



# Banana and Plantain technologies Toolkit

This toolkit is a collection of technologies designed to optimize banana and plantain cultivation across Africa. These technologies have been selected to address the challenges encountered in banana and plantain production, ensuring a more resilient and profitable banana and plantain sector. By integrating these technologies into your projects or business plans, you can maximize...

10 TECHNOLOGIES | CREATED ON JUN 18, 2024 BY TAAT PROFILING TEAM | LAST UPDATED JUL 24, 2025



## TECHNOLOGIES IN THIS TOOLKIT

- **Multi-Crop production system:**  
Intercropping Strategies for Banana and Plantain
- **Spacing and Stand Management**  
in Banana and Plantain
- **Propagation of Banana and Plantain**  
Disease-Cleaned...
- **Induced Ripening of Banana for**  
Increased Marketability and...
- **Banana Peels as Feed and Organic Resource**
- **Improved Varieties of Banana for the African Highlands**
- **Improved Varieties of Plantain for Tropical Lowlands**
- **In-Vitro Banana Tissue Culture Propagation**
- **Specialty Fertilizers and Local Blending for Banana and...**
- **Biological control of the pod borer Maruca vitrata with exot...**



<https://taat.africa/vna>

# Multi-Crop production system: Intercropping Strategies for Banana and Plantain

Improved system production for better yield

Intercropping, growing bananas or plantains alongside other plants, offers farmers numerous benefits but also poses challenges like nutrient competition, disease spread, and careful handling during planting and harvesting to avoid root damage.



Banana with common bean understory  
(Credit: B. Dhed'a)

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Godfrey Taulya

Technology from

[ProPAS](#)

Commodities

Banana/Plantain

Sustainable Development Goals



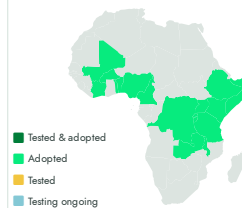
Categories

Production, Practices, Weed management,  
Soil fertility

Best used with

- [Biofortified Beans for Improved Nutrition >](#)
- [Orange-Fleshed Sweet Potato \(High provitamin A\) >](#)
- [Disease resistant cassava varieties >](#)
- [High yield rice varieties for Africa >](#)

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



This technology is **TAAT1 validated**.

5/7



Scaling readiness: idea maturity  
5/9; level of use 7/9

Gender assessment

4

Climate impact

7

## Problem

- Competition for nutrients and water
- Weed proliferation
- Soil degradation and erosion
- Vulnerability to pests and diseases
- Dependency on external inputs
- Susceptibility to extreme weather
- Loss of biodiversity

## Solution

- Allows for early yields before banana crops, while suppressing weeds.
- Canopies and roots protect against soil erosion.
- Legume intercrops provide nitrogen through biological fixation.
- Biomass from intercrops serves as mulch and organic nutrients.
- Intercropping diversifies farmers' income sources.
- Reduces disease spread, Enhances soil health.
- Strengthens food systems' resilience....

## Key points to design your project

To integrate Intercropping Strategies for Banana and Plantain into your project, follow these steps:

1. Educate farmers about the benefits, emphasizing increased productivity and reduced chemical use.
2. Provide tailored extension support for variety selection and best practices.
3. Facilitate seed production and ensure accessibility of inputs.
4. Allocate funds for training and ongoing support.
5. Develop communication materials to promote adoption.
6. Establish partnerships with farmers.
7. Consider integrating with other complementary technologies for optimal results.



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Multi-Crop production system

<https://taat.africa/asc>

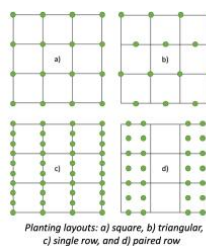
Last updated on 22 May 2024, printed on 15 May 2025

Enquiries [e-catalogs@taat.africa](mailto:e-catalogs@taat.africa)

# Spacing and Stand Management in Banana and Plantain

Optimized Spacing, Maximum Yield

This technology optimizes banana and plantain plant spacing to boost yield, considering factors like plant variety, climate, and soil fertility. It uses various planting systems and may require herbicide use and stem base "earthing-up" in windy areas.



