SMALL-SCALE FARMERS, ESPECIALLY IN TROPICAL AND SUBTROPICAL climates where insect and disease problems prevail, have become heavily dependent on chemical pesticide usage resulting in considerable risks of contamination of the agricultural produce.

Chemical analysis to monitor pesticide residues in fruits and vegetables is the standard and most accurate method used worldwide, especially in many developed countries such as the US and Japan. However, in most developing countries in the Asian and Pacific (ASPAC) region where domestic production and marketing by small-scale farmers is common, one low-cost alternative to achieve quick test results in order to protect local consumers from contaminated fruits and vegetables is the Rapid Bioassay of Pesticide Residues (RBPR).

RBPR was developed in Taiwan in 1985 and has since been successfully adopted by more than 200 stations in the island covering farmer associations, various food supply systems, and major supermarket chains. While bioassay is not as precise as chemical testing, it is low cost and gives immediate results, and is practical for use in screening large samples so that contaminated produce can be withdrawn from the farm gate or local market before they reach the consumers.

To share the benefits of the RBPR technology with countries in the ASPAC region, FFTC in cooperation with the Agricultural Research Institute (ARI), Council of Agriculture (COA) of Taiwan ROC spearheaded the conduct of the training workshop on Rapid Bioassay of Pesticide Residues (RBPR) on Fruits and Vegetables for Market Inspection and Farm Education. The activity was held on 17-23 May 2009 in ARI, Taichung, Taiwan ROC, and was co-sponsored by the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) and the Asia-Pacific Association of Agricultural Research Institutions (APAARI).

The training course was attended by 26 participants from 13 countries (Cambodia, India, Indonesia, Iran, Lao PDR, Malaysia, Nepal, New Caledonia, Philippines, Sri Lanka, Thailand, Taiwan ROC and Vietnam), who are experts on or responsible for food safety policy in their respective country, such as government researchers and inspection officers, laboratory technicians, and extension workers. The training course consisted of intensive lectures, discussions, laboratory exercises, hands-on experiences and field visits to observe the practical
application of RBPR in fruits and vegetables production and marketing.

Among the topics covered during the training course were: prospects of rapid monitoring and control of pesticide residues in the ASPAC region and the Food Quality Protection Act (FQPA) in the US; toxicological principles, advantages and limitations of RBPR; qualitative and quantitative RBPR analysis of insecticide residues by the AChE test; fungicide toxicity testing using the Bt test; management and implementation of RBPR; and a briefing of agricultural safety research in Taiwan ROC. Based on the feedbacks from the participants, the training course successfully provided them with: a science-based, practical approach in providing safe food particularly to the local markets; technical know-how in conducting RBPR testing; and a network of partners for future collaboration.

Training Course on Rapid Bioassay of Pesticide Residues (RBPR) on Fruits and Vegetables for Market Inspection and Farm Education

Held in ARI/COA, Taichung Taiwan ROC, 7-23 May 2009
No. of participating countries: 13 countries (Cambodia, India, Indonesia, Iran, Lao PDR, Malaysia, Nepal, New Caledonia, Philippines, Sri Lanka, Thailand, Taiwan ROC and Vietnam)
No. of participants: 26
Co-organizers: Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA); Asia-Pacific Association of Agricultural Research Institutions (APAARI); Agricultural Research Institute (ARI), COA, Taiwan ROC
Sponsor: Council of Agriculture (COA), Taiwan ROC

For further information, contact:
Dr. Te-Yeh Ku, FFTC Technical Consultant