Background

Cassava is an extremely important crop for household food security in Timor-Leste. Cassava is the third most important crop grown in Timor-Leste after maize and rice, based on production area. It grows well in a range of soils where it is generally cultivated with no fertiliser.

Traditional cassava varieties are low yielding. Higher-yielding cassava varieties have been evaluated by the Seeds of Life Program since 2000 with exceptional results, particularly in the lowland sites such as Betano.

Between 2000 and 2008, trials were run using extensive material (more than 60 clones) obtained from a number of sources via the Asia Office of the International Centre for Tropical Agriculture (CIAT). However many of the very high yielding clones had poor eating quality and a high hydrogen cyanide (HCN) content, so were only suitable for commercial production of cassava starch products.

Over a long period of time the two clones Ca 15 (Ai-Luka 2) and Ca 26 (Ai-Luka 4) consistently displayed relatively high yields combined with the good eating characteristics desired by farmers in Timor-Leste.

Yield and quality

Name	Ai-Luka 2	Local
Yield (t/ha)*	32.5	19.8
Yield advantage over local varieties (%)*	64	-
Starch content (%)**	21	23
Hydrogen cyanide content (ppm)	41	28

* Mean 2001-2008 from 20 replicates in 5 sites
** Mean 2006-2008 from 9 replicates in 4 sites

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CASSAVA VARIETY

AI-LUKA 2

AI-LUKA 2 has:

- **high yields, 32.5 t/ha**
- **a 64% yield advantage over local varieties**
- **a sweet taste**
- **large white tubers**

AI-LUKA 2 — INCREASING CASSAVA PRODUCTION IN TIMOR-LESTE

Variety information

Release name	Ai-Luka 2
Year released	2009
Evaluation name	Ca 15
Botanical name	*Manihot esculenta* Crantz
Suited environment	Well drained areas in the uplands or lowlands
Breeding number	OMM 90-03-100
Parents	Ambon local as female (open pollination)
Breeder	BALITKABI Indonesia

Description

Plant type	Absence of branching
Height	Medium (187 cm)
Stalk diameter	Medium
Internodes length	Medium
Colour of mature stem	Greenish grey
Colour of young stem	Green
Shape of lobe	Teardrop/long, wider in the middle *(Obovate-lanceolate)*
Number of lobes	7 lobes
Shoot colour	Green
Veins colour on upper part	Green
Leaf shape	Normal
Leaf colour	Green
Colour of petiole	Green/red
Tuber shape	Large
The colour of periderm	Slight brown
Tuber colour	White
Taste of cooked tuber	Sweet/very sweet

Impacts

Economic benefits

In the near future cassava varieties that produce high yields and have good eating quality will maintain household food security, but is grown on limited land. This variety will also potentially facilitate us to grow a much larger area to obtain immediate economic benefits.

Social benefits

The very high yielding test clones will bring significant improvements to food security in Timor Leste. Yields will be 64% by planting the new varieties and improved health benefits will be gained by the higher volumes available for consumption. The risk level of growing improved clones is similar to that of growing traditional varieties.

Environmental benefits

The introduction of the two new cassava varieties will improve the genetic diversity within Timor-Leste. None of the new clones are genetically modified organisms (GMO) using recombinant DNA technology and will not introduce any undesirable traits to the environment. Cassava tends to be environmentally friendly because of the low inputs required, especially nitrogen.