IPM: Integrated Management of Insects, Diseases and Weeds in common bean

Smart Solutions for Safer Farming

IPM is a holistic approach to managing pests, diseases, and weeds in common bean cultivation, emphasizing environmental sustainability and food safety. It reduces reliance on chemical pesticides and promotes natural control mechanisms for crop productivity and food security.

Alliance

The Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)

Justin Mabeya Machini

This technology is TAAT1 validated.

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

Gender assessment 4

Climate impact 6

Problem

- Common beans face threats from pests and diseases, affecting productivity.
- Chemical pesticides, though effective, pose health and environmental risks and can lead to pest resistance.
- Poor pest management can result in food insecurity and income loss for bean growers.
- Overreliance on pesticides disrupts natural ecological balance and control mechanisms.

Solution

- Holistic approach to crop protection
- Minimization of chemical pesticide usage
- Balanced ecosystems maintenance
- Understanding beneficial organisms' life cycles and interactions
- Utilization of strategies like natural predator release and cultural practices
- Effective against common bean pests, diseases, and weeds
- Adaptability to diverse soil and climate conditions

Key points to design your project

Integrated Pest Management (IPM) boosts crop productivity, ensures food security, and reduces pesticide-related health risks, promoting sustainability and biodiversity conservation. To integrate IPM into your project:

1. Identify pests and beneficial organisms, devising management strategies.
2. Understand short- and long-term benefits for pest control and costs.
3. Access control agents like predators and bio-pesticides, seeking guidance on their use.
4. Estimate needed quantities and provide proper training for application, factoring in training costs.
5. Develop communication materials and integrate IPM with other management practices.
6. Collaborate with agricultural institutes for successful implementation.

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

Installation of rearing colonies of parasitoid wasps

6,000 USD	**0.5 - 1 USD**	**25 - 35 USD/Ha**	**IP**
Operation cost per year	Coating 1kg of seed	Pre-emergence herbicides	Open source / open access

Technology from

ProPAS

Commodities

Common bean

Sustainable Development Goals

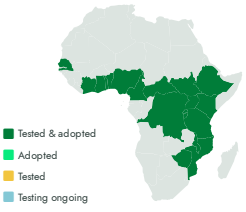
Categories

Production, Practices,
Pest control (excluding weeds),
Weed management

Best used with

- Mechanical and Chemical Weed Management ›
- Seed dressing of Seed with Fungicide and Insecticide ›

Tested/adopted in



Where it can be used

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