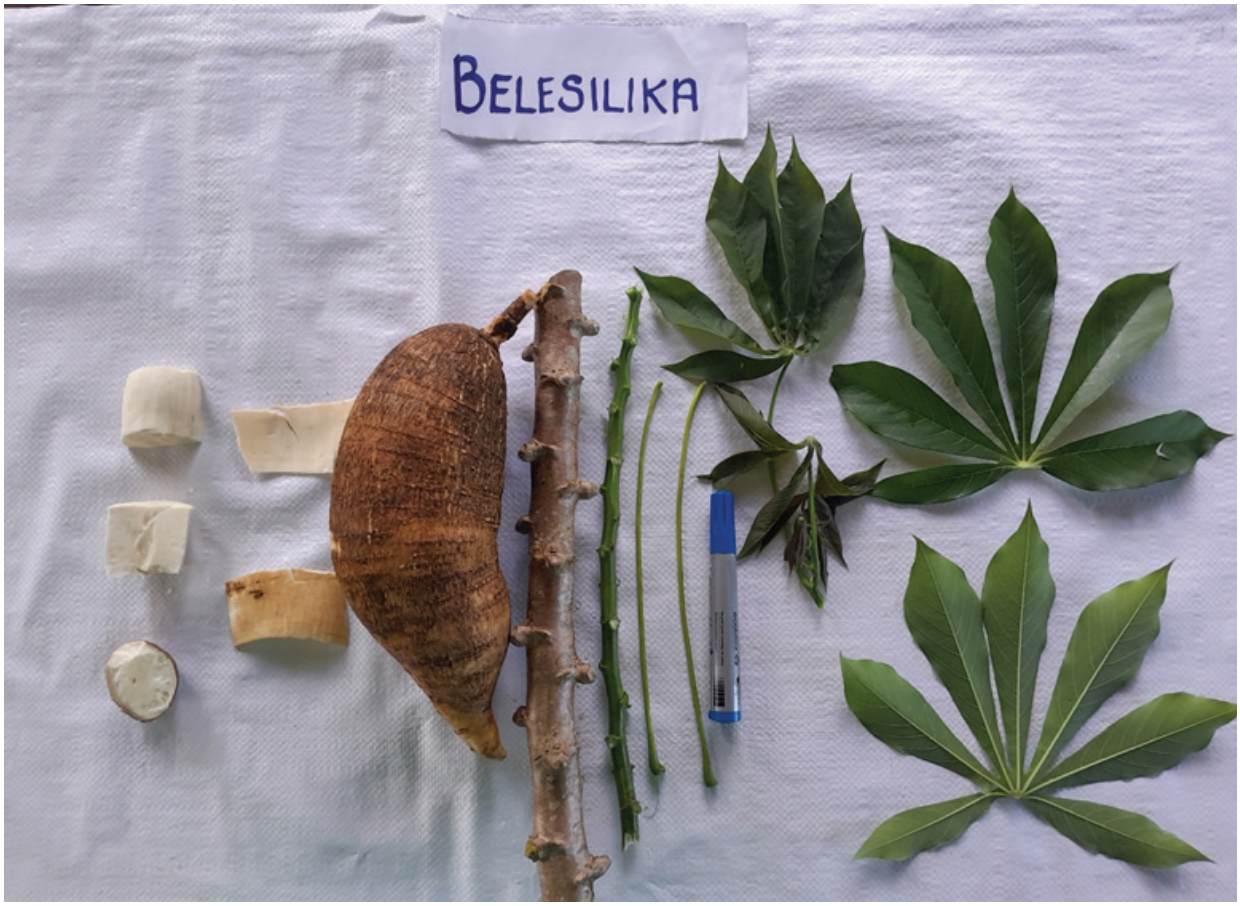

Central Leaf
Leaf lobes
Leaf veins


External cortex
Flesh
Internal cortex
Tuber shape

Variety Name: AI KAVITU

Characteristic	Description
Colour of apical leaf	Light purple
Shape of central leaf	Linear
Petiole colour	Red
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Pinkish and green all over
Colour of stem	Dark brown
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Pinkish cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Dark green
Maturity	7 – 8 months
Yield	25t/ha
Colour of flesh	Yellow
Number Of tubers	8-10
Starch content	18 – 23.1%
Iron content	19.15 mg/kg