✓ This technology is **TAAT1 validated**.

8•9



Scaling readiness: idea maturity 8/9; level of use 9/9

Gender assessment

3

Climate impact

7

## Problem

- High plant densities cause uneven growth, delayed maturity, and increased labor.
- Low densities lead to weed competition and yield variability.
- Unmanaged stands accumulate pests and diseases.
- Insufficient wind protection damages plants.

## Solution

- Proper spacing promotes uniform growth, reduces labor, and optimizes yield.
- Adequate spacing minimizes resource competition and maximizes sunlight exposure.
- Square block planting provides wind protection.
- Spacing aids in weed management and pest/disease control.

## Key points to design your project

The Spacing and Stand Management technology in Banana and Plantain farming boosts yield and mitigates climate impact, aiding both small-scale and large-scale producers. It contributes to SDGs 2 (Zero Hunger) and 13 (Climate Action) by maximizing yield and improving resource efficiency.

For successful implementation in Africa, the following steps are crucial:

- Engaging stakeholders
- Training farmers
- Setting up demonstration plots
- Providing support services
- Conducting regular monitoring and evaluation

The cost of training varies based on several factors. It's advisable to reach out to the technology provider or a local agricultural extension service for detailed information.

**100 t/ha/year**

Dwarf Cavendish planted at 2500 to 4400 plants per ha



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Technology from

ProPAS

Commodities

Banana/Plantain

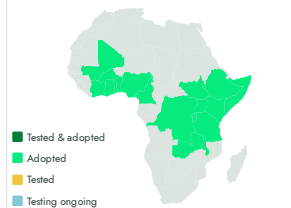
Sustainable Development Goals



Categories

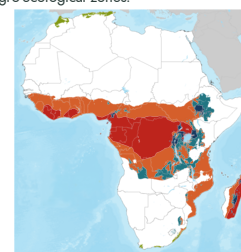
Production, Practices, Yield improvement

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers



Spacing and Stand Management in Banana and Plantain

<https://taat.africa/wzc>

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Enquiries [e-catalogs@taat.africa](mailto:e-catalogs@taat.africa)

# Propagation of Banana and Plantain Disease-Cleaned Suckers

## Propagate Success with Clean Suckers

Macro-propagation involves two techniques: field-based (decapitation) and detached corm (beds). It ensures disease-free seedlings, promoting uniform growth and stress resistance. Clean knives and hardened sprouts are vital for success.



Complete decapitation with excised meristem (top) and sprouting suckers (bottom)



This technology is **TAAT1 validated**.

8-8



Scaling readiness: idea maturity 8/9; level of use 8/9

Gender assessment

4

Climate impact

7

## Problem

- Natural regeneration often results in contaminated banana and plantain planting materials, harming productivity and lifespan.
- Traditional methods result in non-uniform growth, affecting the overall efficiency of banana and plantain cultivation.
- Conventional methods may lead to stress-prone plantlets, negatively impacting their adaptation and performance in the field.

## Solution

- Macro-propagation ensures the production of banana and plantain seedlings free from pests and diseases, promoting healthier and more resilient crops.
- Macro-propagation contributes to increased productivity and prolonged lifespan of banana and plantain plants.
- This technique reduces financial barriers by offering a low-cost method of obtaining disease-free seedlings.
- Macro-propagation ensures more uniform growth of banana and plantain seedlings.

## Key points to design your project

The adoption of Propagation of Disease-Cleaned Suckers technology presents an opportunity to enhance banana and plantain production. To integrate this technology into your project, consider the following steps:

- Ensure access to disease-free suckers for banana and plantain farmers at affordable prices.
- Educate farmers about the benefits of using disease-cleaned suckers and encourage their adoption of this technology.
- Provide training and certification to farmers on proper sucker selection and planting techniques to maximize yield.
- Collaborate with agricultural extension services to disseminate information and support the implementation of disease-cleaned sucker propagation.

