

No Hunger
IBA164773
 Yield – 25.2 t/ha
 Dry matter - 29 %
 Plant type - Compact
 Stem colour - Light brown
 Petiole colour – Light Green
 Leaf colour - Dark green
 Leaf shape - Lanceolate
 Growth habit - Zig-zag
Biofortified food processing



POUNDABLE (TMEB693)



Poundable
TMEB693
 Yield - 22 t/ha
 Dry matter - 20 %
 Starch - 21 %
 Plant type - Erect
 Stem colour - Dark brown
 Petiole colour - Purple
 Leaf colour - Deep green
 Leaf shape - Lanceolate
 Growth habit – Straight
Fresh market

30 Newly Released Crop Varieties

The President's visit to the Rokupr Agricultural Research Centre - SLARI marks a significant milestone in the agricultural transformation of Sierra Leone. His Excellency the President, Rtd. Brig. Dr. Julius Maada Bio, during his visit, officially launched 30 new and improved crop varieties developed by the Sierra Leone Agricultural Research Institute (SLARI) at the Rokupr Agricultural Research Centre (RARC).

This historic event marks a major milestone in advancing the government's Feed Salone Initiative, which aims to boost food security, promote agricultural innovation, and enhance farmers' access to climate-resilient, high-yielding crop varieties.

SLARI scientists, in collaboration with national and international partners, developed the released varieties, which include rice, maize, and cassava, through years of rigorous scientific research, testing, and field validation. These partners include the Ministry of Agriculture and Food Security (MAFS), the International Institute of Tropical Agriculture (IITA), and the World Bank-supported Food Systems Resilience Programme (FSRP).

These improved crop varieties are designed to address key challenges faced by farmers, such as low productivity, pest and disease pressures, and the impacts of climate change. They offer significant advantages in terms of yield potential, adaptability across different agro-ecological zones, and nutritional quality.

The release of these new technologies reaffirms the government's commitment to supporting agricultural research and innovation as drivers of economic growth and rural development. Additionally, it positions SLARI as a key national institution championing evidence-based solutions to transform Sierra Leone's food systems for a sustainable and prosperous future.

VARIETIES RELEASE SUMMARY

No.	Crop variety nominated	Number of varieties to be Released	Number of varieties to be registered	Total Varieties
1	Maize	4	4	8
2	Rice	7	7	14
3	Cassava	3	5	8
Total		14	16	30





Obasanjo 2
TMS13F1342P0022
Yield – 35.1 t/ha
Dry matter – 33 %
Starch – 24 %
Plant type - Umbrella
Stem colour - Light brown
Petiole colour - Light green
Leaf colour - Light green
Leaf shape - Lanceolate
Growth habit - zig-zag
Industrial product profile





Game changer
TMS13F1160P0004
Yield – 23.2 t/ha
Dry matter - 37 %
Starch - 26 %
Plant type - Compact
Stem colour - Light brown
Petiole colour – Red
Leaf colour - Light green
Leaf shape - Lanceolate
Growth habit - Zig-zag
Stable dry matter
Industrial product profile

PASSPORT DATA OF THE SELECETED CASSAVA GENOTYPES

Dixon
IBA980581
 Yield – 25.6 t/ha
 Dry matter - 28 %
 Starch - 20 %
 Plant type – Umbrella
 Stem colour - Grey
 Petiole colour – Purple
 Leaf colour – Light green
 Leaf shape – Lanceolate
 Growth habit – Straight
Granulated and paste product



Baba 70
IBA00070
 Yield – 30.2 t/ha
 Dry matter - 32 %
 Starch - 23 %
 Plant type - Compact
 Stem colour - Light brown
 Petiole colour - Purple
 Leaf colour - Light green
 Leaf shape - Lanceolate
 Growth habit - Zig-zag
Granulated and paste Product



Dr. Nabieu Kamara – Rice breeder

Candidate 1 – ISRIZ 6 – a release variety of Senegal, sponsored by KOPIA Ghana and SLARI