Variety Name: BELESILIKA



Characteristic	Description
Colour of apical leaf	Purplish green
Shape of central leaf	Obovate- cancilate
Petiole colour	Yellowish green
Leaf colour	Light green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Golden
Branching/ no branching	Branching
Level of branching	4
Root shape	Conical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	White cream
Maturity	9-10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	7-9
Starch content	18.8 – 30.6%
Iron content	13.34mg/kg

Variety Name: BEQA

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Pinkish (upper) light green
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Pinkish less than half
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Lime green
Maturity	9 - 10 months
Yield	30t/ha
Colour of flesh	Yellow
Number of tubers	8- 12
Starch content	19.5-40.1%
Iron content	18.23mg/kg

Variety Name: COCI

Characteristic	Description
Colour of apical leaf	Slight Purplish green
Shape of central leaf	Lanceolate
Petiole colour	Red
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	1
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Lime green
Maturity	9-10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	9- 11
Starch content	19.8 – 27.2%
Iron content	25.52mg/kg

Variety Name: COCI SELECTION

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Elliptic- lanceolate
Petiole colour	Greenish red
Leaf colour	Green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Orange
Branching/ no branching	Non branching
Level of branching	0
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Lime green
Maturity	9 – 10 months
Yield	25t/ha
Colour of flesh	White
Number of tubers	9- 11
Starch content	19.8 – 23.5%
Iron content	16.38mg/kg

Variety Name: FALAWA

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Lanceolate
Petiole colour	Greenish red
Leaf colour	Green
Number of leaf lobe	7
Colour of leaf veins	Red
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Green
Maturity	9- 10 months
Yield	24t/ha
Colour of flesh	White
Number Of tubers	7 – 9
Starch content	20.6 – 28.7%
Iron content	24.03mg/kg

Variety Name: HAWAII

Characteristic	Description
Colour of apical leaf	Purple
Shape of central leaf	Elliptic- lanceolate
Petiole colour	Reddish
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Reddish
Colour of stem	Silver
Branching/ no branching	Straight
Level of branching	0
Root shape	Conical- cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	White
Orientation of petiole	Irregular
Colour of stem cortex	Lime
Maturity	9 – 10 months
Yield	24t/ha
Colour of flesh	White
Number of tubers	8- 10
Starch content	15.5 – 20.5%
Iron content	21.78mg/kg

Cassava Variety: H-95

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Greenish red
Leaf colour	Green
Number of leaf lobe	7
Colour of leaf veins	Red
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Green
Maturity	9- 10 months
Yield	24t/ha
Colour of flesh	White
Number Of tubers	7 – 9
Starch content	20.6 – 28.7%
Iron content	24.03mg/kg

Variety Name: H-97

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Reddish with fewer yellowish
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	1
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	White
Orientation of petiole	Horizontal
Colour of stem cortex	Lime green
Maturity	9- 10 months
Yield	23t/ha
Colour of flesh	White
Number of tubers	8- 10
Starch content	21.7- 27.4 %
Iron content	21.89mg/kg

Cassava Variety: H-165

Characteristic	Description
Colour of apical leaf	Purplish green
Shape of central leaf	Oblong- lanceolate
Petiole colour	Yellowish green
Leaf colour	Dark green
Number of leaf lobe	5
Colour of leaf veins	Green
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Dark green
Maturity	9 – 10 months
Yield	23t/ha
Colour of flesh	White
Number Of tubers	8- 10
Starch content	15 – 23.1%
Iron content	38.12mg/kg