Cost: \$\$\$ **1500 USD per 8000**

plantlets

Nursery four months maintenance

**340 USD**

2,500 plantlets shade house

ROI: \$\$\$ **725—1050 USD**

Net profit per cycle

**2,300 USD**

Cost of chamber of 8,000 plantlets



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Amah Delphine

Technology from

ProPAS

Commodities

Banana/Plantain

Sustainable Development Goals



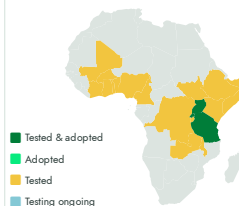
Categories

Production, Practices, Seed system

Best used with

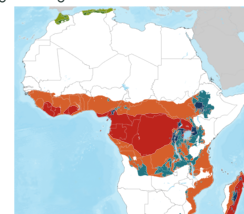
- [Improved Varieties of Plantain for Tropical Lowlands >](#)
- [Improved Varieties of Banana for the African Highlands >](#)

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Propagation of Banana and Plantain Disease-Cleaned Suckers

<https://taat.africa/le>

Last updated on 2 August 2024, printed on 15 May 2025

Enquiries [ecatalogs@taat.africa](mailto:ecatalogs@taat.africa)



# Induced Ripening of Banana for Increased Marketability and Storage

## Ripening Solutions for Quality and Efficiency

The Induced Ripening of Banana for Increased Marketability and Storage technology is a method designed to enhance the ripening process of bananas, specifically dessert bananas, to ensure they are market-ready and have an extended shelf life. In this process, bananas are artificially ripened using various chemical agents, most notably ethylene gas.



Industrial ripening chamber with refrigeration and gas control (Credit: Nilkamal)



This technology is **TAAT1 validated**.

8-8



Scaling readiness: idea maturity 8/9; level of use 8/9

Gender assessment



Climate impact



### Problem

- Bananas, especially plantains, suffer significant post-harvest losses due to transportation damage and spoilage.
- Traditional ripening methods, such as wrapping banana bunches with green leaves, are time-consuming and result in non-uniform ripening.
- Consumers prefer ready-to-eat bananas, and fruit sellers need a consistent supply of ripe fruit to meet this demand.

### Solution

- Artificial ripening with ethylene gas ensures that bananas are ready for the market, reducing the risk of post-harvest losses.
- The technology allows for the acceleration or slowing down of the ripening process based on market demand, optimizing the supply chain.
- The technology meets consumer demand for ready-to-eat bananas, benefiting both fruit growers and sellers.

### Key points to design your project

The technology of induced ripening offers cost-effective solutions for enhancing the marketability and storage of bananas, empowering farmers and aiding in poverty alleviation. Steps to integrate this technology include:

- Conducting market assessments, developing a business plan,
- Allocating resources for training and support,
- Collaborating with agricultural institutions.

Cost: \$\$\$ **3,500 USD**

Constructing artisanal chambers

**17,000 USD**

Industrial semi-automated ripening chambers of 5 tones of banana



Trademark

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Pachimaporn Udomkun

Technology from

ProPAS

Commodities

Banana/Plantain

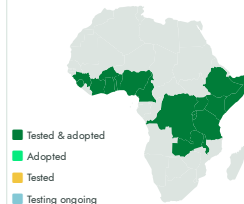
Sustainable Development Goals



Categories

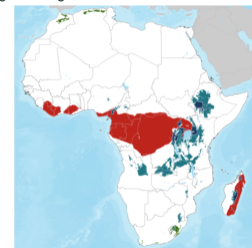
Prevention & storage, Practices, Post-harvest management

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Farmers, Sellers



Induced Ripening of Banana for Increased Marketability and Storage

<https://taat.africa/qwk>

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Enquiries [e-catalogs@taat.africa](mailto:e-catalogs@taat.africa)

# Banana Peels as Feed and Organic Resource

From Waste to Resource

Banana and plantain peels offer a sustainable solution to waste disposal, serving as valuable resources for animal feed, soil input, and cooking ingredients. Proper processing detoxifies the peels, making them suitable for consumption by animals and contributing to waste reduction in regions where plantains and cooking bananas are common.



