



The World Vegetable Center

Newsletter

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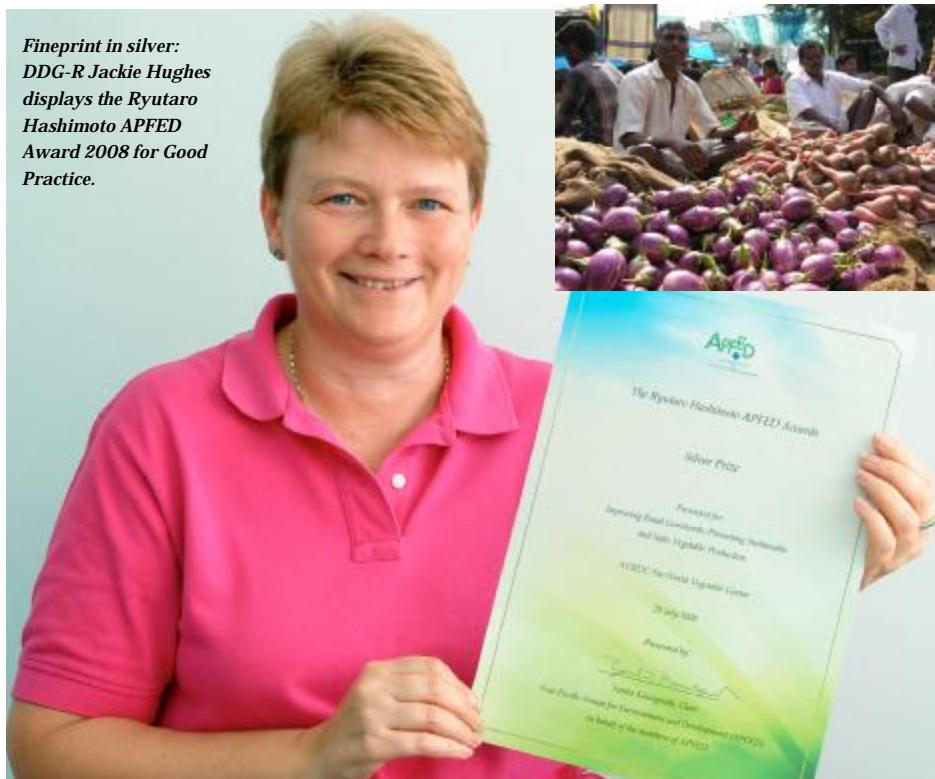
AVRDC – The World Vegetable Center and its Bangladeshi collaboration partner Bangladesh Agricultural Research Institute (BARI) are awarded for their successes in Integrated Pest Management

Integration makes winners

Eggplant fruit and shoot borer (EFSB) is the most damaging pest of eggplants in South and Southeast Asia, causing yield loss that often exceeds 65% as the larvae feed inside the eggplant fruit, making it unmarketable and unfit for human consumption. An ecologically sound yet highly effective way out is Integrated Pest Management (IPM). For its successful development of effective and environmentally sound alternative pest management strategies in Southern Asia, AVRDC – The World Vegetable Center and its cooperation partner, the Bangladesh Agricultural Research Institute (BARI) received the Ryutaro Hashimoto APFED Award 2008 Silver Prize for Good Practice.

The Ryutaro Hashimoto APFED Award 2008 for Good Practice was issued by the Asia-Pacific Forum for Environment and Development (APFED) at its 4th Plenary Meeting held in Davao, Philippines from 25 - 26 July 2008. It aims to promote dissemination of information on good practices towards sustainable development in the Asia-Pacific region. The prize is given to organisations in recognition of practices that have made outstanding contributions in promoting environmental management and sustainable development in Asia and the Pacific.

*Fineprint in silver:
DDG-R Jackie Hughes
displays the Ryutaro
Hashimoto APFED
Award 2008 for Good
Practice.*



Despite the importance of eggplant and the severity of the pest problem, the management practices to combat these pests have largely been limited to frequent sprays of toxic pesticides, affecting the health of farmers and consumers, and damaging the environment. In Bangladesh, farmers used to spray insecticides up to 84 times during a 6-7 month cropping period.

“Our Integrated Pest Management strategy provides an opportunity for farmers to reduce pesticide use significantly. The further adoption of

IPM for eggplant cultivation will help increase profits for small-scale farmers, improve public health and protect the environment”, says Jackie Hughes, Deputy Director General for Research at AVRDC—The World Vegetable Center. Farmers who adopt the new IPM strategy clearly benefit: they have lower production costs and higher net incomes compared to farmers who rely solely on pesticides for insect control.

The project was implemented in 2000-2006 in collaboration with BARI and was funded by the

Department for International Development (DFID), UK.