Cassava Variety: INDIA

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Light green
Leaf colour	Green
Number of leaf lobe	3
Colour of leaf veins	White
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	3
Root shape	Cylindrical
Colour of root cortex	Brown
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Lime green
Maturity	9 - 10 months
Yield	24t/ha
Colour of flesh	White
Number Of tubers	7- 9
Starch content	15.8 - 23.1%
Iron content	21.31mg/kg

Cassava Variety: KASALEKA

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Obovate- lanceolate
Petiole colour	Red
Leaf colour	Dark green
Number of leaf lobe	5
Colour of leaf veins	Light red
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Light green
Maturity	9 - 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	7- 9
Starch content	11.3 – 19.2%
Iron content	40.46mg/kg

Variety Name: LOMAIVUNA

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Elliptic- lanceolate
Petiole colour	Greenish red
Leaf colour	Dark green
Number of leaf lobe	5
Colour of leaf veins	Pink
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	0
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Irregular
Colour of stem cortex	Light green
Maturity	9 - 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	7- 9
Starch content	23.5 – 28.4%
Iron content	19.56mg/kg

Variety Name: MERELESITA

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Red
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Pinkish and green all over
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	2
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Pink
Orientation of petiole	Horizontal
Colour of stem cortex	Silver
Maturity	9 - 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	11- 13
Starch content	16.3 – 33.8%
Iron content	10.57mg/kg

Variety Name: MODRE

Characteristic	Description
Colour of apical leaf	Purplish green
Shape of central leaf	Oblong- lanceolate
Petiole colour	Red
Leaf colour	Dark green
Number of leaf lobe	9
Colour of leaf veins	Pinkish/green
Colour of stem	Orange
Branching/ no branching	Non- branching
Level of branching	0
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Inclined downwards
Colour of stem cortex	Lime green
Maturity	8- 9 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	9 - 11
Starch content	11.3 – 27.1%
Iron content	46.55mg/kg

Variety Name: NADELEI

Characteristic	Description
Colour of apical leaf	Dark purple
Shape of central leaf	Lanceolate
Petiole colour	Greenish – upper reddish
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	3
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Pink
Orientation of petiole	Horizontal
Colour of stem cortex	Lime green
Maturity	9 - 10 months
Yield	29t/ha
Colour of flesh	White
Number Of tubers	9 - 11
Starch content	25.2 – 40.2%
Iron content	6.35mg/kg

Variety Name: NAGONENAKA

Characteristic	Description
Colour of apical leaf	Purple
Shape of central leaf	Obovate - lanceolate
Petiole colour	Base - yellowish green; Top - Pink
Leaf colour	Green
Number of leaf lobe	7
Colour of leaf veins	Pinkish green in less than half of the lobe
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	1
Root shape	Colonial cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Dark green
Maturity	9 - 10 months
Yield	29t/ha
Colour of flesh	Cream
Number Of tubers	7 - 11
Starch content	19.9 – 27.4%
Iron content	8.03mg/kg

Variety Name: NAVOLAU

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Obovate - lanceolate
Petiole colour	Yellowish green
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Green
Colour of stem	Silver
Branching/ no branching	Non branching
Level of branching	0
Root shape	Cylindrical
Colour of root cortex	Brown
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Light green
Maturity	9 - 10 months
Yield	23t/ha
Colour of flesh	White
Number Of tubers	9 - 11
Starch content	25.2- 40.2%
Iron content	6.35mg/kg

Variety Name: NARAU

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Red (upper) and Green (lower)
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Pinkish/light greenSilver
Colour of stem	Golden
Branching/ no branching	Non- branching
Level of branching	0
Root shape	Conical cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Dark green
Colour of stem cortex	9 - 10 months
Maturity	29t/ha
Yield	Cream
Colour of flesh	White
Number Of tubers	7- 9
Starch content	12.99%
Iron content	NA

Variety Name: NEW GUINEA

Characteristic	Description
Colour of apical leaf	Light green
Shape of central leaf	Lanceolate
Petiole colour	Red
Leaf colour	Light green
Number of leaf lobe	5 - 7
Colour of leaf veins	Green
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	2
Root shape	Conical cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Pink
Orientation of petiole	Inclined upwards
Colour of stem cortex	Dark green
Maturity	9 - 10 months
Yield	29t/ha
Colour of flesh	White
Number of tubers	9 - 11
Starch content	21.3 – 33.9%
Iron content	35.13mg/kg