An industrial green banana peeler able to process 600 units per hour

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John Derera



This technology is **TAAT1 validated**.

**7.8**



Scaling readiness: idea maturity 7/9; level of use 8/9

Gender assessment

**3**

Climate impact

**7**

## Problem

- Waste accumulation due to the disposal of banana and plantain peels.
- Concerns regarding the chemical composition and nutrient ratios of the peels, especially when used as animal feed.
- Difficulty in removing peels from green bananas and plantains, leading to inefficiencies in processing.
- Restrictions on using raw peels in poultry feed due to the presence of anti-nutritional compounds like tannins and oxalate.
- Challenges in effectively utilizing peels, such as feed refusal due to high tannin content and the need for proper processing techniques to detoxify peels.

## Solution

- Banana and plantain peels are valuable components in livestock and poultry diets.
- Dried peels contain essential nutrients like potassium, phosphorus, iron, calcium, magnesium, and sodium.
- Utilizing peels reduces waste accumulation and promotes sustainable resource management.
- Treated and composted peels serve as beneficial organic inputs for soil improvement.
- Green peels provide an energy source in animal diets due to their carbohydrate content.
- Fresh peels with high moisture content help animals stay hydrated.
- In smaller quantities, peels find use in cooking, water purification, and manufacturing beauty and health products.

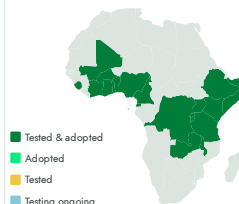
Sustainable Development Goals



Categories

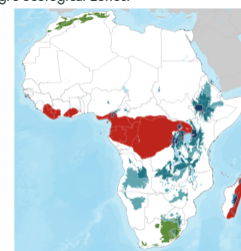
Pre-production, Equipment, Agrifood processing

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Target groups

Breeders

## Key points to design your project

- Technology utilizes banana and plantain peels for animal feed and compost.
- Enhances food security and promotes sustainable resource management.
- Improves soil health, aids carbon sequestration, and supports climate resilience.
- Steps to incorporate technology include understanding nutrient composition, sourcing machinery, and marketing products.
- Costs vary for machinery, with single belt peelers at USD 3500 and larger multi-channel machines at USD16,000.
- Consider delivery expenses and collaborate with agricultural institutions for widespread adoption.

Cost: **\$\$\$ 3,500 USD**

A single belt 0.37 kWatt peeler

**16,000 USD**

Larger multi-channel 2.0 kWatt machines



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Banana Peels as Feed and Organic Resource

<https://taat.africa/xlj>

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Enquiries [e-catalogs@taat.africa](mailto:e-catalogs@taat.africa)

# Improved Varieties of Banana for the African Highlands

Cultivate superior banana varieties for abundant yields and enhanced food security.

The NARITA technology is a improved varieties for banana. NARITA hybrids are selected for their culinary quality, color, aroma, taste, texture, and mouthfeel. This technology enables the production of high-yielding bananas resistant to diseases and pests.



Progressive gain in bunch weight of cooking banana through selective breeding. A: grandparent, B: parent, and C: hybrid



**Tanzania Agricultural Research Institute**  
Mpoki Shimwale

Technology from

[ProPAS](#)

Commodities

Banana/Plantain

Sustainable Development Goals



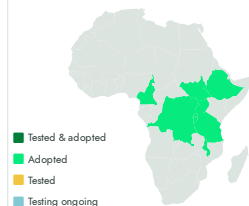
Categories

Production, Improved varieties,  
Disease resistance, Yield improvement

Best used with

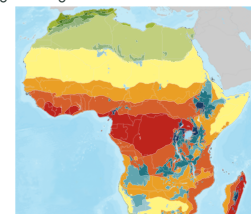
- [In-Vitro Banana Tissue Culture Propagation >](#)
- [Propagation of Banana and Plantain Disease-Cleaned Suckers >](#)

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



✓ This technology is **TAAT1 validated**.

