



The World Vegetable Center

30 May 2008

Published by Communications

Using water well



Farmers filling the tank for irrigating vegetables through a drip system.



Explaining to farmers and other project members the proper way of installing the drip component and its use.

Water is a critical factor in vegetable farming around the world. Most fresh vegetables are more than 90% water, so expanding vegetable production essentially means repackaging a lot of H₂O. In Asia and Africa vegetable production is expanding as more small farmers realize they can increase their incomes and reap

more nutrition per unit of crop area. However, rising water scarcity, linked with a lack of irrigation technology suitable to small-scale farming, prevents farmers in the tropics from benefiting from the opportunities provided by improved vegetable production practices.

Participants at the First African Water Week symposium held in March 2008 in Tunis concluded that strategic public and private investment in water management will be essential to intensify agriculture and meet targets for poverty alleviation, food production and economic growth in sub-Saharan Africa. Smart solutions are needed for agriculture based on the sustainable use of water resources, but big water projects or enormous dams are not the only answer to water needs. Simple technology costing around US\$50 can provide adequate water access for a rural family.

AVRDC – The World Vegetable Center is developing and refining affordable microirrigation systems for small-scale vegetable production in the tropics. These relatively cheap systems are easy to install and use, and they provide water to wider areas in a shorter time span. By minimizing water loss, microirrigation helps farmers produce more vegetables and run their farms in a more environmentally responsible way.

For the past three years the Center has worked with International Development Enterprises (IDE), an NGO devoted to poverty reduction through small-scale water management, to establish microirrigation as a solution for vegetable producers.

In cooperation with IDE and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), the Center is evaluating strategies and technological solutions to address the water management problems of smallholder vegetable farmers in Cambodia and Niger. The project aims to improve rural livelihoods through the adoption of low-cost microirrigation systems. Production technologies are jointly tested, adapted, and refined through participatory action research and on-farm trials. By broadening the knowledge base, the effort aims to influence the development of pro-poor vegetable production policies and related agricultural water policies.

— Madhu Bhattarai and Oliver Hanschke

Learn more:

First African Water Week

www.afdb.org

The LIBRARY

New publications

...from Center staff

Deahl, K.L., Jones, R.W., Black, L.L., Wang, T.C., Cooke, L.R. (2008). First report of the A2 mating type of *Phytophthora infestans* on tomato crops in Taiwan, Republic of China. PLANT DISEASE. v.92(6):978.

...recent articles requested by scientists

Friml, J., Sauer, M. (2008). Plant biology: in their neighbor's shadow. NATURE. v.453:298-299.

Gils, M., Marillonnet, S., Werner, S., Grutzner, R., Giritch, A., Engler, C., Schachschneider, R., Klimyuk, V., Gleba, Y. (2008). A novel hybrid seed system for plants. PLANT BIOTECHNOLOGY JOURNAL. v.6 (3):226-235.

Rosenzweig, C., Karoly, D., Vicarelli, M., Neofotis, P., Wu, Q., Casavva, G., Menzel, A., Root, T.L., Estrella, N., Seguin, B.,

Tryjanowski, P., Liu, C. (2008). Attributing physical and biological impacts to anthropogenic climate change. NATURE. v.453:353-357.

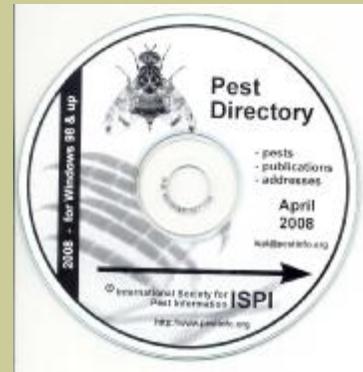
Zwiers, F., Hegerl, G. (2008). Climate change: attributing cause and effect. NATURE. v.453:296-297.

Mustilli, A.C., Fenzi, F., Ciliento, R., Alfano, F., Bowler, C. (1999). Phenotype of the tomato high pigment-2 mutant is caused by a mutation in the tomato homolog of DEETIOLATED1. PLANT CELL. v.11(2):145-157.

Zhong, X.B., de Jong, J.H., Zabel, P. (1996). Preparation of tomato meiotic pachytene and mitotic metaphase chromosomes suitable for fluorescence in situ hybridization (FISH). CHROMOSOME RESEARCH. v.4 (1):24-28.

Bennett, R.N., Walls, R.M. (1994). Tansley Review No. 72: Secondary metabolites in plant defence mechanisms. NEW PHYTOLOGIST. v.127(4):617-633.

Best of the pests



The 2008 Pest Directory from the International Society for Pest Information (ISPI) is now available on CD at the Library. Designed for scientists and other professionals in the field of pest management, the directory contains recent scientific literature and data on agricultural and medical pests, diseases, and weeds. Please visit www.pestinfo.org for more information.

