



## What are Biopesticides (BioPPPs)?

Biopesticides are derived from **natural sources** and include four groups:

- **Macro-organisms:** beneficial insects, mites, & parasitoids.
- **Micro-organisms:** bacteria, fungi, and viruses.
- **Semiochemicals:** pheromones for monitoring and mating disruption.
- **Biochemicals:** plant/animal/mineral-derived (e.g., peptides, enzymes, microbial metabolites).



## Benefits of BioPPPs



**IPM synergy:** combine with conventional pesticides to enhance crop performance.



**Resistance management:** diverse modes of action help keep chemistries effective.



**Lower residues:** supports market and consumer expectations.



**Soil health:** practices that promote healthier soils and resilient systems.



**Minimal non target impact:** generally lower risk to beneficial organisms.

### Regulatory challenges

- No dedicated **regulatory frameworks** in many countries.
- No **regional harmonized** definition
- Inappropriate **data requirements** – often based on chemical pesticide standards.
- Lengthy & unclear **registration processes** due to unsuitable data expectations.
- **Shortage of experts** to evaluate BioPPPs applications
- **Weak extension services** & limited training for officers in BioPPPs

### Industry challenges

- Lack of **harmonized definitions** & clarity in data requirements
- Larger **storage volumes** needed for BioPPPs increase logistics costs.
- Sensitive to **temperature & humidity**, requiring special storage & transport conditions that increase logistics costs.
- Higher **production & transportation** costs.
- **Lack of frameworks** (e.g., tax incentives, regulatory policies) that incentivize the industry

### Farmer challenges

- **Limited training** and awareness on how to use BioPPPs effectively.
- Require specific **application conditions** (e.g., temperature and timing).
- Increased **storage space** needed.
- Need for controlled **storage conditions** to maintain product quality.
- Field performance **variabilities**.
- Slower or delayed **visible effects** compared to chemical pesticides.
- **Less effective** against severe pest or disease infestations.
- Insufficient **extension services** & too few trained support officers.

## Adoption Priorities



**Define & harmonise:** adopt a clear biopesticide definition & dedicated, harmonised regulatory frameworks.



**Strengthen extension:** equip farmers with practical training & amplify public awareness.



**Collaborate to scale:** build public-private partnerships linking farmers, extension, distributors, advisors, and industry



**Fast track pathways:** implement specific guidelines, dedicated reviewers, & adapted fast track procedures.



**Logistics & handling:** improve guidance on storage, application windows, & cost competitiveness.



**\$3-\$7m**

Typical biopesticide development costs



**< 3 yrs**

PPP registration typically <3 years (includes trials & reviews).



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## Status of Reg. Frameworks for Biopesticides in AME<sup>©</sup>



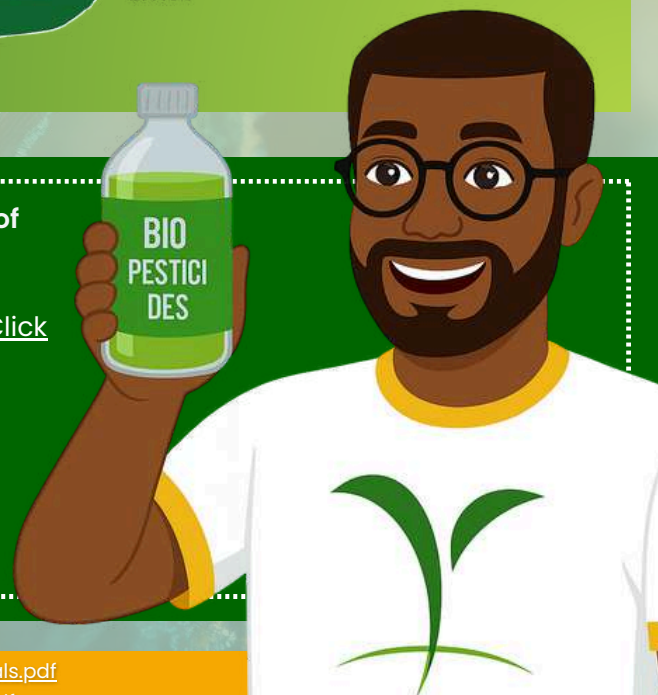
- Existence of Guidelines for biopesticides)
- Interim (draft guideline and or procedures) – follow conventional pesticides procedures for review, potential to adapt/apply existing sub regional guidelines & fast track implementation .
- No formal provisions / procedures; follow conventional pesticide procedures for review, potential to adapt/apply existing sub - regional guidelines & fast track implementation

For existing guidelines aimed at harmonizing the acceleration of BioPPPs in Africa and the Middle East, refer to:

Southern African Development Community (SADC) Guidelines: [Click here](#)

East African Community (EAC) Guidelines: [Click here](#)

The Permanent Interstate Committee for Drought Control in the Sahel (CILSS-CSP): [Click here](#)



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