8-8



Scaling readiness: idea maturity 8/9; level of use 8/9

Gender assessment

4

Climate impact

7

## Problem

- Low Banana Yields of Traditional varieties: 5-30 tons per hectare
- Traditionnal varieties are susceptible to Pests and Diseases (black leaf streak, nematodes, and bunchy top disease)
- Inadequate soil fertility hampers banana production, posing a challenge for traditional varieties

## Solution

- NARITA offers disease-resistant hybrids can yield up to 70 tons per hectare
- These varieties are specifically bred to resist black leaf streaks, nematodes, and bunchy top disease
- Disease-resistant hybrids exhibit greater resilience in nutrient-depleted soils

## Key points to design your project

The adoption of NARITA banana technology offers opportunities to improve banana cultivation practices, especially in areas affected by diseases. To integrate NARITA technology into your project, consider activities such as:

- Identifying suitable cultivars, raising awareness among stakeholders, establishing local training hubs, and distributing clean planting materials.
- Collaboration with breeders and research institutions is essential to develop tailored NARITA banana varieties.
- Additionally, estimating costs for technology adoption, including inputs and labor, is crucial for project planning.

Cost: \$\$\$ **290—1000 USD**  
per hectare for planting material.

**68—117 %**  
Yield increased

**670—3300 USD**  
per hectare for inputs

**700—1300 USD**  
per hectare for labor



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Improved Varieties of Banana for the African Highlands

<https://taat.africa/dqk>

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Enquiries [e.catalogs@taat.africa](mailto:e.catalogs@taat.africa)

# Improved Varieties of Plantain for Tropical Lowlands

## Better Plantain Varieties for Thriving Farmers

The "Improved Varieties of Plantain for Tropical Lowlands" makes stronger and healthier plantains that can resist diseases and pests. It does this by mixing different kinds of plantains to create new varieties. These special plantains grow well in different climates and have more leaves and fruits.



This technology is **TAAT1 validated**.

8•8



Scaling readiness: idea maturity 8/9; level of use 8/9

Gender assessment

3

Climate impact

7

### Problem

- Black leaf streak disease causing significant yield losses ranging from 33% to 50%.
- Weevils and nematodes undermining corm and root systems.
- Declining soil fertility due to poor management practices.

### Solution

- This technology aims to combat black leaf streak disease, weevils, and nematodes.
- Focus on high productivity and drought resilience to mitigate yield losses.
- Emphasis on preferred cooking traits to meet consumer preferences.
- Adaptation to diverse climatic and production conditions.

### Key points to design your project

The adoption of improved plantain varieties offers significant benefits for food security and income in disease-prone areas with fluctuating climates. Here's a concise summary:

#### Key Activities:

- **Selecting suitable cultivars** based on climate, management, production goals, and market needs.
- **Educating stakeholders**—multipliers, farmers, processors—about the advantages like disease resistance and higher yields.
- **Creating training hubs** for seed multipliers and farmers on propagation techniques and best farming practices.

A dedicated team of trainers should be engaged to provide comprehensive training and support during the project implementation. The budget should cover the costs for training sessions and post-training assistance.

