

MandiPlus: Cutting dipping in insecticides for management of cassava whiteflies

Dip once, Defend for months — MandiPlus controls whiteflies, reduces viruses and boosts cassava yield



MandiPlus is a simple treatment for cassava cuttings that protects them from pests and diseases by soaking them in a mix of insecticide, fungicide, and a binder. This helps farmers use shorter cuttings, improves plant growth and yield, and makes planting cheaper and easier, especially for small farmers.



This technology is **pre-validated**.



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

Inclusion assessment

Climate impact



Problem

- Whiteflies damage cassava plants by feeding on them and spreading viruses
- Viruses like Cassava Mosaic Disease (CMD) and Cassava Brown Streak Disease (CBSD) cause up to 50% or more yield losses
- These issues have led to food insecurity and repeated famines in parts of Africa
- Economic losses from pest and virus damage exceed US\$1.25 billion in several countries
- Rising whitefly populations worsen crop damage and disease spread
- Smallholder farmers struggle to access healthy, disease-free planting materials
- MandiPlus protects cassava cuttings from pests and diseases, improving plant health and yields

Solution

- MandiPlus coats cassava cuttings with insecticide, fungicide, and binder to protect against whiteflies and diseases.
- It reduces whitefly populations by 85-88% and lowers virus diseases like CMD and CBSD by nearly half.
- The treatment improves sprouting and growth, increasing stem number by 119% and root yield by 50%.
- Allows use of shorter cuttings, reducing planting material needs and costs.
- Simple soaking application makes it easy for small farmers to use without complex equipment.
- Safety gear is recommended to protect farmers during application.
- Affordable and scalable, designed to boost cassava yields and incomes in virus-affected regions.



Cassava & Fruits

Embrapa; Syngenta Foundation, IITA
Eder Jorge de Oliveira

Commodities

Cassava

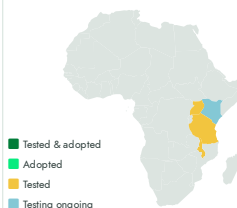
Sustainable Development Goals



Categories

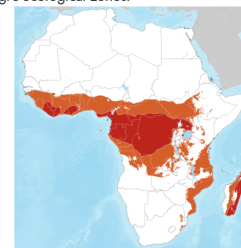
Production, Inputs, Pesticide

Tested/adopted in



Where it can be used

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



Target groups

Breeders, Farmers, Seed companies

Key points to design your program

MandiPlus: Cassava Pest and Disease Solution in Africa

MandiPlus is a seed treatment that protects cassava cuttings from pests (especially whiteflies) and viral diseases like CMD and CBSD. Field trials in Tanzania showed major results: reduced whiteflies by up to **79%**, decreased CBSD by **21%**, boosted yields by **50–78%**, and improved sprouting and stem growth.

Benefits:

- Supports **SDG 2 (Zero Hunger)** through higher production.
- Promotes **SDG 3 (Health & Well-being)** by reducing pesticide use.
- Contributes to **SDG 8 (Economic Growth)** via higher farmer incomes.

Scalability:

It integrates well with Integrated Pest Management, soil health practices, and post-harvest handling. With support from research institutes, governments, and extension services, MandiPlus offers a **scalable, practical solution** for improved cassava productivity, food security, and farmer livelihoods.

Cost: \$\$\$ **600** USD/Ha

Pesticide cost

ROI: \$\$\$ **471** %

Return with MandiPlus-treated cuttings



Open source / open access



MandiPlus

<https://taat.africa/ym>

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