

Laos: The Heat that Pays Off

This week a wave of alarming news on postharvest loss swept through India's media. According to the news, 30% of the country's vegetables are lost due to mismanagement after harvest. While a certain percentage of postharvest loss is considered natural, the high rates prevailing in India are close to the losses recorded in sub-Saharan Africa. To study potential ways out, a look into the Greater Mekong Region may provide encouraging insight.

AVRDC's postharvest project, funded by the Asian Development Bank (ADB) and now in its second phase, has assessed the supply chains for five major vegetables in the Greater Mekong Region and found that average losses from farmer to consumer are 20-25%, and are worth US\$2.6 billion to the region. The project is now developing pathways to help farmers avoid these extremely high postharvest losses.

In Laos, for instance, postharvest loss in chilies considerably decreases producers' incomes. About 3/4 of all producers experience outright loss, or sell up to 50% lower than the market price for good quality chili.

The situation is set to change in the near future, and this change will be

made possible through capacity-building offered by the Center's project office in Vientiane. Starting in September 2007, farmer groups in eight villages have been trained on how to establish small-scale enterprises by training



Chilis are a popular crop in Laos. While fresh chilies are a commonly traded commodity, the commercialization of chili processing is in its initial stages. Thanks to the Center's training program, a farmers' group founded a start-up that will make a difference to their communities and to Laotian consumers.



Cost-efficient and effective: A solar dryer for chilies developed by AVRDC—The World Vegetable Center and Laotian partners.

consultant Win-Win Kyi. Now the first group of alumni -- three men and six women farmers from the small village of Donexiengxou -- are ready to launch their own, novel business concept: Be the first in Laos to commercially produce dried chili and create a unique chili-sauce with blockbuster qualities.

Traditionally, Laos is an importer of dried chilies from Thailand, but Laotian consumers prefer the taste of local varieties. The proposed "buy Laotian" business concept could be a good marketing technique for other small ventures hope to carve out a niche.

To assure a high quality product, the group will make use of a chili solar dryer, a prototype of which was developed by AVRDC—The World Vegetable Center's postharvest program in cooperation with both local public and private partners. The technology is cost-efficient and effective, and the expected revenues may soon redeem the investment: With an initial investment of US\$ 500, a price of 30,000 Kip (US\$ 3.50) per kilo and a target production of approximately one ton of dried chilies a year, the fledgling business should show a profit right from the start. And as product quality begins with good seed, the farmers' group has expressed an interest in AVRDC's chili lines and best practices in chili farming.

— Communications

The LIBRARY

New publications

...from Center staff

Chien, R.C., Tsai, W.S., Green, S.K., Jan, F.J. (2008).

Identification and characterization of a mechanically transmissible Tomato leaf curl New Delhi virus infecting oriental melon. *PLANT PATHOLOGY BULLETIN*. v.17 (1):84.

Tsai, W.S., Huang, Y.C., Green, S.K., Jan, F.J. (2008). Molecular characterization of the CP gene and 3' UTR of Chilli vein mottle virus from South and Southeast Asia. *PLANT PATHOLOGY BULLETIN*. v.17(1):95-96.

Tsai, W.S., Shih, S.L., Green, S.K., Jan, F.J. (2008). Molecular diversity and agroinfection of tomato-infecting begomoviruses in Taiwan. *PLANT PATHOLOGY BULLETIN*. v.17(1):84-85.

The Library does regular searches on subjects of major importance to the Center and provides these as SDI bulletins. Most bulletins are focused on crops but recently the Production Theme asked for searches on Bacterial Wilt. Selections are shown below. If your research team needs regular searches done, please contact the Library.

Abd-Alla, M.H., Bashandy, S.R. (2008). Bacterial wilt and spot of tomato caused by *Xanthomonas vesicatoria* and *Ralstonia solanacearum* in Egypt. *WORLD JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY*. v.24 (2):291-292.

Fujiwara, A., Kawasaki, T., Usami, S., Fujie, M., Yamada, T. (2008). Genomic characterization of *Ralstonia solanacearum* phage phi RSA1 and its related prophage (phi RSX) in strain GMI1000. *JOURNAL OF BACTERIOLOGY*. v.190(1):143-156.

