

The IR-4 Project and Its Activities Related to Global Maximum Residue Level (MRL) Activities

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Introduction

Pesticide residue data needed to establish Codex Minimum Residue Levels (MRLs) is usually generated in the industrialized countries. Because data is rarely generated in Latin America, few Codex MRLs are established for many of the crops primarily grown in the region. If these data do not exist, then exported products face rejection at ports of entry for those countries requiring MRLs. In addition, many of the existing MRLs do not reflect the Good Agricultural Practices (GAPs) needed in the region since they are based on other countries' data and the MRLs may not meet the needs of the growers or provide adequate pest management. This lack of MRL trade standards for these minor, yet economically important crops, severely limits the participation of small exporters and farmers trying to participate in the global market by exporting their specialty crops.

Background

Two Global Minor Use Summits (2007 and 2012) identified the need for increased participation in priority setting and Codex MRL submissions from the areas where MRLs are most needed: Africa, Asia and Latin America. Since the requirements for data generated under GLP or OECD record keeping rules are a limiting factor for each country developing its own residue data, a logical first step was to put together a project for capacity building. The United States Department of Agriculture, Foreign Agriculture Service (USDA/FAS) provided resources for early meetings and workshops to facilitate coordination and discuss the needs within the three target regions. In 2013 the Standards and Trade Development Facility (STDF) provided three year grants to the three regions, focusing on GLP training, and the establishment of residue field trials and the analysis of their samples in various countries around the world. In Latin America the Inter-America Institute for Cooperation in Agriculture (IICA) provides project management; the IR-4 Project, based at Cornell University in the United States, provides technical oversight and training for the project; and the U.S. Department of Agriculture facilitates project coordination, and the Food and Agriculture Organization of the United Nations (FAO) provides technical and procedural guidance.

First Steps

Two preliminary meetings began the process of assessing collaboration between the countries in Central America and the Andean region. Outcomes included making preliminary decisions on the products and crops to include in the project and initial identification of the researchers in each country who would do the initial studies. The countries involved were **Bolivia**, **Colombia**, **Costa Rica**, Ecuador, El Salvador, Dominican Republic, **Guatemala**, Honduras, **Panama**, Paraguay and Peru. Projects were initiated in five countries (in **blue**), based on their demonstrated willingness to commit personnel and time to the project.



Beginning in 2012, as a part of the preliminary meetings, general Good Laboratory Practices (GLP) training sessions focused on supervised residue field trials were conducted for all the participating countries. Training was conducted in two

locations: Colombia for the Andean and Guatemala for the Central American countries. A one-day laboratory residue training session was held for all eleven country labs in conjunction with the LAPRW2013. As each of the six countries conducting actual trials initiated their first field trial, the field and laboratory personnel involved in the project each received an additional week of intensive training. This initial effort is just the beginning as it takes at least two years to become proficient with GLPs.

Table 1: Residue Projects: Country, Chemical, Crop and Progress

Country	Chemical	Crop	# Trials	Lab status
Bolivia	Spinetoram	Banana	3 / 3	Sample received
Colombia	Spinetoram	Avocado	6 / 6	Analysis of samples
Costa Rica	Pyriproxyfen	Banana	3 / 6	Method Validation
Guatemala	Pyriproxyfen	Banana	3 / 6	Method Validation
Panama	Pyriproxyfen	Pineapple	3 / 6	Analysis of samples

A December 2016 submission date has been scheduled with Codex/JMPR for both Pyriproxyfen and Spinetoram MRLs.

Key Objective

This project aims to improve technical expertise in pesticide residue data generation, review and interpretation; explore ways to better support minor-use crops; enable the countries in Latin American, and globally, to contribute to the Codex MRL-setting and adoption process; and strengthen national pesticide residue monitoring programs.

For example, the project is already fostering regional cooperation with the joint Guatemala/Costa Rica project for pyriproxyfen on banana.

Common Training Characteristics

Field training:

- Protocol preparation in conjunction with IR-4, the registrant and the local Study Director
- Development of Standard Operating Procedures (SOPs)
- Identification of equipment needs
- Identification of trial site requirements and trial differentiation
- Trial initiation:
 - Handling of test substance under GLP
 - Calibration of equipment to insure correct application rate
 - Timed application
 - careful cleaning of equipment
- All data recorded so that trial can be reconstructed