- ♦ Sources of Material from Ghana & Africa Rice
- ♦ The check use is resistant to iron toxicity (ROK 24)
- ♦ Resistant to common pest and diseases.
- ♦ Good eating quality
- ♦ Breeding objective was high yielding and good quality and climate resistance for Feed Salone
- ♦ Similar to ROK 14 in term of plant height
- ♦ Cultivated in Inland Valley Swamps and Boli lands
- ♦ High yielding and early maturing, heavy grain weight, medium height to avoid logging, with good cooking quality
- ♦ With 22% increase when compared to the check (ROK 24)
- ♦ 50kg of this breeder seeds are available, which will be multiple to foundation seeds
- ♦ Average potential of 6.5tons per hectare. Cultivated in all the regions, including Western Area.
- ♦ Spacing of 20cmx20cm, with fertilizer package 60:40:40 (NPK),
 - ♦ An average of 100days to harvesting
 - ♦ VCU is high yielding and early maturing, superior grain quality and resistant to disease

Candidate 2 – ISRIZ – 7 – released in Senegal

- ♦ Similar to ISRIZ - 6
- ♦ With additional advantage of being highly aromatic
- ♦ With medium height, hence escape logging
- ♦ Tillar very well and the panicles are bold
- ♦ It out-performs our own varieties.
- ♦ An average of 6 tons per hectare
- ♦ Farmer are appreciative of it height, owing to the fact that other varieties are prone to logging.
- ♦ Tried in all regions
- ♦ Seed set rate is high, about 85%

Candidate 3 CRI VARIETY

- ♦ Yield increase compare to the check is 28%
- ♦ An average yield of 7.4 tones, in Ghana it gives them 9 tons because their fertilizer rate is high. They are using 90:60:60, whiles we are using 60:40:40 (NPK). The best yield was 8.5 tons per hectare.

Candidate 4 KOREA Variety – a collaborative breeding work between Korea & Ghana.

- ♦ Early maturing, with very strong aroma
- ♦ An average yield of 7 tons per hectare

Poundable /MAADA CASSAVA TMEB693

To be Named: SLICASS 15

Yield - 22 t/ha

Dry matter - 20 %

Starch - 21 %

Plant type - Erect

Stem colour - Dark brown

Petiole colour - Purple

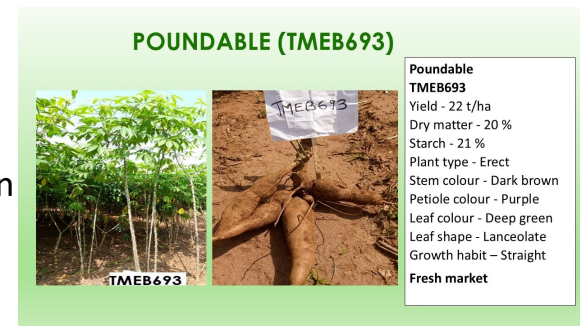
Leaf colour - Deep green

Leaf shape - Lanceolate

Growth habit – Straight

Fresh market

- ♦ **Suitable for boil and eat**
- ♦ **Erect plant type**
- ♦ **Good for mechanization**
- ♦ **Drought-tolerant**
- ♦ **Select environment, unstable fresh root yield Savana ,Transitional Rain Forest and Forested Zones**



- ♦ **Good for Savana ,Transitional Rain Forest and Forested Zones**

No Hunger IBA164773

Yield – 25.2 t/ha

Dry matter - 29 %

Plant type - Compact

Stem colour - Light brown

Petiole colour – Light Green

Leaf colour - Dark green

Leaf shape - Lanceolate

Growth habit - Zig-zag

Biofortified food processing



- ♦ **Potential root yield(29.78 t/ha);**
- ♦ **Dry matter content (27.63);wet starch (17.50); starch of dry roots (73.72 %);reducing sugar(5.23);Ash (3.19); Amylose (77.43); Amylopectin (22.57);PVA (15.65)**
- ♦ **Fair sprouting ability when planting is delay**
- ♦ **In ability to withstand drought conditions**
- ♦ **Savana ,Transitional Rain Forest and Forested Zones**

- ♦ Early maturing, with short duration
- ♦ An average of 115 day, can be cultivated 3 times per year when backed up with good irrigational system.
- Resistance to disease and climate (especially flooding)
- ♦ Do aroma test but limited to nutritional test