"The strategy had three major components: It consisted of weekly excision and destruction of borer infested shoots and fruits, using pheromone lures to trap male EFSB moths, and withholding chemical pesticides to allow natural enemies to control the pest. In collaboration with BARI and various national research partners in India we have trained farmers through field days and demonstrations on the proper use of sex pheromone traps and methods of sanitation", says Srinivasan Ramasamy, entomologist at the Center.

There is great interest in this alternative pest management technology in the region. Through its Regional Center for South Asia (RCSA), which was opened in India in 2006, AVRDC – The World Vegetable Center continues to encourage the application of EFSB IPM technology. The technology is currently being promoted among tribal farmers in Jharkhand state in India. It is one component of the broader range of IPM activities in the recently launched project "Improving vegetable production and consumption for sustainable rural livelihoods in Jharkhand and Punjab", supported by Sir Ratan Tata Trust (SRTT), India.



Eggplant fruit and shoot borer: losing its threat to farmers through the Center's Integrated Pest Management strategies.

FOCUS: Greater Mekong Sub region

GMS Workshop on Economic Analysis of Postharvest Technologies for Vegetables



In a first for the Greater Mekong Subregion, a workshop on Postharvest Technologies for Vegetables was held on 19-21 August 2008 at the Goldiana Angkor Hotel, Siem Reap, Cambodia. The goal of the workshop was to build capacity in the economic analysis of postharvest technologies (PHTs) developed in the RETA B6208 postharvest project.

The workshop included five participants from Cambodia and two each from China, Laos, Myanmar, Thailand and Vietnam.

Dr. Antonio Abamo, Dean of the College of Engineering and Agri-Industries of the Visayas State University (VSU) of the Philippines,

discussed the basic concepts and methodologies for assessing the economic viability of PHT, while Dr. Tanachote Boonvorachote, Lecturer in Finance at Kasetsart University in Thailand, talked about economic analysis as applied to processing. Christian Genova, representing Socioeconomics at AVRDC—The World Vegetable Center, presented the financial analysis of solar dryer technology.

The lectures were followed by hands-on exercises on the topics. The second day of the workshop was devoted to actual analysis of PHT in each country using ex-ante partial budgeting and cost-and-return

analysis, which was then presented for evaluation.

"The workshop topic was a difficult one but was a good start to build capacity in economic analysis of technologies and will further simplify similar programs in the future," commented Dr. Abamo from VSU.

The workshop concluded with a study tour to vegetable farmers and small enterprises employing PHT. The proceedings of the workshop will be available soon.

— Christian Genova, Socioeconomics

The LIBRARY

... recent articles requested by scientists

Rouhibakhsh, A., Priya, J., Periasamy, M., Haq, Q.M.I., Malathi, V.G. (2008). An improved DNA isolation method and PCR protocol for efficient detection of multicomponents of begomovirus in legumes. <i>JOURNAL OF VIROLOGICAL METHODS</i> . v.147 (1):37-42.	vector, <i>Bemisia tabaci</i> . VIRUS GENES. v.34(3):373-385.	S.N., Dinar, A. (2006). Will African agriculture survive climate change? <i>WORLD BANK ECONOMIC REVIEW</i> . v.20(3):367-388.
Maruthi, M.N., Rekha, A.R., Mirza, S.H., Alam, S.N., Colvin, J. (2007). PCR-based detection and partial genome sequencing indicate high genetic diversity in Bangladeshi begomoviruses and their whitefly	Mendelsohn, R. (2007). Measuring climate impacts with cross-sectional analysis. <i>CLIMATIC CHANGE</i> . v.81:1-7.	Kurukulasuriya, P., Mendelsohn, R., Hassan, R., Benhin, J., Deressa, T., Diop, M., Eid, H.M., Fosu, K.Y., Gbetibouo, G., Jain, S., Mahamadou, A., Mano, R., Kabubo-Mariara, J., El-Marsafawy, S., Molua, E., Ouda, S., Ouedraogo, M., Sene, I., Maddison, D., Seo,

You asked for...

Dr. Robert de la Pena asked for publications on DNA, molecular markers, gene cloning, genetic engineering & QTL mapping in eggplant , pepper and tomato. Here's a brief selection:

He, M., Zhang, W.C., Shan, C. (2008). Preliminary studies on the genetic effects of weak light tolerance of eggplant. *CHINA VEGETABLES*. no.6:24-26.

Khan, M.M.R., Isshiki, S. (2008). Development of a male sterile eggplant by utilizing the cytoplasm of *Solanum virginianum* and a biparental transmission of chloroplast DNA in backcrossing. *SCIENTIA HORTICULTURAE*. v.117(4):316-320.

Marco, F., Calvo, E., Carrasco, P., Sanz, M.J. (2008). Analysis of molecular markers in three different tomato cultivars exposed to ozone stress. *PLANT CELL REPORTS*. v.27(1):197-207.

