The World Vegetable Center Newsletter
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Design can change:

A new nethouse system makes safe farming attractive to Punjabi vegetable farmers

India produces the largest quantities of basic pesticides in Asia and is the 12th biggest pesticide producer worldwide. Insecticides account for more than 60 percent of India's total pesticide consumption. Applying insecticides is the most common solution farmers use to solve the problems posed by pests and diseases, but the majority of these insecticides are among the most toxic available. "Due to excessive pesticide use, pesticide residues in food, especially vegetables, in India are the highest," says Dr. Srinivasan Ramasamy, leading entomologist at AVRDC – The World Vegetable Center. "Several nationwide surveys indicated that 50-70% of vegetables are contaminated with insecticide residues. India accounts for one-third of all pesticide poisoning cases in the world. With an annual quantity of 6,900 tons, Punjab is the largest pesticide consumer in the country."

Together with Punjab Agricultural University (PAU) the Center is developing safer alternatives to pesticides, including state-of-the-art nethouse systems. Their work is supported with funding from Sir Ratan Tata Trust (SRTT).

Producing vegetables under nethouse structures has several benefits including reduced pesticide use, off-season vegetable production, advancing maturity, increased productive period, and improved quality. As the income per unit area is high, even small farmers have expressed interest in this technology.

Vegetable production in nethouses: High income per unit area

The average nethouse does not cope well with weather conditions in the Punjab. But there is good reason to assume the weather will no longer be a constraint to farmers who want to use nethouses.

A Senior Research Engineer from PAU, Dr. K.G. Singh, has designed an advanced nethouse structure that performs much better under the specific geographic and climatic settings in the Punjab. As part of a participatory process involving scientists, extensionists, and farmers, the draft model was discussed and improved. The prototype of the newly designed nethouse is being constructed at PAU. A second model will soon be constructed at AVRDC's Regional Center for South Asia (AVRDC-RCSA) in Hyderabad, India.

"Although the cost of construction is higher (about INR 160,000 or US $ 3,330), the structure is very stable and will allow for safe and sustainable vegetable production over a long period of time," says developer Dr. K.G. Singh.

What the Indian media say about the work:

http://news.webindia123.com/news/articles/India/20081215/1128788.html

Times of India: December 9, 2008 ("Nethouse design for quality agriculture")

The Tribune: December 10, 2008 ("Nethouse cultivation being promoted")

THE LIBRARY

New publications

...from Center staff

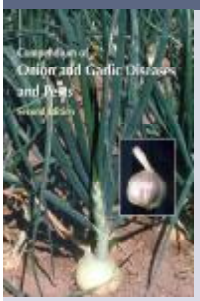
Kumar, R., Kumar, S., Dwivedi, N., **Kumar, S.**, Rai, A., Singh, M., Yadav, D.S. , Rai, M. (2008). Validation of SCAR markers, diversity analysis of male sterile (S-) cytoplasms and isolation of an alloplasmic S-cytoplasm in *Capsicum*. SCIENTIA HORTICULTURAE. Online.

Web Link of the Week: agriFeeds

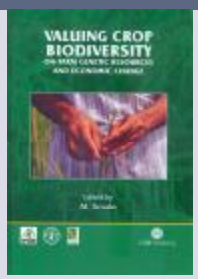
agriFeeds allows users to search and filter news and events from several agricultural information sources. It's a "one-stop shop" for recent news and upcoming events related to agriculture. This service is different from other RSS aggregators; it uses sophisticated sorting and analysis methods to select and index articles and reports, allowing for more accurate tailoring of information.

Please visit: *www.agrifeeds.org/en/node/1*

New books available

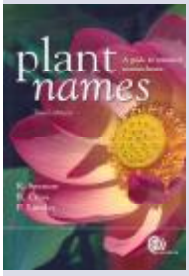


Schwartz, H.F., Mohan, S.K. (2008). Compendium of onion and garlic diseases and pests. St. Paul, MN: The American Phytopathological Society. viii, 127 pp.

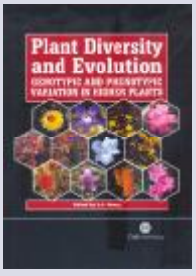


Smale, M. (2006). Valuing crop biodiversity: on-farm genetic resources and economic change. Wallingford, OX: CABI Publishing. xvi, 318 pp.

Koo, B., Pardey, P.G., Wright, B.D. (2004). Saving seeds: the economics of conserving crop genetic resources ex situ in the future harvest centres of the CGIAR. Wallingford, OX: CABI Publishing. xxiii, 207 pp.



Spencer, R., Cross, R., Lumley, P. (2007). Plant names: a guide to botanical nomenclature. Collingwood, VIC: CSIRO Publishing. xiii, 162 pp.



Henry, R.J. (2005). Plant diversity and evolution: genotypic and phenotypic variation in higher plants. Wallingford, OX: CABI Publishing. viii, 332 pp.

