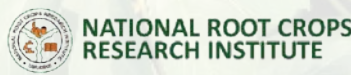


Profiles of Best Performing Improved Cassava Varieties

Promoted
By
Building an Economically Sustainable
Integrated Cassava Seed System,
phase 2
(BASICS-II)



Building an Economically Sustainable and Integrated Cassava Seed System, phase 2 (BASICS-II)

Background

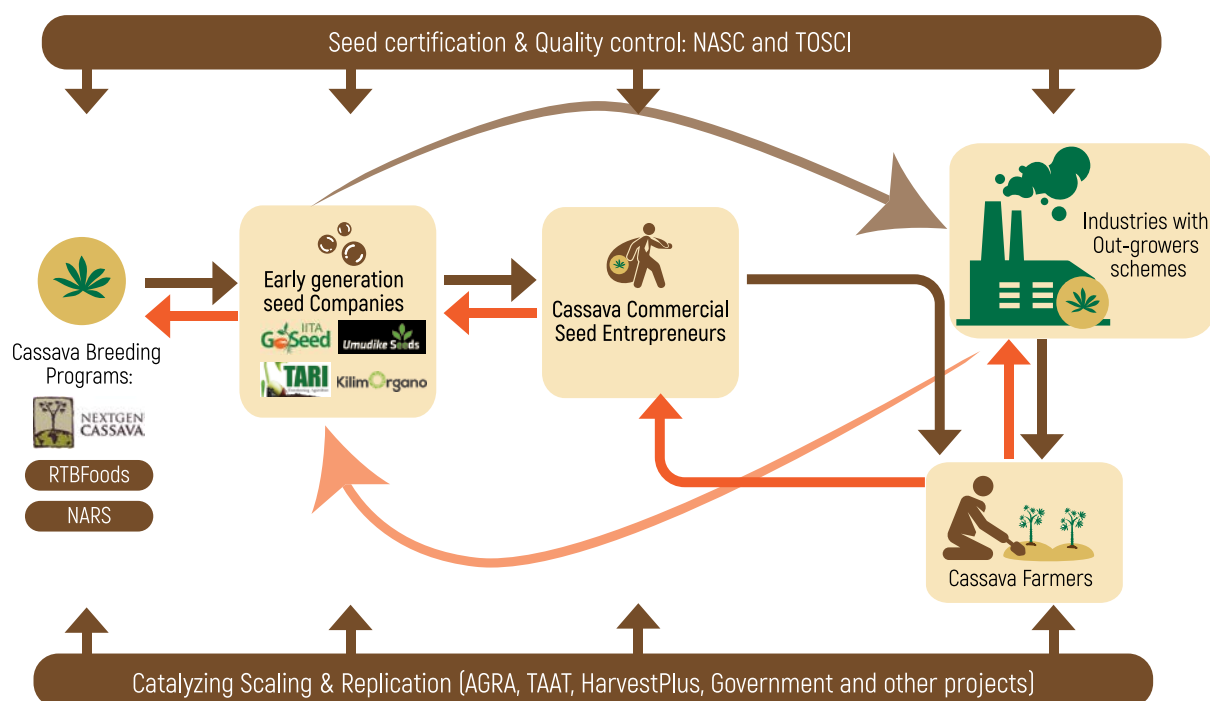
The five-year Building an Economically Sustainable and Integrated Cassava Seed System Phase II (BASICS-II) was awarded by the Bill & Melinda Gates Foundation to IITA and its partners on the 14th May 2020. The project aims to transform the cassava seed sector by promoting the dissemination of improved varieties thereby creating a community of seed entrepreneurs across the cassava value chain. The project will focus on Nigeria and Tanzania with spin off to other African Countries. Building on the solid foundations created by the BASIC-I and BEST projects in Nigeria and Tanzania respectively, the project will primarily focus on both countries, and replicate the cassava seed system model to other African countries. The project will nurture the development of sustainable Early Generation Seed systems through public-private partnerships, and link these seed systems to networks of entrepreneurs and processors that are ready to multiply, distribute, and sell clean planting materials (Seeds) of new and improved varieties emanating from linked breeding systems.