Variety Name: NOUMEA

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Reddish green
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Pinkish and green all over
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical/irregular
Colour of root cortex	Dark brown
External colour of root cortex	White
Orientation of petiole	Inclined downwards
Colour of stem cortex	Lime green
Maturity	9 - 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	11 - 13
Starch content	8.96 - 14.5%
Iron content	36.6mg/kg

Variety Name: ROTUBUNAKORO

Characteristic	Description
Colour of apical leaf	Purple
Shape of central leaf	Obovate- lanceolate
Petiole colour	Greenish (bottom) Red (upper)
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Pinkish and green all over
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	2
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Inclined downwards
Colour of stem cortex	Lime green
Maturity	7 - 8 months
Yield	27t/ha
Colour of flesh	Yellow
Number Of tubers	9 - 11
Starch content	10.2 - 18.2%
Iron content	28.82mg/kg

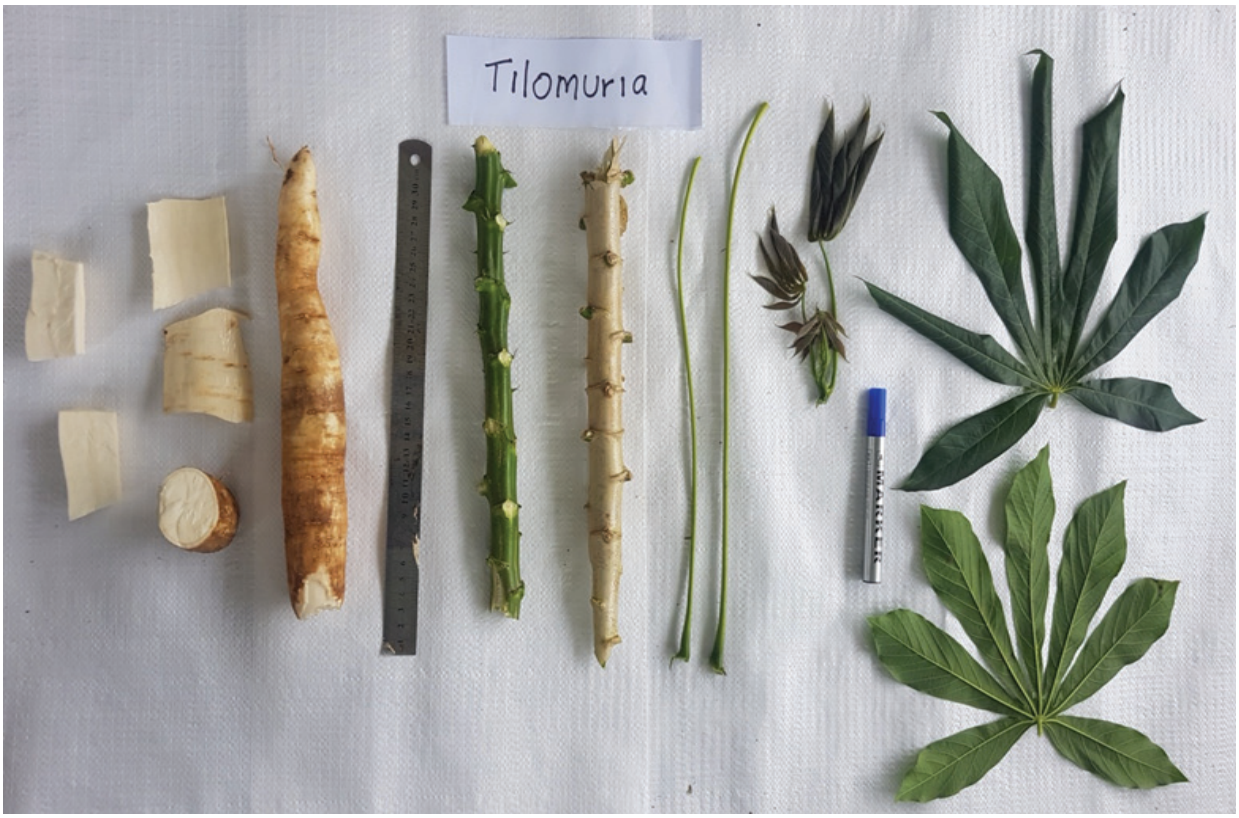
Variety Name: ROTUMA

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Lanceolate
Petiole colour	Purple
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Light brown
External colour of root cortex	Cream
Orientation of petiole	Inclined upwards
Colour of stem cortex	Lime green
Maturity	9- 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	7 to 9
Starch content	13.49 – 23.6%
Iron content	48.07mg/kg

Variety Name: SOKOBALE

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Obovate – lanceolate
Petiole colour	Yellowish green
Leaf colour	Light green
Number of leaf lobe	7
Colour of leaf veins	Cream
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	2
Root shape	Conical
Colour of root cortex	Cream
External colour of root cortex	White
Orientation of petiole	Incline upwards
Colour of stem cortex	Cream
Maturity	9- 10 months
Yield	27t/ha
Colour of flesh	White
Number Of tubers	11- 13
Starch content	20.3 – 22.6%
Iron content	28.96mg/kg

Variety Name: TILOMURIA



Characteristic	Description
Colour of apical leaf	Purplish green
Shape of central leaf	Elliptic – lanceolate
Petiole colour	Yellowish green
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Green
Colour of stem	Dark green
Branching/ no branching	Silver
Level of branching	Non branching
Root shape	Cylindrical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Green
Maturity	9 – 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	11 – 13
Starch content	22.6 – 27.2%
Iron content	20.15mg/kg

Variety Name: TURAGAKULA

