

# Systems approach for the management of pest of Capsicums. Successes and challenges in Uganda.

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## Issues/challenges

Horticultural commodities in Uganda are produced for both domestic and international markets, with major export destinations including Spain, the United Kingdom, Italy, Germany and Qatar. Capsicum is among the most affected commodities, having faced repeated interceptions in international markets due to fruit flies, false codling moth (*Thaumatotibia leucotreta*) and thrips.

Production areas are concentrated in the highlands of Mbale, Kasese, Kabale and Kapchorwa, as well as the Lake Victoria crescent districts (Mukono, Wakiso and Masaka). These areas are increasingly vulnerable to climate variability, leading to higher pest and disease pressure.

Since 2014, frequent interceptions have demonstrated that single control measures are insufficient. Managing multiple regulated pests across a fragmented, smallholder-based production system requires an integrated approach that addresses the entire value chain and enables verification of control measures.

## Actions taken

In response to repeated non-compliance, the Government of Uganda, through the National Plant Protection Organization (NPPO), adopted a **systems approach** for capsicum pest risk management, in line with importing country requirements. Key actions included:

- development and submission of a **technical dossier** to the European Union based on a systems approach, covering pest control and pesticide residue management;
- implementation of **producer and production site registration**, regular audits, electronic phytosanitary certification and record-keeping by farmers and exporters;
- training on the integration of measures using **production chain and decision-support tools**.

In May 2023, **Beyond Compliance tools** were applied with stakeholder participation to refine and prioritize measures for managing false codling moth. Measures were assessed based on contribution to risk reduction and ease of implementation.

Priority measures included:

- mass trapping;
- field sanitation and pesticide application;
- pest monitoring using indicator traps;
- sorting and grading;
- training of farmers and other value-chain actors.

Verification measures included inspections at all levels, audits and packhouse registration. A combination of selected measures was deployed along the capsicum value chain.

## Key results

Implementation of the systems approach produced mixed outcomes:

### Successes

- Significant reduction in interceptions due to live harmful organisms.
- Increased adoption of pest monitoring tools, including indicator traps.
- Improved verification through inspections, audits and packhouse registration.
- Exploration of new markets, including China, where systems approach requirements are well established.

### Challenges

- Increased interceptions due to **pesticide residues**, reflecting continued reliance on chemical control.
- High operational costs associated with managing multiple pests.
- Limited NPPO capacity to continuously monitor widespread smallholder production.
- Slow adoption among farmers due to limited resources and added production costs.
- Scattered smallholder fields complicating monitoring and enforcement.

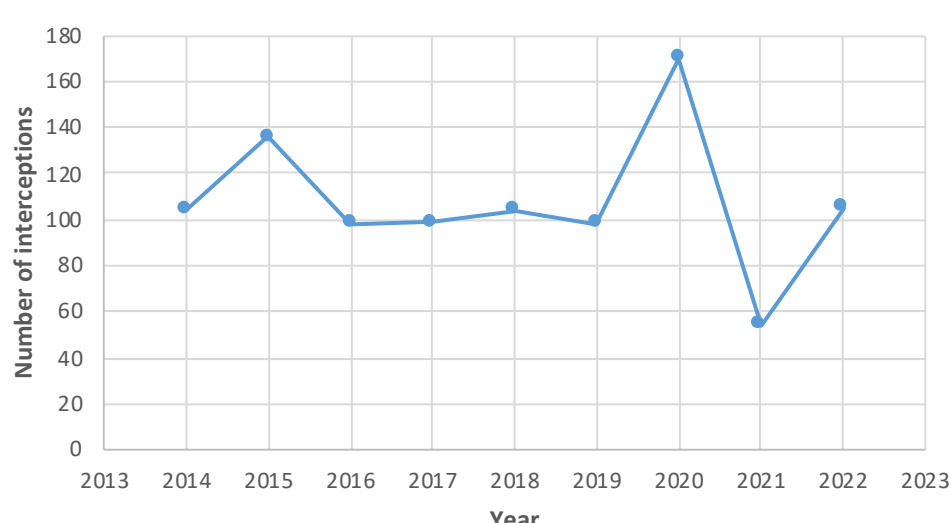
## Conclusions

The Ugandan experience shows that **integrating multiple measures within a systems approach can effectively reduce pest-related non-compliance**, particularly for harmful organisms. The use of Beyond Compliance tools supported evidence-based selection and integration of risk management measures. However, successful implementation requires:

- strong coordination across the value chain;
- sustained capacity for verification and monitoring;
- reduced reliance on pesticides to address residue non-compliance;
- well-organized production systems, which remain challenging in smallholder contexts.

A systems approach is most effective when supported by robust scientific validation, adequate resources and full engagement of all actors. The Ugandan case highlights both the **potential and the practical challenges** of applying systems approaches for pest risk management in developing-country horticultural exports.

Annual Interception Trends 2013-2022



International Interception for Uganda's exports 2024