Project Goal:

To provide farmers with access to affordable, quality-assured seeds of the cassava varieties in demand by local food and processor markets through the establishment of a commercially viable seed value chain operating across breeder, foundation, and commercial seed levels. This value chain will enable more efficient dissemination and adoption of new varieties to improve productivity, raise incomes of cassava growers and seed entrepreneurs, enhance gender equity, and contribute to inclusive agricultural transformation in Nigeria and Tanzania.

Approach

BASICS-II is linked directly with an ongoing investment in modernizing cassava breeding and will work with Early Generation Seed companies to multiply breeder and foundation seeds that will be passed on to cassava seed entrepreneurs for the production of certified seeds for onward dissemination to farmers. The project will also work with cassava processors with out-grower schemes to multiply certified seeds for farmers. The project will ensure that improved varieties of cassava are disseminated in a structured and sustainable manner through the seed systems. Customer feedback and sales data generated by the seed systems will be continuously shared with breeders to inform both the refining of their target product profiles and product advancement decisions.



Diagrammatic representation of the BASICS model (Godwin Atser, Alfred Dixon, and Lateef Sanni, 2021)

Some of the improved cassava varieties in the field

In Nigeria, BASICS-II project is promoting 11 top performing varieties including: Ayaya, Farmer's Pride, Fine Face, Sunshine, TME419, Dixon, Game Changer, Obasanjo-2, Hope, Poundable and Baba-70. All the varieties have yield potential above 30 tons per hectare. More details and attributes are presented in this booklet.

Released Cassava Varieties	
Official name	Promotional name
CR36-5	Ayaya (Beautiful)
IBA961632	Farmer's Pride
IBA980505	Fine face
IBA070593	Sunshine
TME419	TME419
IBA980581	Dixon
TMS13F1160P0004	Game Changer
TMS13F1343P0022	Obasanjo-2
NR130124	Hope
TMEB693	Poundable

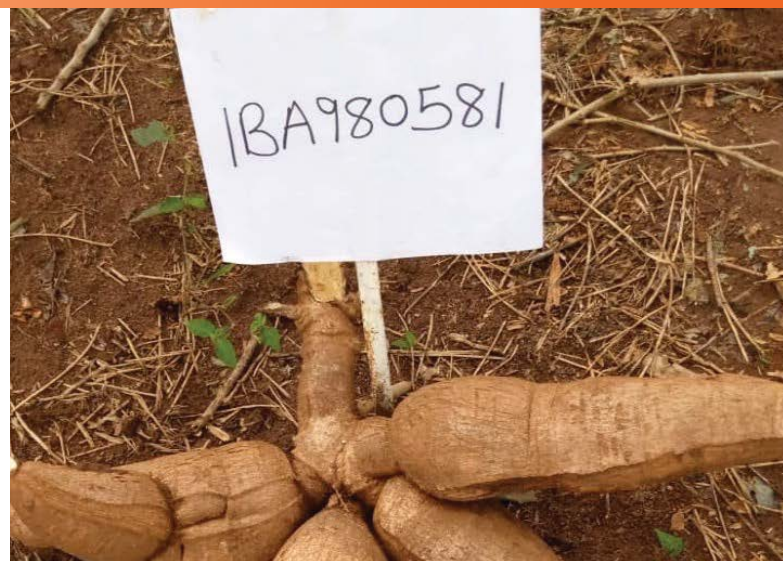




This a populaly known and widely accepted name adapted from its originally released code name. Processors love this variety for its stem properties, Its straight and erect stem allows for ease of mechanization. Also endearing are its high yield and stability of yield as well as low rate of physiological deterioration.