— Fang-chin Chen/Communications

PEOPLE

Welcome



Dr. Fekadu Fufa Dinssa will join the Vegetable Breeding and Seed Systems for Poverty Reduction in Africa (vBSS)

project as a tomato breeder in July. He'll be based at the Regional Center for Africa in Arusha, Tanzania. Fekadu received his PhD in Plant Breeding/Genetics from the University of Jordan in 2003. He has research experience in

applied plant breeding in cereals, vegetables, legumes, and oil crops in different agroecological zones at national and international research institutes in Ethiopia, Syria and Jordan. Email:

fekadu.dinssa@worldveg.org



Dr. Christopher Ojiewo will become part of the vBSS Arusha team as a vegetable breeder

in July. Chris received his PhD in Agriculture from Okayama University, Okayama, Japan in 2007. At present he is a postdoctoral research associate at Okayama University doing research on mutation breeding in *Solanaceous* fruit and leafy vegetables, with special reference to mutagenesis in African nightshade, tomato, and pepper. Email: chris.ojiewo@worldveg.org

— Lilia Tan-Habacon/HR

CORNUCOPIA

When students teach



Nine summer students from the University of the Philippines Los Baños stepped up to the Conference Room lectern at headquarters on 29 May to present research they conducted during their two-month stay at AVRDC – The World Vegetable Center. Topics included molecular analysis of tomato, eggplant, and pepper; morphology of eggplant and tomato; introgression breeding of tomato lines; embryo rescue for eggplant germplasm; and recommendations for additions to the Center's capsicum core collection. Each student displayed a thorough knowledge of their subject, and although a few confessed to being more than a little nervous about speaking to an audience of scientists and researchers, they gave carefully prepared presentations with professional flair. "This group has been one of



the hardest-working ever," said Lydia Wu, training coordinator. "We'll be sad to see them go." Warwick Easdown, Communications head, encouraged the students to stay in touch with the Center as they begin their careers in agriculture and science. Afterward, the students celebrated with some coffee and cake, and received certificates to mark their effort.



Photos:

1. Students together with Center staff and researchers.
2. Student Zane Nelson answers a question about his presentation.
3. Dr. Liwayway Engle of GRSU and Dr. Milagrosa Martinez, Institute of Biological Sciences.
4. Thanks for a good presentation!
5. Listening and learning.
6. Warwick Easdown hands out a certificate (and mouse pad!) to Maria San Pedro.
7. Smiles all around after the presentations.

FOCUS: Africa

John Stenhouse completed a two-week baseline survey in Cameroon from 25 April-10 May. A total of 350 vegetable producers were interviewed in five provinces. John also carried out focus group discussions with more than 120 producers. **Mathew Abang**, vBSS plant pathologist, contributed to the baseline study and observed the crop management practices of Cameroon farmers.

Jan Helsen, vBSS program director and **Ronia Tanyongana**, seed health specialist, visited Madagascar

from 10-17 May to participate in the 4th Innovative Platform (IP) meeting and discuss lessons learned from growing vegetables during the rainy season.

In late April and early May, AVRDC-RCA conducted the “Production, Processing and Utilization of Vegetable Crops to Prevent Micronutrient Malnutrition” training course with 36 female farmers from villages in Arusha Municipal and Arumeru district, Northern Tanzania.

From 11-18 May, **Shilpi Saxena** trained enumerators for the project “Organic vegetables: Domestic and regional marketing constraints and income generation opportunities for small-scale farmers in sub-Saharan Africa” in Dakar, Senegal.

— *Shilpi Saxena/AVRDC-RCA*

SKETCH



Name: Dudit Ledesma

Home: I'm from the southern part of the Philippines, but I consider Los Baños my second home.

Position: Statistician

Why you do what you do:
I have been interested in numbers ever since I was a child, and that interest just kept on growing. I studied statistics at the University of the Philippines Los Baños and have a BS and MS in the field. So statistics have been a lifelong interest of mine. I like statistics because I can see the application very quickly. Numbers explain things clearly and concisely...they are an elegant means of communication.

Why you do it at AVRDC:
After 10 years at IRRI, I came to work at AVRDC in 1999 to do some data analysis for the Olericulture unit. When that work was completed, I started taking on other database and statistical consulting work for different scientists here. I've met so many people through my work at the Center, from all over the world. It's fascinating to discover the different perceptions and views. And it's great to be part of an organization that is working

to make a difference in the world.

What's been your best experience at the Center:
What I really enjoy is helping people understand the value of good data. When you do research correctly, right from the start, you produce good data that you can present anywhere, defend anywhere. I emphasize the need for rigor and accuracy when I give training courses to the NARS and project collaborators.

What's next:
I plan to work closely with our researchers and partners in Africa, where so much of the Center's activities will be happening in the future.

Favorite vegetables:
Eggplant...it's a very versatile vegetable. And squash.