Candidate 5 AGRA – release in Ghana which was funded by AGRA

- ♦ Can survive iron
- ♦ Good keeping quality
- ♦ Good grain appearance
- ♦ Can survive iron toxicity

Candidate 6 – From University of Ghana (Legon)

- ♦ 15% increase in yield compare to the check
- ♦ With strong aroma, with high flavor (can it attract rodent and birds
- ♦ Early maturing

Candidate 7 SLIROK 1 - advance breeding line from AfricaRice

- ♦ Worked on it for more than 6 years now.
- ♦ About 7% increase compare to the check – 4 checks were used, comprising 3 ROK series, and 1 NERICA L 19

- ♦ It is a breeding line from China
- ♦ Strong long grain
- ♦ Leaving it as ROK 39.

Candidate 8 YASMIN variety

- ♦ Considered as ROK 40
- ♦ Superior aroma content
- ♦ About 8% increase when compared to the best check, which is L 19
- ♦ From China – the previous or pedigree name will be maintained.

Candidate 9 – from IKBA – in DUBAI

- ♦ Produce 4 tons in the mangrove and 6 tons in the Boli and IVS
- ♦ Ecology specific
- ♦ ROK 34 can do well in all agro-ecologies in the country, that is why it is popular.

Mr. Raymond Massaquoi – funded by International Atomic Energy Agency involvement (IAEA) with institutions involve- SLARI, & Njala University

Mutant varieties – the lines were subject to

- ♦ Primarily industrial – blend with food types. For Savana ,Transitional Rain Forest and Forested Zones

Game changer TMS13F1160P0004

Yield – 23.2 t/ha

Dry matter - 37 %

Starch - 26 %

Plant type - Compact

Stem colour - Light brown

Petiole colour – Red

Leaf colour - Light green

Leaf shape - Lanceolate

Growth habit - Zig-zag

Stable dry matter

Industrial product profile

- ♦ High starch and stable yield
- ♦ Creamy color retention
- ♦ Pest and disease resistant
- ♦ Good for dense planting
- ♦ Requires awareness and promotion.



- ♦ **Very high yielding**
- ♦ **Early bulking**
- ♦ **Good dry matter**
- ♦ **High stem sprouting rate**

Obasanjo 2 TMS13F1342P0022

Yield – 35.1 t/ha

Dry matter – 33 %

Starch – 24 %

Plant type - Umbrella

Stem colour - Light brown

Petiole colour - Light green

Leaf colour - Light green

Leaf shape - Lanceolate

Growth habit - zig-zag

Industrial product profile

- ♦ **High starch conversion**
- ♦ **Stays in soil for 18 months**
- ♦ **Good for HQCF and feed**
- ♦ **Low water content – easy to toast**



Radiosensitivity Testing

Dosimetry (Does Gy)

RiMUT – 001 or (RiMUT SL 1)

- ♦ With excellent cooking quality
- ♦ Long white grain,
- ♦ With 80% starch content
- ♦ 90% seed rate
- ♦ Starch content of 78%
- ♦ Yield potential of 7.9 tons per hectare
- ♦ Amalo content of 23%, and 90% seed set rate

Candidate 2 - RiMUT 002 - Gy (RiMUT SL 2)

- ♦ High yielding
- ♦ Early maturing
- ♦ 78% starch content
- ♦ 6.5 tons per hectare
- ♦ With amalos content 12.4
- ♦ Seed rate is 85%
- ♦ Early maturing making it more suitable for lowland ecologies in Sierra Leone.
- ♦ For limitation – it is high making it susceptible to logging
- ♦ Produce broken grains when processed.

Name and signature of Breeder: Nabieu Kamara

Name and signature of Contributors: Musa Swaray, Abdul Coolson Kamara, Sayo Sesay, Adam Sheka Kanu, Tidankay Cherinoh Yanka Kallon, Alex Tamu, Ibrahim Soe, Kemoh Bangura, Victor Dallo Samura, Alie Mohamed Conteh, Moses Gborie and Abdul Rahman Conteh

Name and signature of Head of Institution: Abdul Rahman Conteh-Ag. DG Sierra Leone Agricultural Research Institute

Maize varieties nominated for release

1. PVA SYN 3

Objective for breeding: High-yielding, superior grain quality, disease-resistant, climate-resilient maize variety to boost food security and farmer income.