**290—1000 USD**

Planting material/ha

ROI: \$\$\$

**500 %**

Benefit to cost advantages starts from the second cycle harvest onwards

**1400 USD**

Production inputs and labor per ha



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**International Institute of Tropical Agriculture (IITA)**  
Moses Nyine

Technology from

ProPAS

Commodities

Banana/Plantain

Sustainable Development Goals



Categories

Production, Improved varieties,

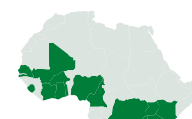
Disease resistance, Insect resistance, + 0

more

Best used with

- [In-Vitro Banana Tissue Culture Propagation >](#)
- [Propagation of Banana and Plantain Disease-Cleaned Suckers >](#)
- [Intercropping Strategies for Banana and Plantain >](#)
- [Spacing and Stand Management in Banana and Plantain >](#)
- [Banana Peels as Feed and Organic Resource >](#)
- [Value-added Processing of Bananas and Plantain >](#)

Tested/adopted in



Improved Varieties of Plantain for Tropical Lowlands

<https://taat.africa/tfo>

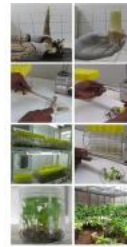
Last updated on 23 August 2024, printed on 15 May 2025

Enquiries [e-catalogs@taat.africa](mailto:e-catalogs@taat.africa)

# In-Vitro Banana Tissue Culture Propagation

A rapid quality plantlets delivery technology for banana

In-Vitro Tissue Culture Propagation involves a series of steps including initiation, multiplication, shooting and rooting, and hardening, all performed in controlled, sterile laboratory conditions to produce disease-free banana and plantain plantlets.



Steps of in-vitro tissue culture propagation: a) Removal of shoot, b) Sterilization of explant, c) Disinfection and immersion in growth media, d) Transfer to sterile tubes with growth media, e) Culturing in controlled condition, f) and g) Transfer of plantlets for production of shoots by subculturing in air, and h) Hardening of plantlets in greenhouse (Credit: A. Shafiq)



This technology is **TAAT1 validated**.

8-8



Scaling readiness: idea maturity 8/9; level of use 8/9

Gender assessment

4

Climate impact

7

## Problem

- Traditional crops were more susceptible to extreme weather conditions, leading to significant crop damage and reduced yields.
- Traditional propagation methods were more susceptible to diseases, resulting in widespread outbreaks
- Natural disasters and disease outbreaks often led to slow recovery in agricultural systems

## Solution

- In vitro micro-propagation eliminates all pests and diseases except for viruses.
- TC plants have the benefits of uniformity and fast propagation of large numbers of plantlets.
- These advantages enable marketing and more rapid recovery from broad-scale damage such as disease outbreak and extreme weather.

## Key points to design your project

The adoption of in-vitro propagation technology offers a significant opportunity to enhance banana and plantain production while reducing losses from pests and diseases. To integrate this technology into your project, consider steps such as

- Business planning and market analysis, securing financing for equipment acquisition,
- Staff training on handling and quality control,
- Farmer awareness campaigns on planting and propagation of tissue culture (TC) plantlets,
- Additionally, explore partnerships with agricultural research institutes and government agencies to promote widespread adoption and improvement of banana and plantain production nationwide.

Cost: \$\$\$ **1,3 USD**

Per plantlets

**3000 Tissue Culture plantlets**

A nursery business can produce 3,000 TC plantlets per cycle

ROI: \$\$\$ **40 %**

Profit



No formal IP rights

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Amah Delphine

Technology from

ProPAS

Commodities

Banana/Plantain

Sustainable Development Goals



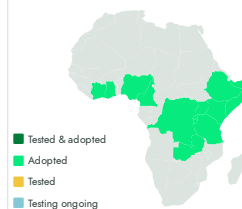
Categories

Production, Practices,  
Pest control (excluding weeds),  
Yield improvement

Best used with

- [Improved Varieties of Plantain for Tropical Lowlands >](#)
- [Improved Varieties of Banana for the African Highlands >](#)
- [Propagation of Banana and Plantain Disease-Cleaned Suckers >](#)

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



In-Vitro Banana Tissue Culture Propagation

<https://taat.africa/ucz>

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Enquiries [e\\_catalogs@taat.africa](mailto:e_catalogs@taat.africa)

# Specialty Fertilizers and Local Blending for Banana and Plantain

Fertilize for Success: Banana & Plantain Boost

The technology of Specialty Fertilizers and Local Blending for Banana and Plantain involves creating tailored fertilizer blends to enhance banana and plantain yield in Sub-Saharan Africa. It adapts to soil characteristics, improves crop resilience, and increases productivity and nutritional value. It's a cost-effective solution for farmers.



