# ASSESSING GOOD AGRICULTURAL PRACTICES IN PRODUCTION OF FRUITS AND VEGETABLES: A COORDINATED STUDY IN EIGHT LATIN AMERICA COUNTRIES

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To assess indicators of the effectiveness of pesticide management practices in a catchments scale in Latin America, countries like Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador and Uruguay currently participate in the IAEA RLA/5/050 on "Improving the scientific, analytical and instrumental laboratory capacity to assess the implementation of good agricultural practices (GAPs)" and the IAEA coordinated research project (CRP) D5.20.35 on "Integrated Analytical Approaches to Assess Indicators of the Effectiveness of Pesticide Management Practices at the Catchment Scale". The Pesticide Impact Rating Index – PIRI [1] was used to indicate which of the pesticides used on the crops had a high or very high potential to impact surface water and toxicity, when *Daphnia magna* and Rainbow trout were used as bio indicators. Each country validated methods of analysis for water samples to detect and confirm the pesticides as those applied in the fields; at the same time each laboratory identified the sampling points in the producing regions: fruit trees in Argentina, banana in Brazil, vineyard in Chile, onion in Colombia and Uruguay, melon in Costa Rica, rice in Cuba and broccoli in Ecuador. The monitoring data for 2008 and 2009 are currently available. The pesticides detected were alfa endosulfan, azinphos methyl, azoxystrobin, beta endosulfan, carbaryl, carbofuran, chlorotalonyl, chlorpyriphos, cypermethrin, diazinon, difenconazole, diuron, endosulfan sulfate, linuron, metalaxyl, methiocarb, oxadiazone, oxyfluorfen and tebuconazole. The monitoring data confirmed the PIRI simulations. Most of the pesticides identified by PIRI as being high impacting in surface water were found in the water samples analysed during the monitoring campaign. The results also emphasizes how important is to improve integrated pest managements (IPMs) and good agricultural practices (GAPs) in order to promote the environment and food safety and to protect public health.

[1] Kookana, R. S.; Correll, R. L.; Miller, R. B. 2005. Water, Air, and Soil Pollution: Focus. 5: 45–65.