Characteristic	Description
Colour of apical leaf	Purple
Shape of central leaf	Lanceolate
Petiole colour	Greenish red
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Red with green all over
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	2
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	White
Orientation of petiole	Horizontal
Colour of stem cortex	Lime green
Maturity	9- 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	9- 11
Starch content	12.9 – 16.2%
Iron content	28.88mg/kg

Variety Name: VULATOLU

Characteristic	Description
Colour of apical leaf	Slight purplish
Shape of central leaf	Lanceolate
Petiole colour	Greenish red
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Reddish
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	1
Root shape	Cylindrical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	White
Colour of stem cortex	Lime green
Maturity	9- 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	8 - 10
Starch content	17.1 – 33.2%
Iron content	46.52mg/kg

Variety Name: VULATOLU II

Characteristic	Description
Colour of apical leaf	Purple
Shape of central leaf	Lanceolate
Petiole colour	Reddish green
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	2
Root shape	Cylindrical
Colour of root cortex	Dark brown
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Lime green
Maturity	9- 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	8- 10
Starch content	15.4 – 25.9%
Iron content	17.63mg/kg

Variety Name: VULATOLU (Unbranched)

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Elliptic – lanceolate
Petiole colour	Base – red; top- pinkish
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Green
Colour of stem	Silver
Branching/ no branching	Non branching
Level of branching	0
Root shape	Cylindrical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	Incline downwards
Colour of stem cortex	Light green
Maturity	9- 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	8- 10
Starch content	21.7 – 30.25%
Iron content	12.89mg/kg

Variety Name: VULALIMA

Characteristic	Description
Colour of apical leaf	Purple
Shape of central leaf	Obovate- Lanceolate
Petiole colour	Red
Leaf colour	Dark Green
Number of leaf lobe	7
Colour of leaf veins	white
Colour of stem	Orange
Branching/ no branching	Branching
Level of branching	3
Root shape	Cylindrical
Colour of root cortex	Dark Brown
External colour of root cortex	Cream
Orientation of petiole	Inclined downwards
Colour of stem cortex	Lime Green
Maturity	9- 10 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	9- 11
Starch content	19.5 - 22.9%
Iron content	30.83mg/kg