Takenaka, S., Sekiguchi, H., Nakaho, K., Tojo, M., Masunaka, A., Takahashi, H. (2008). Colonization of *Pythium oligandrum* in the tomato rhizosphere for biological control of bacterial wilt disease analyzed by real-time PCR and confocal laser-scanning microscopy. *PHYTOPATHOLOGY*. v.98(2):187-195.

Tsujimoto, S., Nakaho, K., Adachi, M., Ohnishi, K., Kiba, A., Hikichi, Y. (2008). Contribution of the type II secretion system in systemic infectivity of *Ralstonia solanacearum* through xylem vessels. *JOURNAL OF GENERAL PLANT PATHOLOGY*. v.74(1):71-75.

Delaspre, F., Penalver, C.G.N., Saurel, O., Kiefer, P., Gras, E., Milon, A., Boucher, C., Genin, S., Vorholt, J.A. (2007). The *Ralstonia solanacearum* pathogenicity regulator HrpB induces 3-hydroxyoxindole synthesis. *NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, PROCEEDINGS*. v.104(40):15870-15875.

Ivey, M.L.L., McSpadden, B.B., Opina, N., Miller, S.A. (2007). Diversity of *Ralstonia solanacearum* infecting eggplant in the Philippines. *PHYTOPATHOLOGY*. v.97

(11):1467-1475.

Jeong, Y.H., Kim, J.W., Kang, Y.S., Lee, S.D. (2007). Genetic diversity and distribution of Korean isolates of *Ralstonia solanacearum*. *PLANT DISEASE*. v.91(10):1277-1287.

Better vegetable production for India

Dr. ML Chadha from AVRDC-RCSA, Drs. Jaw-Fen Wang, R. Srinivasan, and Ray-yu Yang from HQ participated in the planning meetings of the Sir Ratan Tata Trust project "Improving vegetable production and consumption for sustainable rural livelihoods in Jharkhand and Punjab, India", granted this year. The meeting in Punjab was held at the Punjab Agricultural University (PAU), Ludhiana from 28 to 29 April; in Jharkhand it will be held at the ICAR complex, Ranchi from 2-3 May.

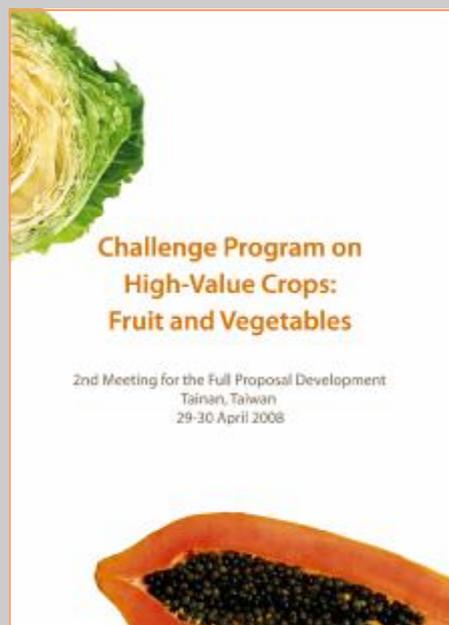
— Communications

NOTE – If you would like to receive the latest global literature on Bacterial Wilt via e-mail please contact Nick Kao (nick.kao@worldveg.org).

— Fang-chin Chen/Communications

CORNUCOPIA

Local action on a global challenge



The group writing the proposal for the CGIAR Challenge Program on High-Value Crops: Fruit and Vegetables met on 29-30 April 2008 for the second time at the Queena Chinatrust Landmark Hotel in Tainan, Taiwan.

The proposal process is coordinated by Jackie Hughes, Deputy Director General - Research at AVRDC - The World Vegetable Center, supported by Kwesi Atta-Krah (Bioversity) and Ahmed Moustafa (ICARDA). The 19 participants (which also included Director General Dyno Keatinge and a consultant editor from Green Ink UK) came from CIRAD, *icipe*, CIAT, Embrapa, NaCRRI (Uganda), Wageningen UR, ICRISAT, GlobalHort, IITA, USAID, IFAP and CABI.

The proposal comprises four main themes — Production, Consumption, Markets and Postharvest — within an overarching integrated value-chain framework. Capacity building, advocacy and knowledge management are also an integral part of the proposed Challenge Program.