Key attributes

Yield	36t/ha
Dry matter content	40%
Physiology	Erect, straight type excellent for mechanization
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	Suitable for all Nigeria ecology
Type of soil best grown on	Sandy-loam
Other features	Green petiole, light brown stem, light/cream root, CMD resistance, low cyanide potential Good for starch, flour, garri, and fresh consumption



The variety Dixon, is named after the renowned breeder, Dr Dixon in honour of his landmark achievements in cassava breeding thus contributing to eradicating hunger and poverty in sub-saharan Africa. Over the years, he has bred many cassava varieties, however, this is his favourite because of its red petiole colour and resilience.

Key attributes

Yield	35t/ha
Dry matter content	35%
Physiology	Erect plant type, excellent drought tolerance
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	-
Type of soil best grown on	Sandy-loam
Other features	Red petiole, silver-green stem, white root, CMD and CGM resistant drought tolerant Good for garri production



Ayaya means "beautiful" in Ibibio, one of Nigeria's several dialects. It is so named because of its beautiful and attractive plant type. Large scale processors like this variety for flour, gari, fufu and pupuru.

Key attributes

Yield	35t/ha
Dry matter content	40%
Physiology	Erect growth habit
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	-
Type of soil best grown on	Sandy-loam
Other features	Purple petiole, Light brown stem, white root, drought tolerant, CMD tolerant, Multiple pest resistance excellent for flour and starch production, stable dry matter



The Sun is bright and yellow, so is this variety. It is named Sunshine for its particularly bright yellow colour. Farmers believe that the variety is good for young and elderly people alike who love eating garri but possess certain medical conditions that constrain them from eating it. This is because this particular variety is packed with Vit A which is very healthy for eye sight and other bodily functions.

Key attributes

Yield	30t/ha
Dry matter content	30%
Physiology	Compact branch type
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	-
Type of soil best grown on	Sandy-loam
Other features	Purple green petiole, brown stem, yellow root, drought tolerant, multiple pest resistance, high carotenoid content, excellent for yellow garri and other biofortified food products"



Fineface is known for its exceptional attractive garri appearance. Its garri looks very white and fine. It has longer post harvest deterioration when compared to other varieties

Key attributes

Yield	34t/ha
Dry matter content	35%
Physiology	Attractive umbrella shaped plant type good for weed control
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	-
Type of soil best grown on	Sandy-loam
Other features	Green purple petiole, silver green stem, white root, CMD resistance excellent for garri production



The name Game changer derives from the massive yield of this variety at harvest, as farmers believe that cultivating this variety will change their livelihood status by eradicating hunger and poverty because of its yield and food quality. Its leaves are very attractive to sight. It has good root shape and low water content

Key attributes

Yield	38t/ha
Dry matter content	44%
Physiology	Compact branch type
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	-
Type of soil best grown on	Sandy-loam
Other features	Light brown stem, white root, thick peels preferred for feedmeals, multiple pests and disease resistance excellent for starch and flour production, stable dry matter



Poundable derives its name from the poundability of this cassava variety. Farmers often compare it to yam because of its mealy nature. It can be used to make any food products due to its poundability. Farmers often consume this variety boiled and or roasted while on the field before the arrival of other meals.