- ♦ **Sponsored by** SLARI and SLARIS,
- ♦ Open Pollinated Variety
- ♦ **Center:** Rokupr Agricultural Research Centre
- ♦ Quantity of breeder seed **Stock: 30 Kg**
- ♦ Fertilizer doses: NPK 15:115:15 @ 200 kg
- ♦ Pest and disease control:

- ♦ **Ideal for food processing and intercropping systems.**
- ♦ **Creamy-colored food**
- ♦ **CMD resistance**
- ♦ **Fast sprouting**
- ♦ **High yield and intercropping ability**

Baba 70 (IITA-TMS-IBA000070)

IBA000070

Yield – 30.2 t/ha

Dry matter - 32 %

Starch - 23 %

Plant type - Compact

Stem colour - Light brown

Petiole colour - Purple

Leaf colour - Light green

Leaf shape - Lanceolate

Growth habit - Zig-zag

Granulated and paste Product

- **farmer-preferred,**
- **high-yielding variety for gari and fufu with strong stem business potential.**

Baba 70
IBA000070
 Yield – 30.2 t/ha
 Dry matter - 32 %
 Starch - 23 %
 Plant type - Compact
 Stem colour - Light brown
 Petiole colour - Purple
 Leaf colour - Light green
 Leaf shape - Lanceolate
 Growth habit - Zig-zag
 Granulated and paste Product



Overview of the Improved Cassava Genotypes Co-Developed by IITA, SLARI and NRCRI, currently been evaluated, tested and adapted in Sierra Leone 2021 - 2025

Dixon

TMSIBA980581 (Dixon)

IBA980581

Yield – 25.6 t/ha

Dry matter - 28 %

Starch - 20 %

Plant type – Umbrella

Stem colour - Grey

Petiole colour – Purple

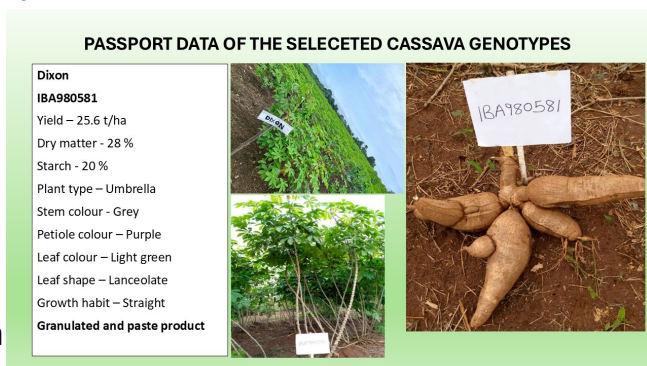
Leaf colour – Light green

Leaf shape – Lanceolate

Growth habit – Straight

Granulated and paste product

- ♦ A drought-tolerant,
- ♦ high-yielding cassava



- ♦ High-yielding
- ♦ Early maturity
- ♦ Pro vitamin A
- ♦ Orange grain
- ♦ Excellent grain appearance
- ♦ Good eating quality
- ♦ Moderate resistance to fall armyworm (FAW) Excellent grain appearance
- ♦ Good eating quality
- ♦ Moderate resistance to fall armyworm (FAW)



2. PVA SYN-9

Objective for breeding: High-yielding, superior grain quality, disease-resistant, climate-resilient maize variety to boost food security and farmer income.

- ♦ Proposed Name: SLIMA 2/ PVA SYN-9
- ♦ **Sponsored by** SLARI and SLARIS,
- ♦ Open Pollinated Variety
- ♦ **Center:** Rokupr Agricultural Research Centre
- ♦ Quantity of breeder seed
- ♦ Quantity of breeder seed **Stock: 30 Kg**
- ♦ Fertilizer doses: NPK 15:115:15 @ 200 kg

- ♦ Pest and disease control
- ♦ Harvesting: 110
- ♦ Seed rate: 20 kg/ha
- ♦ Spacing: 75 cm x 50 cm spacing
- ♦ High-yielding,
- ♦ Early maturity
- ♦ Good response to fertilizer
- ♦ resistance to lodging
- ♦ Pro vitamin A
- ♦ Orange grain
- ♦ Excellent grain appearance
- ♦ Good eating quality



