



Mitigating pesticide residue through promotion of biopesticides in Asia

This regional project is aimed at mitigating pesticide maximum residue level (MRL) export violations by combining the use of conventional pesticides with the use of microbial-based biopesticides to control key pests. In consultation with researchers, extension and commodity groups, crops of major commercial importance to most Asian countries were selected for the project. These include chili pepper, greens, basil, dragon fruit and rice. The project applies an innovative approach with a scientific rationale towards capacity development and the evaluation of sanitary and phytosanitary measures. In addition, the project would complement two other ongoing projects in the SADC region ([STDF/PG/694](#)) and Latin America ([STDF/PG/753](#)).

STDF/PG/634

Status

On-going

Start Date

20/02/2020

Project Value (US\$)

\$1,269,603

STDF Contribution (US\$)

\$899,586

Beneficiaries

Bangladesh
Cambodia
Indonesia
Lao PDR
Malaysia
Nepal
Sri Lanka
Thailand
Viet Nam

Implementing Entities

Asia-Pacific Association of Agricultural Research Institutions (APAARI)

Partners

IR-4 Project, Rutgers University
Singapore

Background

Many less developed economies in Asia find it increasingly difficult to conform to the Codex Alimentarius – a globally recognized body responsible for setting food safety standards to help in the facilitation of international trade in safe foods – and pesticide MRLs of other trade partners. This is because these MRLs are either not established or are too low to reasonably comply with real-world use patterns. As a result, Asian trade is significantly constrained by rejections due to food safety concerns, including excess MRLs for permitted pesticides; and the presence of prohibited pesticides, quarantine plant pests and food-borne pathogens.

The World Trade Organization SPS Agreement encourages its members to harmonize or base their national measures for food safety on Codex international standards, guidelines and recommendations. Although the participation of Asian nations in the Codex Committee on Pesticide Residues has significantly increased, there is no clear organized effort on how to promote the inclusion of biopesticides into integrated pest management programmes, or how they can be used to mitigate the residues of conventional pesticides that can be problematic for trade.

Integrated pest management approaches have included use of biopesticides to overcome resistance issues and the maintenance of beneficial insects. However, as pesticide residues are primarily determined by the last application, simply including a biopesticide in a rotation is not likely to result in lower residues of conventional products and will not help trade. A purely biopesticide program would result in lower residues but might not be sufficient alone to control pests or be financially viable.

This project is aimed at balancing the advantages of conventional pesticides (which are generally cheaper and more effective) with the advantages of using a biopesticide at the end of the season. This is expected to result in lower residues while sufficiently extending the preharvest interval of conventional pest control products.

Results

Strengthened national and regional capacity

The project focuses on two types of capacity development: technical knowledge and skills specific to the project's objectives; and functional skills, knowledge, attitudes and behaviour needed to apply and coordinate technical capacities to enable project stakeholders to work effectively. The technical program focuses on residue mitigation and residue trials for setting new Codex MRLs. In addition to technical capacities, the project recognizes that developing the overall capacity of stakeholders should also focus on what it takes to build more effective and dynamic relationships among multiple actors. As such, project activities are designed to create an environment in which participants learn to analyse internal and external context; bring various perspectives to bear through interaction, reflection and learning; and access, create and take advantage of opportunities to co-create, learn and use knowledge to chart the future.

Residue mitigation through the use of biopesticides

The project provides and tests a process for resolving up to 15 trade-related residue issues, which could be replicated for other crops or products in other regions through field and laboratory preparations, field residue mitigation studies or trials, sample analysis, biopesticide efficacy studies, and report writing. Once a study is complete, the technical director and consultant will assist in the preparation of a final report, disseminate the results and facilitate a strategy to mitigate residues.