



Strengthening capacity in Latin America to meet pesticide export requirements

This project improved capacity of selected Latin American countries to meet pesticide-related export requirements based on international (Codex) standards through extensive capacity building in both the field and laboratory.

A result story on the project is available [here](#). A news release by IR-4/Rutgers University is available [here](#).

This project was recently evaluated by an independent evaluation team. Find out more about the evaluation and its findings [here](#).

STDF/PG/436

Status

Completed

Start Date

01/10/2013

End Date

30/09/2016

Project Value (US\$)

\$1,195,416

STDF Contribution (US\$)

\$374,166

Beneficiaries

Bolivia
Colombia
Costa Rica
Guatemala
Panama

Implementing Entities

Inter-American Institute for Cooperation on Agriculture (IICA)

Partners

Food and Agriculture Organization of the United Nations (FAO)
Governments of Bolivia, Colombia, Costa Rica, Guatemala and Panama
IR-4 Project, Cornell University
Rutgers, The State University of New Jersey, USA

Background

Pesticide residue data needed to establish Codex Maximum Residue Levels (MRLs) are almost exclusively generated in industrialized countries. Data are very rarely generated in developing countries and, therefore, few Codex MRLs are established for minor-use crops (crops of low pesticide usage on a global scale, often termed "specialty crops" or minor crops), such as tropical fruits grown in developing countries. Where MRLs do not exist, exporters often face challenges to reach export markets. If MRLs do not reflect the actual pesticide use patterns where the crops are grown, then pests will not be controlled effectively. This project helped selected Latin American countries to generate residue data in order to facilitate the registration of new crop protection tools, inform the establishment of MRLs, and boost international trade. The focus was on low-risk pesticides and tropical fruits. National authorities in the participating countries collaborated with each other, the private sector and international partners to conduct coordinated and complementary pesticide residue studies. Skills and experiences gained enabled Latin American countries to expand and prioritize their residue programmes, to address proactively emerging pest control needs, and to comply with international food safety standards.

This project was part of a global MRL initiative to enhance market access for specialty crops, with complementary STDF-funded projects in [Africa](#) and [ASEAN Member States](#). Together these three projects stimulated the creation of the Global Minor Use Foundation, which continues to build on the results of these projects. The work of the three regional STDF projects was recognized in a Joint Statement at the 11th WTO Ministerial Conference (Buenos Aires, December 2017) by Ministers from 17 countries.

Results

Improved technical expertise in Latin American countries to generate, review and interpret pesticide residue data

The project established training programmes and developed capacity to conduct supervised residue trials. The programme focused on training in both the field and laboratory based on the principles of Good Laboratory Practices (GLPs).

Study teams (laboratory, field trial experts, others) improved their ability to conduct new residue studies as part of national pesticide registration processes, and generate quality data to support the establishment of MRLs based on international guidelines/procedures. Four pesticide residues studies were carried out: pyriproxyfen/pineapple (Panama), pyriproxyfen/banana (Costa Rica and Guatemala), spinetoram/avocado (Colombia) and spinetoram/banana (Bolivia). Based on these studies, data packages for new Codex standards were submitted to JMPR in 2016 and 2017. From this project, at least one new Codex MRL will be established for avocado, banana and pineapple. If crop grouping can be applied to this data, in combination with data generated under the ASEAN project, up to 84 new Codex MRLs may be established that would also cover other tropical fruits.

Increased participation of Latin American countries in setting Codex MRLs

A major component of this project was to harmonize MRLs in accordance with international standards to improve market access of agricultural products. This was achieved through a process facilitating the establishment and implementation of Codex MRLs for minor-use crops. Four residue studies were completed that could support new Codex MRLs for the commodities selected. The studies used two very low-risk test pesticides (pyriproxyfen and spinetoram), focused on avocado, banana, and pineapple. Upon completion of the studies, a part of the residue data generated was packaged and submitted to Codex to support the establishment of MRLs. Participating countries received guidance on how to nominate their pesticide/commodity to be placed on the FAO/WHO Joint Meeting on Pesticide Residues (JMPR) review schedule, how to prepare and package the data submission, and how to best coordinate efforts with other countries.

The project's work also contributed to inform JMPR's work on new issues, such as incorporating data into the new crop grouping system using representative crops; combining data sets from multiple countries in a joint submission; creating guidance on procedures for sampling large fruits when storage space is limited.