3. PVA SYN 13

Objective for breeding: High-yielding, superior grain quality, disease-resistant, climate-resilient maize variety to boost food security and farmer income

Proposed Name: SLIMA 3/ PVA SYN-13

Source of material: IITA

Open Pollinated Variety

Average yield: 4.7 t/ha

Seed rate: 20 kg/ha

Target ecology(s) in Sierra Leone: Broad adaptation in the up-lands of Sierra Leone

Limitation & Solution - rot easily after maturity

-Early harvest

- ♦ **High yielding**
- ♦ **low water content**
- ♦ **Pest and disease resistant**
- ♦ **Fast sprouting**
- ♦ **Early maturity**
- ♦ **High starch content**
- ♦ **Consistent starch content, erect plant type and excellent processing efficiency**

PASSPORT DATA FOR MUCASS 1



MUCASS 1
MUT - 008
Yield – 27 t/ha
Dry matter - 31 %
Starch - 24 %
Plant type - Umbrella
Stem color - Light brown
Petiole color – Reddish Pink
Leaf color - Bright green
Root cortex color – Reddish Pink
Leaf shape - Lanceolate
Growth habit - Straight
Granulated and paste Product



- **creamy color food**
- **low water content**
- **Good for inter cropping**
- **High yielding**
- **High starch content**
- **Pest and disease resistant**
- **Ideal for mechanized farming because of its growth habit, ideal for food processing because of its soon cooking ability and good taste**

MUT -0011

Breeding Objective

High yield

Resistance to CMD

Wide adaptability in the upland Agro ecologies of

Sierra Leone

Mechanization Compatibility

Average yield potential – 29 t/ha

Plant type – compact

Dry matter- 27.6%

Stem colour – red

Starch % - 23

Spacing: 75 cm x 50 cm spacing.

Harvesting: 110 days

Fertilizer doses: NPK 15:115:15 @ 200 kg

- ♦ High-yielding,
- ♦ Early maturity
- ♦ Good response to fertilizer
- ♦ Resistance to lodging

also with

- ♦ Pro vitamin A
- ♦ Orange grain
- ♦ Excellent grain appearance
- ♦ Good eating quality

4. SAMMAZ 52

Objective for breeding: High-yielding, superior grain quality, disease-resistant, climate-resilient maize variety to boost food security and farmer income

Proposed name: SLIMA 4/ SAMMAZ 52

Source of material: IITA

Maturity (from seed to seed) – 90 – 100 days

Harvesting: 110 days

Average yield: 5.2 t/ha



- ♦ High-yielding,
- ♦ Early maturity
- ♦ Good response to fertilizer
- ♦ resistance to lodging

2 cob per plant

- ♦ Intermediate levels of Pro Vitamin A
- ♦ Light orange grain
- ♦ Excellent grain appearance
- ♦ Good eating quality



5. M1627-8

Objective for breeding: High-yielding, superior grain quality, disease-resistant, climate-resilient maize variety to boost food security and farmer income

Proposed name: SLIMA H1/ M1627-8

Funded by: AGRA and SLARI

Institution responsible for developing variety: RARC, Rokupr

Average yield: 7.0 t/ha

Suitability for rainfed upland and minor/off season IVS

- ♦ High-yielding
- ♦ Early maturity
- ♦ Good stand ability

- ♦ **Good stem sprout**
- ♦ **High starch content**
- ♦ **CMD resistant**
- ♦ **Strong stem, high yielding, drought-tolerant ideal for foo foo, garie and starch processing (commercial purpose)**

MUT – 008: MUCASS 1

Breeding Objective

High yield

Resistance to CMD

Wide adaptability in the upland Agro ecologies of Sierra Leone

Mechanization Compatibility

Average yield potential – 27t/ha

Plant type – umbrella

Dry matter- 31%

Stem colour – Light grey

Starch % - 24

Target ecology in Sierra Leone: Upland ecologies of Sierra Leone

Limitation & Solution – Fair sprouting

Cassava varieties

MUT – 005: MUCASS 1

Breeding Objective

- ♦ High yield
- ♦ Resistance to CMD
- ♦ Wide adaptability in the upland Agro ecologies of
- ♦ Sierra Leone
- ♦ Mechanization Compatibility
- ♦ Average yield potential – 34t/ha
- ♦ Plant type – umbrella
- ♦ Dry matter- 35%
- ♦ Stem colour – brown
- ♦ Starch % - 21
- ♦ Target ecology: Broad adaptation in all the upland ecologies of Sierra Leone
- ♦ Limitation & Solution: no intercropping
- ♦ -poor cooking ability
- ♦ **High yielding ability**
- ♦ **Early Bulking**
- ♦ **good dry matter**
- ♦ **Stays in soil for 24monts**

