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.

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

ROI: $$$ **40 %**

Profit

3000 Tissue Culture plantlets

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

IP

No formal IP rights

International Institute of Tropical Agriculture (IITA)
Amah Delphine

Technology from

ProPAS

Commodities

Banana/Plantain

Sustainable Development Goals

2 ZERO HUNGER

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

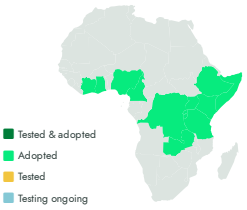
Categories

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.