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Godfrey Taulya

Technology from

[ProPAS](#)

Commodities

Banana/Plantain

Sustainable Development Goals



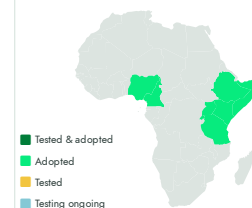
Categories

Production, Inputs, Fertilizer

Best used with

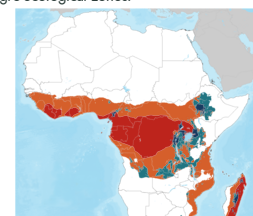
- [Improved Varieties of Plantain for Tropical Lowlands >](#)
- [Improved Varieties of Banana for the African Highlands >](#)

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



This technology is **TAAT1 validated**.

8-9



Scaling readiness: idea maturity 8/9; level of use 9/9

Gender assessment

4

Climate impact

7

## Problem

- **Nutrient Deficiency:** Poor soil nutrients lead to low crop yields.
- **Environmental Stresses:** Crops are vulnerable to drought, pests, and diseases.
- **Climate Change:** Drought due to climate change affects crop health and productivity.

## Solution

- **Nutrient Supply:** Provides balanced nutrients, improving crop growth and yield.
- **Crop Resilience:** Strengthens crop resilience to environmental stresses.
- **Climate Adaptability:** Helps crops withstand impacts of climate change.

## Key points to design your project

The Specialty Fertilizers and Local Blending for Banana and Plantain technology contributes to several Sustainable Development Goals (SDGs) by improving crop yields, promoting gender equality, and having a positive impact on the climate. It enhances productivity and resilience of crops, contributing to zero hunger and economic growth.

To implement this technology:

- Identify potential partners
- Launch an awareness campaign and training programs,
- Develop the right blends of fertilizer and leverage the manufacturer's distribution network,
- Set up demonstration plots,
- Establish a feedback mechanism, and regularly monitor and evaluate the impact of the technology.

**6 ton/ha**

yield increase



IP

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Specialty Fertilizers and Local Blending for Banana and Plantain

<https://taat.africa/kak>

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# Biological control of the pod borer *Maruca vitrata* with exotic parasitoids

Low-cost natural pest control



The "Biological control of *Maruca vitrata* pod borer with parasitoids" technology involves releasing lab-reared parasitic wasps to naturally control pod borer pests in cowpea fields. By establishing a self-sustaining wasp population, it reduces the need for chemical pesticides. Combined with pest-resistant cowpea varieties and eco-friendly products, this approach offers sustainable crop protection.



This technology is **TAAT1 validated**.

7·7



Scaling readiness: idea maturity 7/9; level of use 7/9

Gender assessment



Climate impact



## Problem

- **Damage from *Maruca vitrata*:** The pod borer *Maruca vitrata* causes substantial damage to cowpea crops, resulting in yield losses of up to 80%.
- **Reliance on Chemical Pesticides:** Farmers traditionally depend on chemical pesticides to combat *Maruca vitrata* and other pests like aphids and thrips in cowpea fields.
- **Environmental Impact:** Excessive use of chemical pesticides can lead to environmental consequences such as soil degradation and harm to beneficial insects.

## Solution

- **Biological Control:** Parasitic wasps from Taiwan reduce *Maruca vitrata* population by over 85% in Benin and Burkina Faso.
- **Collaboration:** National agencies release parasitic wasps onto cowpea fields, reducing reliance on chemical pesticides.
- **Integrated Pest Management:** Parasitic wasps, resistant cowpea varieties, and biopesticides minimize environmental impact.
- **Awareness:** Educating farmers about biological control benefits and preserving host plants is crucial.

