

# Agrobiotechnology at work in the field

**B**iotecnology has had a tremendous impact on agriculture. Applications include the production of seedlings, animal vaccines, biofertilizers, biopesticides, and genetically modified organisms. Multinational corporations with vast R&D facilities developed and marketed early agrobiotechnology products and still lead the competition. Most developing countries, however, do not yet rely on biotechnology to increase farm productivity and farmers' incomes.

The APO organized an observational study mission on the Applications of Biotechnology in the Production of High-value Crops in Taichung, the Republic of China (ROC), 28 June–2 July 2010, in cooperation with the Taiwan Agricultural Research Institute (TARI) of the Council of Agriculture and China Productivity Center. The objectives were to assess applications of agrobiotechnology and examine how member countries could benefit from its adoption after observing successful examples in the ROC. Two international and three local experts gave overviews of current biotechnology utilization, intellectual property strategies of major players, regulatory and institutional stimulus packages to encourage R&D, and how biotechnology can be adopted by small farms and enterprises in rural areas.

After discussing issues raised in the resource and country papers, the 23 participants took to the field. TARI demonstrated plant biotechnologies in action in its laboratories and greenhouse facilities. The Orchid Biotech Park in Tainan is based on vertical integration of R&D, production, and marketing, which has established the ROC as a “kingdom of orchids” with an international clientele. At the headquarters of the Asian Vegetable Research and Development Center, an international NGO, participants were briefed on how it increases vegetable production in tropical developing countries through seed production using cutting-edge biotechnology R&D and given a tour of its research laboratories.

Another seed specialist, award-winning Known-You Seed Co., Ltd., showed participants its seed production and processing plant on its research farm in Fengshan. At the Fengshan Tropical Horticultural Experimental Branch of TARI, the mission members examined its tropical fruit and vegetable gardens, including nethouses, which utilize agrobiotechnologies to improve genetic potential, heat tolerance, and pest and disease control.



*Participants examine the petals of a commercially bred Phalaenopsis orchid during a visit to Yu-Pin Biological Technology Co. Ltd. at the Orchid Biotech Park complex in Tainan, ROC, during a study mission 30 June 2010. APO/Muhammad Saeed*

The numerous site visits exposed participants to a variety of agrobiotechnology applications, and Dr. Sharad Tiwari's evaluation summed up the feelings of most: “The low point was actually the high point, a very tight schedule.” Mission members concurred that agrobiotechnology utilization to increase crop productivity and alleviate hunger was expanding globally, and the Asia-Pacific was no exception. However, risk/benefit assessments of agrobiotechnologies and subsequent risk communication will be critical in gaining their widespread acceptance. 🌀