Key attributes

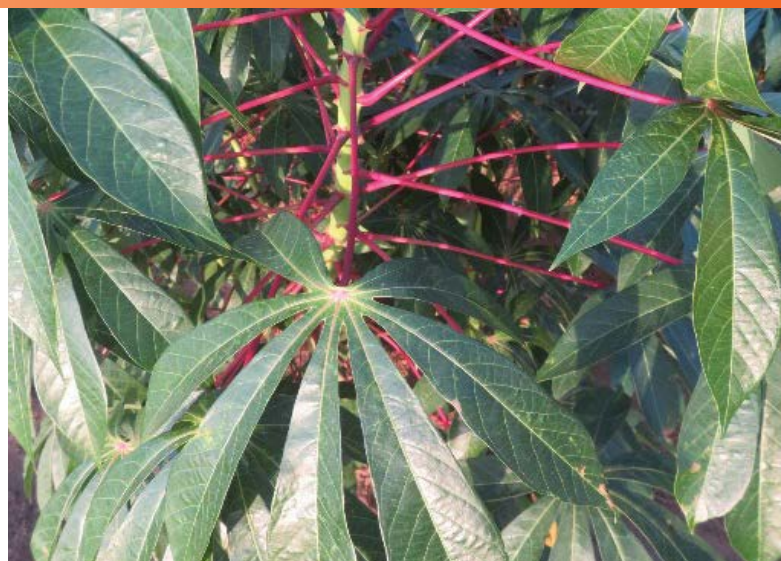
Yield	32t/ha
Dry matter content	38%
Physiology	Attractive umbrella
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	-
Type of soil best grown on	Sandy-loam
Other features	Dark brown stem, white root, moderate CMD resistance, low cyanide potential, highly poundable, best for fresh consumption, highly mealy



Farmer's pride is so called because farmers are proud of the stability and finesse of this variety. The leaves are very attractive at the early stage and farmers love the height of the variety because it is average thereby, preventing severe lodging as compared to others.

Key attributes

Yield	35 t/ha
Dry matter content	39%
Physiology	Erect plant type
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	-
Type of soil best grown on	Sandy-loam
Other features	Green purple petiole, light brown stem, white root, drought tolerant, CMD resistance, good garri quality, Good for starch and flour production, stable dry matter



The variety is good for gari and fufu.

Key attributes

Yield	37.5 t/ha
Dry matter content	38.5%; Starch (28.0%)
Physiology	Compact plant type, light brown stem, and red petiole color
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	Rain Forest and Southern Guinea Savanna
Type of soil best grown on	Loam and sandy loam
Other features	High yielding and early bulking, good weed control, moderate dry matter content, resistant to Cassava Mosaic Disease (CMD), excellent for gari and fufu



This variety is named in honor of Nigeria’s former President, Chief Olusegun Obasanjo who is a cassava farmer. During his reign, Chief Obasanjo championed the transformation of cassava with emphasis on its commercialization and industrialization. Consequently, cassava production rose from 33 million tons in 1999 to 43 million tons (FAOSTAT). Obasanjo-2 addresses the needs of the commercial sector with its excellent qualities for flour and starch.

Key attributes

Yield	38.7 t/ha
Dry matter content	40.7%; Starch 28.6%
Physiology	Good umbrella plant types, greenish purple petiole, silver brown stems. Morphology offers good weed control.
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	Rain Forest and Southern Guinea Savanna
Type of soil best grown on	Loam and sandy loam
Other features	Resistant to cassava mosaic disease (CMD), cassava anthracnose disease (CAD), cassava mealybug (CM), cassava bacterial blight (CBB), cassava green mite (CGM). Variety has high starch, dry matter content and high fresh root yield and good for flour and starch production.



This variety is good for gari and fufu—both products are highly consumed in Nigeria. Farmers who grow the variety have the hope of food security (zero hunger).

