Biological control of cassava mealybug

Enhancing Cassava Resilience: Targeted Biocontrol with a Beneficial Wasp


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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 money.

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Neuenschwander Peter

This technology is pre-validated.

9·7 Scaling readiness: idea maturity 9/9; level of use7/9

Inclusion assessment 4

Climate impact 7

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.

Key points to design your program

The SIS Framework provides a structured roadmap for developing sustainable, demand-driven, and FAIR-compliant national Soil Information Systems. By integrating financial planning, institutional development, technical capacity, and data governance into a single implementation process, the framework strengthens evidence-based agricultural planning, sustainable soil management, and climate adaptation. It contributes to SDGs 2 (Zero Hunger), 13 (Climate Action), 15 (Life on Land), and 17 (Partnerships for the Goals), ensuring governments and development partners have reliable soil information to guide long-term policy and investment decisions. To successfully integrate this framework, consider the following key actions:

- Identify national priorities, institutional needs, and target users to define a clear scope for the Soil Information System.
- Establish partnerships among governments, CABI, ISRIC, research institutions, development partners, and the private sector to strengthen institutional ownership and coordinated implementation.
- Strengthen institutional capacity by developing expertise in data stewardship, FAIR data management, sustainable Soil Information System governance, and digital information services.
- Monitor institutional adoption, FAIR compliance, stakeholder engagement, data accessibility, evidence-based decision-making, and programme outcomes.

9.4 billion USD
Estimation of benefits over 40 years (1974–2013) across 27 African countries

IP
Open source / open access

Commodities

Cassava

Sustainable Development Goals

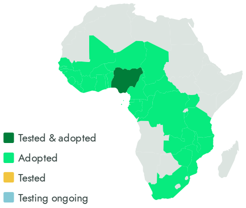
1 NO POVERTY

2 ZERO HUNGER

Categories

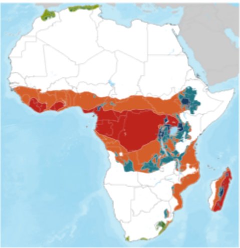
Production, Practices, Biological control

Tested/adopted in



Where it can be used

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



Target groups

Governments