Variety Name: YABIA DAMU

Characteristic	Description
Colour of apical leaf	Dark green
Shape of central leaf	Elliptic- lanceolate
Petiole colour	Red
Leaf colour	Dark green
Number of leaf lobe	9
Colour of leaf veins	Pinkish green
Colour of stem	Golden
Branching/ no branching	Non-branching
Level of branching	4
Root shape	Cylindrical
Colour of root cortex	Brown
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Dark green
Maturity	9- 10 months
Yield	25t/ha
Colour of flesh	Golden
Number Of tubers	7- 9
Starch content	25.2 – 39.9%
Iron content	27.89mg/kg

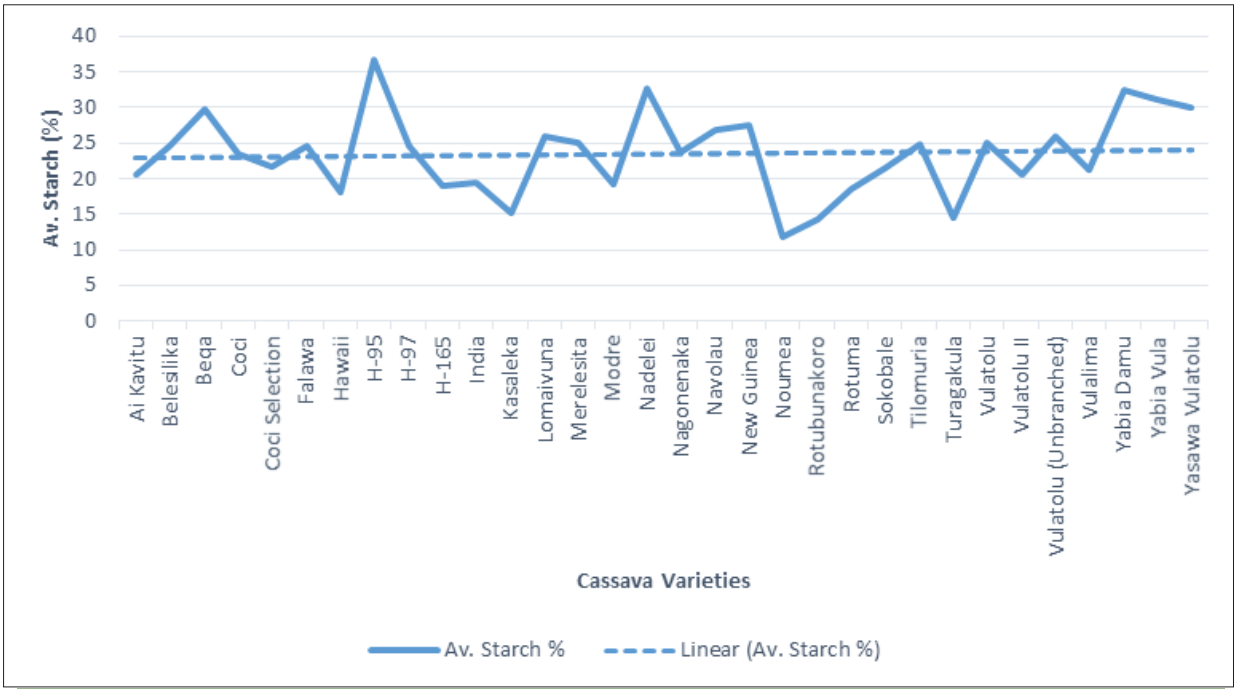
Variety Name: YABIA VULA

Characteristic	Description
Colour of apical leaf	Purple
Shape of central leaf	Lanceolate
Petiole colour	Reddish green
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	White
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	2
Root shape	Conical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	Horizontal
Colour of stem cortex	Lime green
Maturity	8 – 9 months
Yield	25t/ha
Colour of flesh	White
Number Of tubers	9 – 11
Starch content	24.1 – 37.9%
Iron content	15.05mg/kg