The two-day meeting fostered a frank and open discussion on many issues. It concluded with numerous action points for all the group members and other partners, which are tied to a very detailed timeline to enable submission of the full proposal to the Science Council of the CGIAR before the end of June 2008. Some participants were able to take advantage of the arrangements made by the DDG-R's office to visit the Center and to see and enjoy some of Taiwan's culture.

— Dr. Jackie Hughes/
Deputy Director General for Research

Pingtung Blue-Fin Tuna Cultural Festival 黑鮪魚文化觀光季



If you like seafood and sushi, you won't want to miss this annual festival. Indulge in slices of fresh blue-fin tuna at Donggang Fishing Harbor. Donggang's tuna or *toro* catch is the largest in the world; the big fish fetch big prices at the world-famous Tsukiji Fish Market in Tokyo. Taiwan would like to promote domestic consumption, so expect reasonable prices and ask for extra *wasabi*! — Oliver Hanschke/Communications

Sponsor: Pingtung County Government

Date: 11 April 2008–1 July 2008

Place: Donggang Township, Pingtung County

Phone: 886-8-732-0415

Website:

<http://www.tbnsa.gov.tw/user/article.asp?pcode=2&UID=49>

— Lilia Tan-Habacon/R&S Committee

NOTE: *The Center's swimming pool has been closed temporarily due to a broken underground circulation pipe. TSO will send out a notice when the pool re-opens.*

— Janice Chou/TSO

FOCUS: Africa

Fifteen farmers from different villages in Arumeru Municipal district, Northern Tanzania attended training on “Production, Processing and Utilization of Vegetable Crops to Prevent Micronutrient Malnutrition” from 10-11 April at RCA.

Prof. Rob Melis (Plant Breeder and Director of Pro-Seed Company) and Prof. Pangirayi Tongoona (Plant Breeder and Deputy Director) from the African Center for Crop Improvement (ACCI), University of Kwazulu Natal, South Africa visited RCA on April 24 to explore options for training plant breeders in Africa.

Mr. Ignas Swai (Sr. Research Assistant, Plant Pathologist for vBSS) met with Dr. Sibusiso Sibanda (Regional Coordinator, Nematology Network for Eastern and Southern Africa, Harare, Zimbabwe), Ms. Victoria Ngowo (OIC, National Rodent Control Center, Morogoro, Tanzania), and Ms. Nessie Luambano (Nematology PhD scholar, Tanzanian Sugarcane Research Institute Kibaha) on April 25. The team learned about nematology activities at RCA, such as the two nematode resistant tomato varieties (Tengeru 97 and Meru) and plans to conduct a nematology course for

plant health/quarantine inspectors and officers.

Mr. Geoffrey Kirenga, Deputy Director of Extension and Ms. Sophia Kaduma, Deputy Permanent Secretary from the Tanzanian Ministry of Agriculture, visited RCA on 26 April to become familiar with AVRDC-RCA and Global Hort activities.

– Dr. Shilpi Saxena/AVRDC-RCA

SKETCH



Name: Anges William Yadouleton

Home: Abomey, a village 144 miles northwest of Cotonou, the economic capital of Benin

Position:

Ph.D. candidate working in the Entomology Unit under the supervision of Dr. Srinivasan Ramasamy. Arrived at AVRDC in December 2007. Holds a master's degree in environmental science and worked at the International Institute of Tropical Agriculture (IITA).

Why you do what you do:

I became interested in health and environmental protection, especially crop protection through biological controls, because many farmers in my country become sick or die due to the misapplication of pesticides.

Why you do it at AVRDC:

It's known as a center of excellence in entomology research. With the many varieties of vegetable and fruits grown here and the change of seasons, AVRDC offers a lot of scope for IPM projects.

Research:

I'm looking into the impact of *Bt* on natural enemies of diamondback moth (DBM), the use of *Bt* to control cabbage pests (DBM, *Crociodolomia binotalis*, *Pieris rapae*, *Spodoptera littoralis*), and the impact of *Bt* on *Chrysopa* spp, a predator of cabbage pests. I also conducted a trial on the efficacy of *Bt*. (Halt and Xentari).

What's next:

I return to Benin in early June to finish my degree. I invite AVRDC researchers to come to my country and introduce new varieties of tomato, pepper, and onion that are resistant to drought and diseases.

Favorite vegetable:

I'm passionate about tomatoes and potatoes!