More efficient use of available resources through enhanced collaboration

The project established a new collaborative approach for pesticide data generation and exchange within Latin American countries, based on public-private partnerships and regional cooperation. Collaboration was facilitated among national authorities and the private sector (including multinational pesticide manufactures, local agricultural commodity export organizations, industry associations and farmers). Global pesticide companies (Dow and Sumitomo) provided product samples, analytical standards, analytical methods, regulatory input, and support on pesticide registration and labelling, etc. This commitment included in-kind contributions to conduct the efficacy trials and determine appropriate good agricultural practices (GAPs).

The project's partnership approach resulted in more efficient use of resources and avoided duplication of efforts. A regional minor-use expert group, comprising public and private sector partners, met regularly to discuss and develop solutions on regional minor-use issues, and identify and prioritize pesticide and MRL needs. This prioritization enabled countries to develop strategies to maximize outputs by dividing work, resources and responsibilities to generate necessary residue data. The cost-saving of collaborative versus individual generation of data is estimated to be over 90%.

Increased environmental and consumer safety through upgraded crop protection tools

While second and third generation pesticides are being phased out by developed countries due to human and environmental risks, farmers in developing countries often continue to use these chemicals because of the lack of international MRLs based on newer, safer (less toxic) pesticides for their specialty crops. Due to this situation, farmers are limited in their crop protection tools (continued use of more toxic chemicals) resulting in economic loss (restricted market access), lower crop productivity (increased rate of pest resistance), and negative impacts on environmental, worker, and consumer safety. This project helped to resolve these issues, with additional benefits for agricultural productivity, environmental safety and consumer safety.

Enhanced market access for specialty crops

Developing countries frequently encounter market access obstacles resulting from insufficient international trade standards for minor-use crops. By developing a process to facilitate the establishment of Codex MRLs for minor-use crops of economic importance to Latin American countries, this project enhanced the ability of producers in developing countries to access important export markets. The project will deliver its full benefits once the new Codex MRLs are established.

Establishment of the Global Minor Use Foundation (GMUF)

A major spin-off result of this project was the establishment of the Global Minor Use Foundation, which provides a coordination mechanism to receive and prioritize pest control needs at a global level, and to coordinate data generation projects amongst multiple countries to establish national and Codex MRLs.

Recommendations

Scale-up partnerships developed through the project

Partnerships and regional cooperation were crucial to the project's success and sustainability. Effective collaboration between government regulatory authorities, multinational pesticide manufacturers, farmers, international partners, and IICA, the IR-4 Program and other organizations involved in project implementation resulted in coordinated and complementary pesticide residue studies, generating data to support the registration of new, improved low-risk pesticides for farmers in the beneficiary countries. Opportunities exist to further scale-up these partnerships, involving other countries in the region.

Continue to strengthen participation in Codex

The project demonstrated the importance of building national capacity to contribute effectively to Codex's standard-setting process. Through field trials and pesticide residue studies, officials from the beneficiary countries learned in practical ways about how to engage directly and effectively in the Codex Committee on Pesticide Residues. National experts and governments from the beneficiary countries understand the value of the project to improve participation in Codex. Options exist to build on these experiences to enable other countries to benefit and improve their participation in Codex.

Selection of pesticide-crop combinations

Before selecting pesticide-crop combinations for field trials, dialogue among all the concerned stakeholders, including pesticide manufacturers, pesticide registration authorities and the authorities involved, is important to ensure that expressions of interest result in firm commitment to participate. Commitment and trust, combined with competent personnel and adequate equipment, is necessary to ensure that the assigned residue trials are carried out correctly and on time.

Study team formation

Careful thought needs to go into the formation of the national study teams for pesticide trials. The composition of national study teams must reflect each country's needs and circumstances. Based on the project's experiences, it is advisable to select study team members from research institutions that can dedicate sufficient staff time to the project, as well as an in-country Study Director to manage the team and liaise with other project stakeholders. All the stakeholders involved should understand and support the long-term goals of the project.

Budget for site travel

A significant lesson learned from a budgetary perspective was the high cost of travel to conduct research. The initial budget was based on experiences from the United States, where experimental farms are located near research institutions, requiring limited long-distance travel. Under this project, most study sites were located far from the researchers, and in some cases required air travel and lodging for field investigators. Future similar projects should build larger budgets for site travel and identify multiple alternative sites to ensure trials can be conducted smoothly.

Further work on pesticide registration

Building on the project's results, the beneficiaries recommended the following areas for future work: harmonization of registration processes and mutual acceptance of efficacy and residue data within Latin American, simultaneous pesticide registration in multiple countries, and establishment of a regional Technical Working Group to tackle common challenges related to pesticide registration and data sharing.