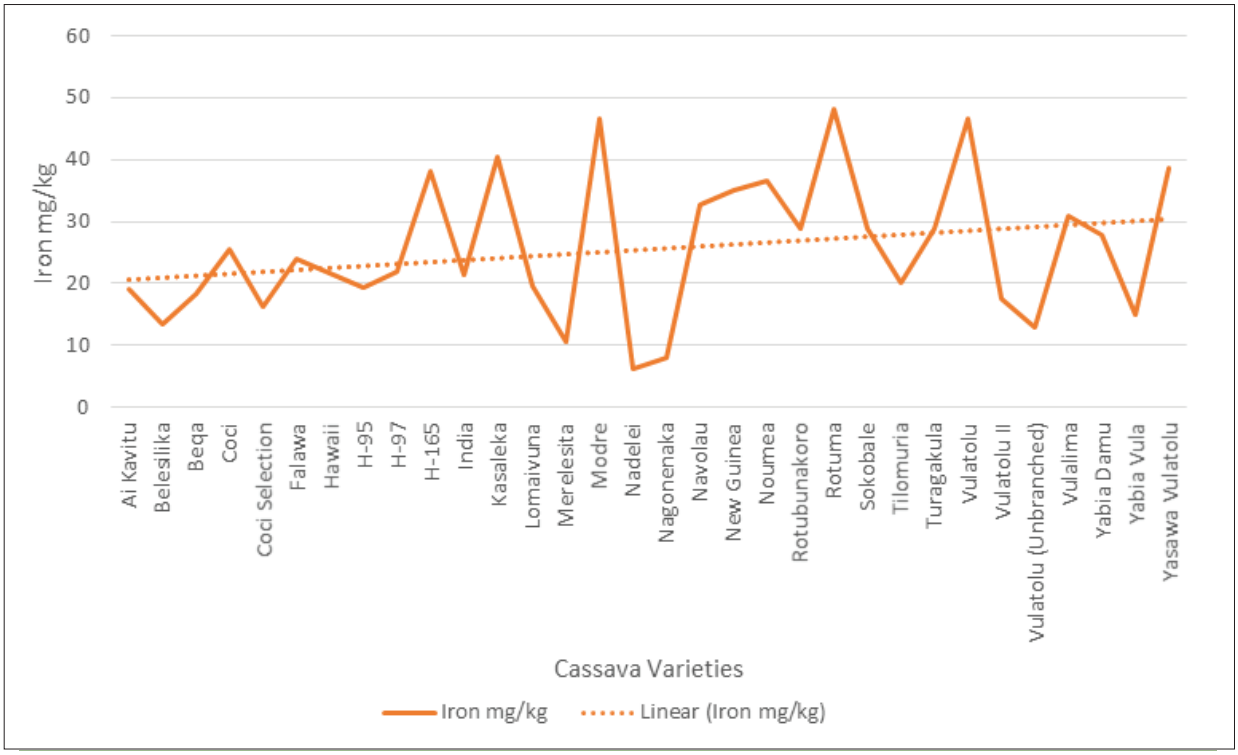
Variety Name: YASAWA VULATOLU

Characteristic	Description
Colour of apical leaf	Green
Shape of central leaf	Elliptic – lanceolate
Petiole colour	Base –green; Top – Slight Pinkish
Leaf colour	Dark green
Number of leaf lobe	7
Colour of leaf veins	Green
Colour of stem	Silver
Branching/ no branching	Branching
Level of branching	2
Root shape	Cylindrical
Colour of root cortex	Cream
External colour of root cortex	Cream
Orientation of petiole	Incline upwards
Colour of stem cortex	Lime
Maturity	9- 10 months
Yield	23t/ha
Colour of flesh	White
Number Of tubers	9- 11
Starch content	22.4 – 37.7%
Iron content	38.73mg/kg

Graph illustrates Average Starch (%) content for Thirty Three (33) Cassava Varieties



Graph illustrates Iron (mg/kg) content for Thirty Three (33) Cassava Varieties



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