Key attributes

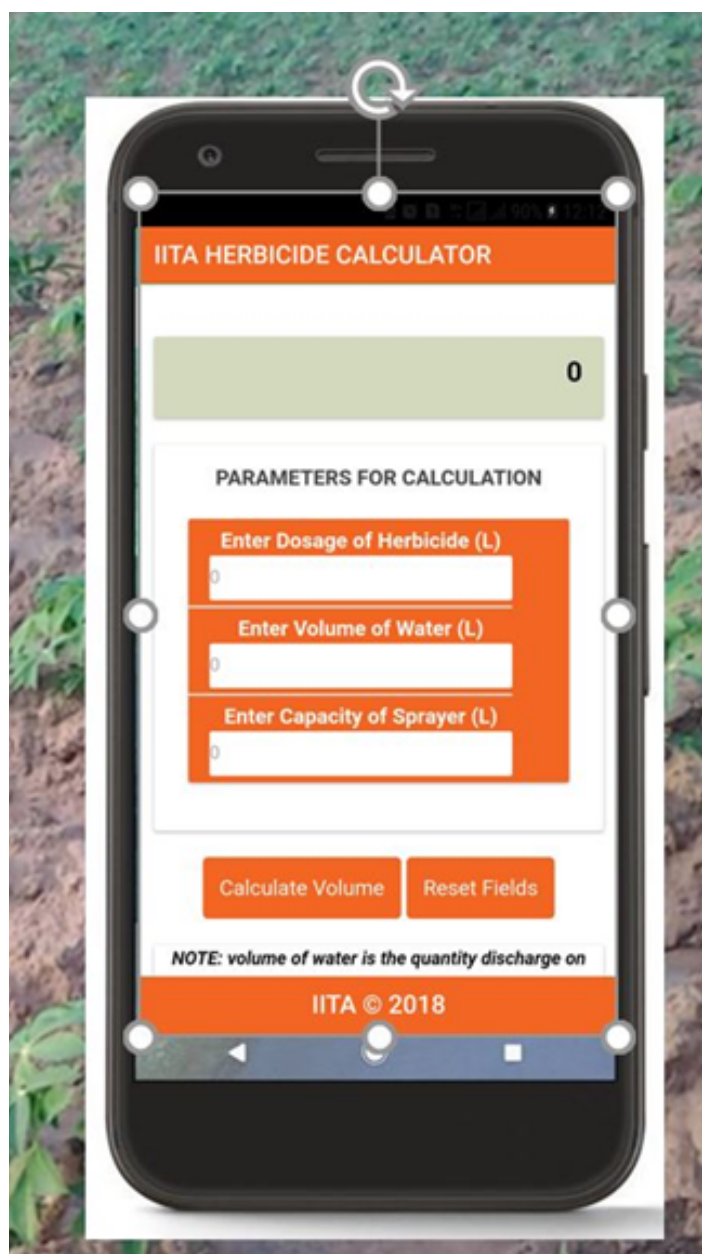
Yield	40.1 t/ha
Dry matter content	33.2%; Starch (24.3%)
Physiology	Compact branching pattern
Maturity period	10 - 12 months
Agro ecology best suited in Nigeria	Rain Forest and Southern Guinea Savanna
Type of soil best grown on	Loam- Sandy-loam
Other features	Moderate dry matter, resistant to Cassava Mosaic Disease (CMD), cassava anthracnose disease (CAD), cassava mealybug (CM), cassava bacterial blight (CBB), and cassava green mite (CGM). Good for mechanization and has high fresh root yield. Excellent for gari and fufu production.

For effective herbicide/pesticide application, use the IITA Herbicide Calculator

How to use the IITA Herbicide Calculator

- Enter the **Dosage of the Herbicide** to be sprayed in Liter per Hectare as recommended on the herbicide label
- Enter the **Volume of Water** dispensed on 10m x 10m plot. To get the **Volume of Water** sprayed on a 10m x 10m plot:
 - Measure a plot of 10m x 10m =100m²
 - Fill water in your knapsack spray tank and spray the measured area normally on a straight path with the nozzle height at your knee level.
- Enter the **Volume of Water** dispensed from your knapsack spray tank on the 10m x 10m plot.
- Enter the **Capacity of your knapsack spray tank** in Liters.
- Press **Calculate Volume** to get the exact dosage of the herbicide that should be added into your knapsack spray tank before filling the tank with water for spraying.

Download the IITA Herbicide Calculator from Google PlayStore



For updates, visit the following:

IITA: www.iita.org

Seedtracker: <https://seedtracker.org/cassava/index.php/released-cassava-varieties-in-nigeria/>

Cassavamatters: www.cassavamatters.org

Download SeedTracker Android App:



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