Pavan, S., Zheng, Z., Borisova, M., van den Berg, P., Lotti, C., de Giovanni, C., Lindhout, P., de Jong, H., Ricciardi, L., Visser, R.G.F., Bai, Y.L. (2008). Map- vs. homology-based cloning for the recessive gene ol-2 conferring resistance to tomato powdery mildew. *EUPHYTICA*. v.162(1):91-98.

Wang, L.H., Zhang, B.X., Caranta, C., Mao, S.I., Palloix, A. (2008). Molecular markers assisted selection for three QTLs resistant to PVY in pepper (*Capsicum annuum* L.). *ACTA HORTICULTURAE SINICA*. v.35(1):53-58.

Brown, J.K. (2007). The *Bemisia tabaci* complex: genetic and phenotypic variation and relevance to TYLCV-vector interactions. In: Tomato yellow leaf curl virus disease: management, molecular biology, breeding for resistance. Dordrecht: Springer. p.25-56.

Minamiyama, Y., Tsuro, M., Kubo, T., Hirai, M. (2007). QTL analysis for resistance to *Phytophthora*

capsici in pepper using a high density SSR-based map. *BREEDING SCIENCE*. v.57(2):129-134.

Moriones, E., Garcia-Andres, S., Navas-Castillo, J. (2007). Recombination in the TYLCV complex: a mechanism to increase genetic diversity. Implications for plant resistance development. In: Tomato yellow leaf curl virus disease: management, molecular biology, breeding for resistance. Dordrecht: Springer. p.119-138.

Sadder, M.T., Al-Shareef, R.M., Hamdan, H. (2007). Assessment of genetic, morphological and agronomical diversity among Jordanian eggplant (*Solanum melongena* L.) landraces using random amplified polymorphic DNA (RAPD). *ACTA HORTICULTURAE*. no.745:303-310.

SKETCH



Name: Markus Kaiser

Home: Germany

Position: Coordinator, Program and Partnership Development

Why do you do? Currently with AVRDC, I coordinate the Center's grant and program development activities globally in close cooperation with scientists and the Management. Further, I build and manage partnerships with donor agencies, non-governmental organizations, the

private sector and other policy actors for the purposes of resource mobilization, coalition-building and advocacy. My day-to-day work includes identification and realization of funding opportunities through a process of scanning, monitoring new trends in grant development, and brokering new options to widen the potential sources. In addition, I set up an information strategy for different donors and I oversee the contract management of research projects and the Center's sub-contracted research.

Why do you do it at AVRDC? I joined the Center in 2003 and could see how scientists, administration and management started working hand-in-hand to raise the global profile of the Center. Five years later, we have achieved a lot: the budget has doubled, new staff have been hired, and the Center has spread geographically and implemented a more streamlined management

structure. In addition, we have further improved our excellent reputation among our partners in respect to our impact and efficient use of resources. Being part of this process and contributing to the Center's goals has been a very rewarding experience.

What's next?

Good news for Project Managers: The content of the Project Management System will be in future managed by Jessica Lin and I. More about this change in a couple of weeks.

Your favorite Taiwan experience:

Cruising with my little moped (150 cc) on Taiwan's curvy mountain roads.

Favorite vegetable(s):

Curly kale (with sausage), savoy cabbage (with smoked pork chop), white Asparagus (with melted butter)

CORNUCOPIA



Vietnam's good climate and soil conditions are among the reasons why the country's production of tropical and subtropical vegetables for local and export markets is growing. However, the Southeast Asian country's vegetable sector is challenged by pre- and postharvest losses. To improve opportunities for smallholder producers, the Center is engaged in a series of research and development activities in Vietnam.

Our long history of involvement and expertise in the region, and opportunities to build on this were the focus of the visit to the Center's headquarters on 22 August 2008 by His Excellency Nguyen Ba Cu, Director of the Vietnam Economic and Cultural Office in Taipei.

Besides meetings and in-depth discussions with DG Dyno Keatinge, DDG-R Jackie Hughes and DDG-AS Yin-fu Chang, he also spoke with the Center's Global Theme Leaders and breeders. The program was complemented by a tour through the Center's seed collection and a visit to the indigenous vegetables plot.



A growing relationship: His Excellency Nguyen Ba Cu planted a tree as a visible sign of collaboration between the Center and Vietnam.

PEOPLE

Farewell...



Saying goodbye with emotion: After 17 years as geneticist and Head of the Genetic Resources and Seed Unit since 1991, Dr. Liwayway Engle will leave the Center by the end of this week. Under her supervision, AVRDC - The World Vegetable has assembled the world's largest public collection of vegetable germplasm, and a considerable number of accessions have been stored safely under permafrost in the Arctic Seed Vault that was opened in February 2008. Bingbing, as she is called by her friends and colleagues, contributed to the social life on campus through her work in many committees and as the heart and soul of the AVRDC choir. We will miss her.