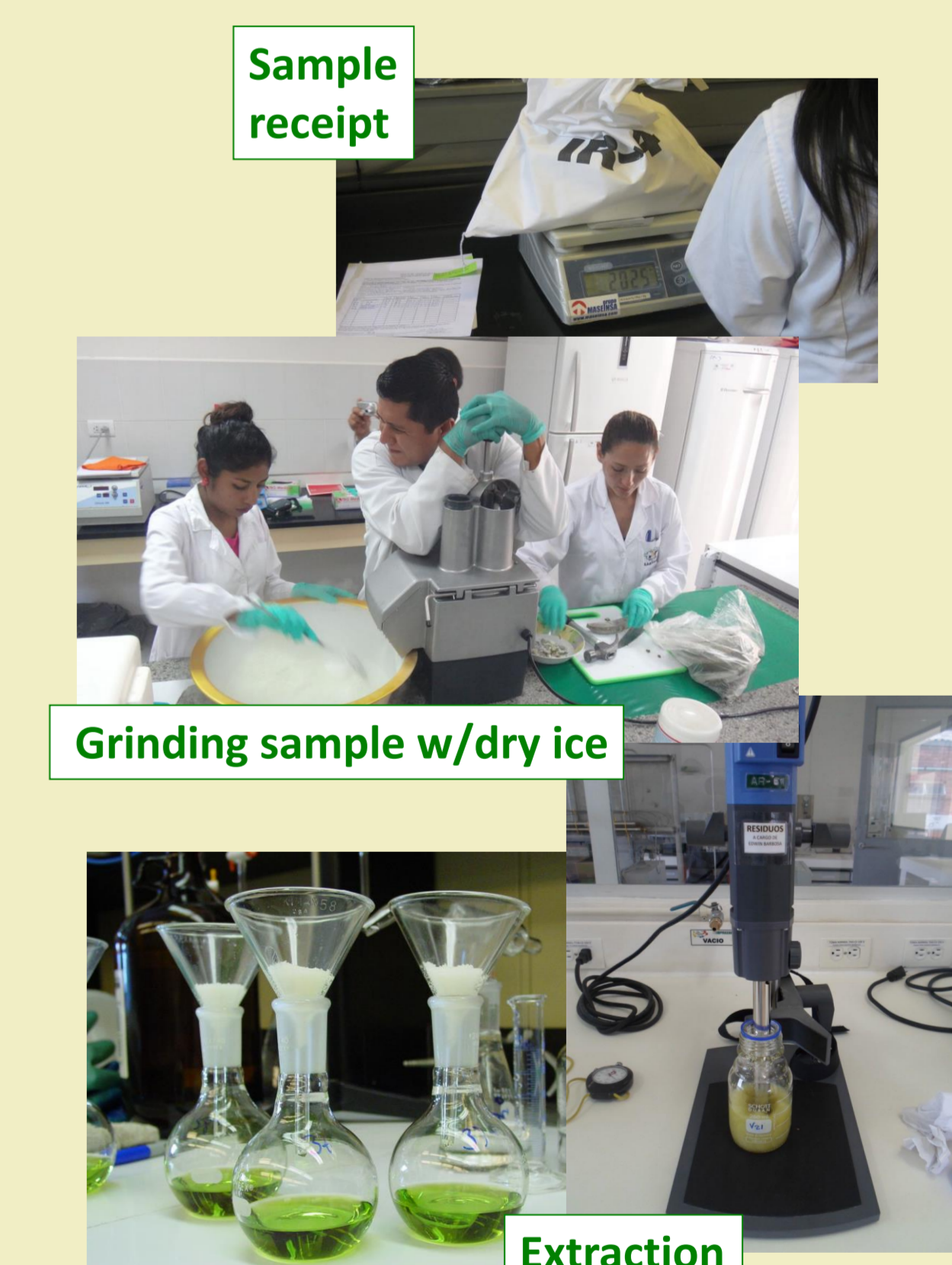


- Careful collection of residue samples to avoid contamination
 - Some samples peeled (inedible peeled fruit) to provide better risk data



Laboratory training:

- Sample receipt, insuring that they are receiving required samples in good condition
- Samples ground with dry ice for residue integrity
 - subsamples spiked for storage stability studies
- Sample extraction
- Method validation: 70 – 120% recoveries in spiked samples
- Documentation of all activities
- Analytical summary report



Data package submission to JMPR/Codex

- Field Data Summary
- Analytical Summary Report

Quality Assurance for all phases of the field and laboratory work

- In- life inspections of critical phases: applications; sampling; laboratory sample receipt; sample grinding, extraction and analysis
- Audits of raw data and reports

Anticipated Outcomes

- MRLs established in some inedible peeled tropical fruit
- Validate a crop group MRL based on FAO groupings
- Trained GLP personnel in each participating country
- Regional and Inter-regional coordination and cooperation for MRLs
- Development of additional projects based on activities: for example the USDA/FAS funded project to conduct a GLP study for the use of difenoconazole and tebuconazole in Snow peas and French beans to address the lack of U.S. MRLs for two important export crops for Guatemala.