- ♦ White grain
- ♦ Drought tolerant
- ♦ Good husk cover
- ♦ Excellent grain appearance
- ♦ Good eating quality

6. LW2202 (Hybrid)

Objective for breeding: High-yielding, superior grain quality, disease-resistant, climate-resilient maize variety to boost food security and farmer income

Proposed name: SLIMA H2/ LW2202

Sponsored by: AGRA and SLARI

Institution responsible: RARC, Rokupr

Source of material in case of an introduction: AGRA and SSG

Recommended production ecology: Rainfed upland and minor/off season IVS

Harvesting: 100 days

Fertilizer dose NPK 15:115:15 @ 200 kg

Average yield: 7.8 t/ha

- ♦ High-yielding
- ♦ Early maturity
- ♦ White grain

- ♦ Drought tolerant
- ♦ Excellent grain appearance
- ♦ Good eating quality

7. LW2206 (Hybrid)

Objective for breeding: High-yielding, superior grain quality, disease-resistant, climate-resilient maize variety to boost food security and farmer income

Proposed name: SLIMA H3/ L LW2206

Sponsored by: AGRA and SLARI

Institution responsible: RARC, Rokupr

Source of material in case of an introduction: AGRA and SSG

Recommended production ecology: Rainfed upland and minor/off season IVS

Harvesting: 100 days

Fertilizer dose NPK 15:115:15 @ 200 kg

Average yield: 6.1 t/ha

- High-yielding,
- Early maturity
- Good response to fertilizer
- resistance to lodging
- Good stand ability

Yield potential: 7.9 t/ha;

Plant Height: 130 cm,

Tolerant to pest & diseases; tolerant to lodging;

Excellent grain appearance;

Cooking quality: Good;

RiMUT 005

Proposed name: **RiMUT SL 1**

High-yielding, yield potential 5.5

Early maturity days; 1000 grain weight: 28g; Grain shape: Long

Upland ecologies in all the regions of Sierra Leone

Yield potential: 8 t/ha;

Plant Height: 120cm,

Tolerant to pest & diseases; tolerant to lodging;

Excellent grain appearance;

Cooking quality: Good;

Breeder(s) Involved

Janatu Veronica Sesay (lead) – Plant Expert SLeSCA

Joseph Sherman-Kamara – Postharvest Specialist

Georgiana Allie – Postharvest Specialist Njala University

Raymond Massaquoi – Research officer SLARI

Sallieu Karteh – Agronomic Engineer/Postharvest Specialist
Njala University)

RiMUT 002

- ♦ Breeding objective
- ♦ High yield
- ♦ Resistance to pest and diseases
- ♦ Wide adaptability in the upland Agro ecologies of
Sierra Leone
- ♦ Mechanization Compatibility
- ♦ High amylose content

Proposed name of Varieties

BIMPONG

High-yielding,

Early maturity days (13 weeks); 1000 grain weight: 33g; Grain
shape: Long

Preferred ecology: Upland and Boli/Batti land

Also

- ⇒ White grain
- ⇒ Excellent grain appearance
- ⇒ Good cooking quality
- ⇒ Good eating quality

8. A2106-6 (Hybrid)

Objective for breeding: High-yielding, superior grain quality,
disease-resistant, climate-resilient maize variety to boost food
security and farmer income

Proposed name: SLIMA H4/ L A2106-6

Sponsored by: AGRA and SLARI

Institution responsible: RARC, Rokupr

Source of material in case of an introduction: AGRA and SSG

Recommended production ecology: Rainfed upland and minor/
off season IVS

Harvesting: 100 days

Fertilizer dose NPK 15:115:15 @ 200 kg

Source of material