## Key points to design your project

This approach enhances cowpea yields, reduces losses, and supports food security by minimizing pesticide use and targeting key pests. Key activities for implementing *Maruca vitrata* biocontrol include mapping yield losses, raising awareness, establishing import policies for biocontrol agents, and training farmers in pest management. Complementary solutions involve using pest-resistant varieties and supporting community-based biopesticide production, such as 'neem tea bags' by women's groups in Niger.

**5,000 USD**

To install an initial pilot colony of parasitoids

**6,000 USD**

Running costs



Open source / open access

**IITA**  
Transforming African Agriculture

**International Institute of Tropical Agriculture (IITA)**  
Manuele Tamo

Technology from

[ProPAS](#)

Commodities

Cowpea

Sustainable Development Goals



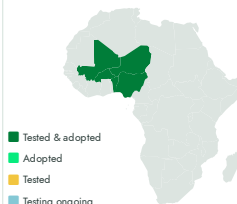
Categories

Production, Inputs, Natural Enemies

Best used with

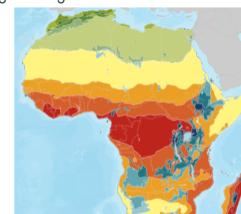
- [Integrated Management of Insects, Diseases and Weeds in common bean](#)

Tested/adopted in



Where it can be used

This technology can be used in the colored agro-ecological zones.



Biological control of the pod borer *Maruca vitrata* with exotic parasitoids

<https://e-catalogs.taatafrica.org/gov/technologies/biological-control-of-the-pod-borer-maruca-vitrata-with-exotic-parasitoids>

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# Banana and Plantain technologies Toolkit

▯ <https://taat.africa/vna>

## ABOUT US

### TAAT

TAAT, Technologies for African Agricultural Transformation, is an African Development Bank initiative to boost agricultural productivity by rapidly rolling out proven technologies to more than 40 million smallholder farmers.

TAAT aims to double crop, livestock, and fish productivity by 2025 by engaging both public and private sectors to expand access to productivity-increasing technologies across the continent. TAAT advises African government who receive funding from international financial institutions such as the African Development Bank to help them integrate the best agricultural technologies in their development projects. TAAT also offers technical assistance for the integration of these technologies, when needed.

### TAAT Technologies

TAAT definition of agricultural technologies is very broad: they include improved varieties, inputs, equipment, agricultural infrastructure, practices and agricultural policies. In short, any solution to an agricultural constraint. TAAT technologies have been developed by a wide variety of organizations: the CGIAR, other international research institutions, national research organizations, or the private sector.

### TAAT Clearinghouse

Within TAAT, the Clearinghouse has the remit to select, profile and validate agricultural technologies, and showcase them in online

catalogs to support the advisory role that the Clearinghouse offers to governments and the private sector. The Clearinghouse strives to be an 'honest broker' of technologies through its selection, profiling, validation and advice.

### TAAT e-catalogs

The e-catalogs are designed to be used by decision-makers within governments, private sector companies or development organizations. They facilitate the search for appropriate solutions that are adapted to local conditions and requirements, and provide all necessary information, presented in jargon-free and easy to analyze technology profiles. Once a decision-maker has selected a technology of interest, the e-catalogs facilitate their direct contact with those who can help them implement the technology, whether they are a research group or a private company.

### TAAT Technology Toolkits

Technology toolkits are hand-picked selections of technologies from the TAAT e-catalogs. We offer some curated toolkits for specific cases, and registered users can create their own toolkits, showcasing their selection of technologies. Toolkits can be used online and shared as links, as mini e-catalogs, they can also be downloaded, saved, shared or printed as collections of technology pitches in PDF format (pitches are one-page summaries of technology profiles, available for all technologies on the e-catalogs).

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