

Biological control of cassava mealybug

Enhancing Cassava Resilience: Targeted Biocontrol with a Beneficial Wasp



International Institute of Tropical Agriculture (IITA)
Neuenschwander Peter

Biological control with *Anagyrus lopezi* uses a natural wasp to manage cassava mealybugs without chemicals. The wasps are mass-reared, released into the field, and they lay eggs on the mealybugs—where the hatching larvae consume and kill the pests. This eco-friendly method has reduced mealybug populations by about 90% in over 20 countries, safeguarding cassava crops and saving farmers...

This technology is **pre-validated**. 9·7 Scaling readiness: idea maturity 9/9; level of use 7/9

Gender assessment 4

Climate impact 7

Commodities
Cassava

Sustainable Development Goals

Problem

- Severe Crop Loss:** Cassava yields were decimated in the 1970s.
- Famine:** Loss of a staple food led to widespread shortages.
- Economic Hardship:** Millions of farmers suffered significant financial losses.
- Ineffective Control:** Traditional pest management methods failed to contain the outbreak.

Solution

- Natural Pest Control:** *A. lopezi* targets and kills cassava mealybugs by laying eggs inside them.
- Restored Yields:** Its action reduces pest numbers by about 90%, allowing cassava crops to recover.
- Eco-Friendly & Sustainable:** This method replaces harmful chemicals with a long-term, self-sustaining solution.

Categories
Production, Practices, Biological control

Tested/adopted in

Key points to design your project

Integrating Cassava Mealybug Biocontrol into National Projects

- Pest Identification** – Confirm if the outbreak is due to cassava mealybug (CM) and assess soil and crop conditions that may affect *A. lopezi*'s efficiency. Consult entomologists for accurate identification.
- Technical Support & Permits** – Engage IITA for guidance and obtain a quarantine permit ensuring *A. lopezi*'s safety per FAO regulations.
- Importation & Release** – Import *A. lopezi*, conduct quarantine checks, and release it in selected fields under national supervision.
- Monitoring & Evaluation** – Track *A. lopezi*'s establishment, spread, and impact on mealybug populations, cassava yield, and farmer livelihoods.

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

Target groups
Governments

Cost: \$\$\$ **15 000 USD**
Starter cultures, rearing and expert guidance

9.4 billion USD IP
Estimation of benefits over 40 years (1974–2013) across 27 African countries Open source / open access

