

# Biological Control of Sorghum/Millet Insect Pests with Natural Enemies

Protect crops using natural pest allies for sustainable pest control in Africa

Biological control uses indigenous predators and parasitoids to combat pests like the Millet Head Miner and Fall Armyworm. Released into fields, these natural enemies prevent pest outbreaks and crop damage. This eco-friendly method enhances ecosystems and food security, reducing the need for chemical pesticides.



Natural enemies of millet head miner (top, Credit: Nils Linek) and fall armyworm (bottom, Credit: ICIPE)



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Technology originally documented by

ProPAS

Commodities

Sorghum/Millet

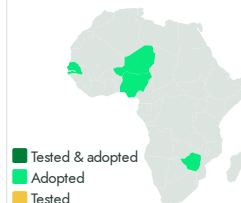
Sustainable Development Goals



Categories

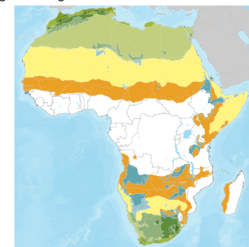
Production, Practices, Pest management

Tested/adopted in



Where it can be used

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



Target groups

Farmers

✓ This technology is **TAAT1 validated**.

7·7



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

Gender assessment **4**

Climate impact **7**

## Problem

- **Pest Infestations & Food Security:** Pests cause significant crop losses, threatening food security in Sub-Saharan Africa.
- **Chemical Pesticides & Ecosystem Health:** Overuse of pesticides leads to environmental harm and health risks.
- **Lack of Accessibility:** Many farmers lack access to effective pest management solutions, increasing vulnerability to infestations.

## Solution

- **Wasp Predation:** Parasitoid wasp *Habrobracon hebetor* targets pests' caterpillars.
- **Infestation Prevention:** Biological control techniques reduce infestations and ensure food supply.
- **Armyworm Control:** Parasitoid wasp *Telenomus remus* prevents Fall Armyworm outbreaks.

## Key points to design your project

Biological control aligns with SDGs 2, 12, and 15 by mitigating climate change, reducing pesticide use, and supporting biodiversity.

To integrate it into a project:

1. **Risk Assessment:** Identify pest levels and risks.
2. **Monitoring:** Establish protocols for parasitoid rearing and release.
3. **Awareness:** Run campaigns about biological control benefits.
4. **Training:** Educate agents and farmers on mass-rearing and release techniques.
5. **Resources:** Organize supply of materials for starter colonies.
6. **Evaluation:** Implement a system for project effectiveness and feedback.
7. **Partnerships:** Collaborate with local communities and organizations.
8. **Funding:** Estimate costs, secure funding, and consider long-term cost-effectiveness.

Cost: \$\$\$ **5,000 USD**

establishment of parasitoid colonies for 10,000 farmers

**6,000 USD**

per year for operation

**3—4 USD**

per "ready-to-use" bag



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<https://e-catalogs.taatafrica.org/gov/technologies/biological-control-of-sorghummillet-insect-pests-with-natural-enemies>

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