— Fang-chin Chen, Editorial and Library

FOCUS: AFRICA

IDE at RCA

IDE members and AVRDC staff at the meeting

IDE members and AVRDC staff at trial fields.

In mid-November RCA started building five greenhouses/screenhouses; workers at the construction ground show their progress to date.

— *Gloria Sikustahili, RCA*

Visitors from **International Development Enterprises** (IDE) in Zambia and Ethiopia met with staff at AVRDC's Regional Center for Africa in Arusha, Tanzania on 16-17 December 2008 to explore synergy among Gates-funded projects (AVRDC'S *vBSS* and IDE's *Rural Prosperity Initiative*). At the meeting, participants discussed ways to improve indigenous vegetable varieties, carry out capacity building exercises, and develop more efficient irrigation systems for crop and seed production.

Acting globally, enhancing visibility worldwide

Photo (L to R) back row: P-P Lee (Board), P-Y Lai (ex officio; Portfolio Manager), G. Saint-Martin (Board), R. Montemayor (Board), Orlando De Ponti (ISF), N. Looney (Board, Chair), D. Keatinge (Board, Deputy Chair), J. Miner (ex officio; Webmaster & Communication Officer), B. Shapiro for W. Dar (Board); **front row:** H.L. Hsu (ICDF invitee), R. Kahane (Executive Secretary), B. Giyose (Board).

The 4th Meeting the **Board of Directors of GlobalHort** was held on 26 and 27 November 2008 in Arusha, Tanzania. The global initiative for the promotion and networking of horticultural will move on with a new status: As of 25 August 2008, GlobalHort became a not-for-profit international organization legally registered in Belgium. GlobalHort will also attempt to gain INGO status in Tanzania. GlobalHort will continue to be hosted by AVRDC-RCA. "We pledge to build on the foundation established by AVRDC to further improve the collaborations with AVRDC and other partner institutions," says Dr. Rémi Kahane, Executive Secretary of GlobalHort. "It is my firm belief that the two organizations can become even more effective in advancing horticultural research, development and training at the local, regional, or even global levels." GlobalHort help will organize the All Africa Horticulture Congress scheduled for next year in Nairobi, Kenya.

www.globalhort.org

SKETCH

Name: Ravza Mavlyanova

Home: Uzbekistan (Central Asia)

Position: AVRDC's Regional Coordinator for Central Asia and the Caucasus

Mini CV: My background is in agronomy, plant genetic resources, breeding and seed growing. I did my thesis research experiments at the Central Asian Branch of Vavilov's Institute (Tashkent, Uzbekistan). I defended my PhD thesis at Vavilov's Institute of Plant Industry in St. Petersburg in Russia in 1984. I worked at the Central Asian Branch of Vavilov's Institute for 26 years. It was renamed the Uzbek Research Institute of Plant Industry in 1992 after Uzbekistan's independence; I worked there as Deputy Director of Science for eight years before joining AVRDC. I defended my second doctoral thesis in Uzbekistan in 2000.

Why do you do what you do?

Humanity can't live without food. Vegetables are a great marvel of nature and vegetable cultivars are the unique products of breeding. I have admired nature since my childhood. I wanted to dedicate my life to this noble aim—to develop new varieties, to promote vegetable production development through research and to strengthen human health, especially children's health. I am happy that my research and activities benefit people.

Why do you do it at AVRDC?

After joining AVRDC I have more opportunities to expand activities for the National Research Agricultural System (NARS) in Central Asia and the Caucasus. We have built partnerships within the CACVEG network created by AVRDC in 2006, and strengthened collaboration with farmers. I'm grateful for the support AVRDC's scientists provide for research and capacity building in the CAC.

Research

Our existing research focuses on AVRDC's improved vegetable germplasm introduction, regional variety trials, capacity building, and knowledge dissemination. For the first time AVRDC's promising vegetable varieties have been released and are being trialed in all eight CAC countries. It is a wonderful achievement on the part of AVRDC scientists and our national partners.

What's next?

There are a lot of directions for improvement in CAC, including breeding and seed production, the adoption of modern and low-cost technologies, IPM, and policy analyses to promote value-added postharvest processing and marketing.

Your favorite experience ....

When I came to Taiwan for the first time, I visited the biggest vegetable market on the island. There were so many species of vegetables in this market! Many I had never seen before. And the service from the vegetable sellers was very well organized.

Your favorite vegetable?

I like all vegetables, but what I like best are Central Asian melons. They are the sweetest, most flavorsome melons in the world. Welcome to Uzbekistan!

PEOPLE — *vBSS* NEW STAFF

Mr. Takemore Chagomoka, Seed Marketing Specialist, Tanzania

Mr. Takemore Chagomoka joined *vBSS* program on 1 December 2008 as a Seed Marketing Specialist.
Mr. Chagomoka is from Zimbabwe and holds a BSc in Agriculture Management and an MSc in Strategic Management. Prior to joining AVRDC he was employed as the Managing Director of a small seed company in Mozambique.
Mr. Chagomoka will be based in Arusha, Tanzania and can be contacted at takemore.chagomoka@worldveg.org

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