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## Play of Colors

Dutch design enjoys a good reputation among those who have an affinity for the interaction of form and function. The news from the Netherlands brings together creative know-how with the country's long experience in horticulture: To support campaigns for better nutrition such as "5 a Day," a private sector company has developed snack vegetables that consist of fresh cucumbers, sweet peppers, and sweet honey tomatoes in bite-sized portions. The products are most likely to suit the current trend of healthy food and convenience, and are advertised as an ideal supplement at lunch or as a snack throughout the day.

In the meantime, "beautiful but noir" must have inspired researchers at the three Italian universities of Pisa, Modena, and Tusciana when they launched a brand new tomato recently. Its most striking attribute: while ripening, its peel becomes dark purple and black, thanks to its high content of anthocyanins, the same pigments that are present in some supposedly healthy fruits as black grapes and blueberries.

Branded "Sun Black," its pulp is still red in color, and it tastes like a traditional tomato. Sun Black is not a GM product and it is healthy,

thanks to the antioxidant properties of anthocyanins, the researchers say.



This week, a study made the news that claimed eating broccoli could reverse the damage caused by diabetes to heart blood vessels. Brassica vegetables such as broccoli previously have been linked to a lower risk of heart attacks and strokes. Now, scientists at the British University of Warwick believe they have identified the compound that makes broccoli beneficial: Sulforaphane. According to the report published in the journal *Diabetes*, sulforaphane encourages the production of enzymes that protect the blood vessels, and reduces high levels of molecules that cause significant cell

damage. People with diabetes are up to five times more likely to develop cardiovascular diseases such as heart attacks and strokes; both are linked to damaged blood vessels. The study suggests compounds such as sulforaphane from broccoli may help counter processes linked to the development of vascular disease in diabetes. "The glucosinolates in broccoli have well-documented anti-cancer properties," says Ray-yu Yang, the World Vegetable Center's nutritionist. "However, broccoli is a vegetable that is usually grown in temperate climates. There is a tropical vegetable crop that also contains glycosalates, at concentrations 5 to 10 times higher than broccoli: *Moringa oleifera*, also known as drumstick." Moringa is popular in India, the Philippines and some regions of West Africa.

Further reading:

"The Convenient Snack" (25 July 2008)  
 "Sun Black: The New Black Tomato" (25 July 2008) - Freshplaza ([www.freshplaza.com](http://www.freshplaza.com))

"Broccoli may undo diabetes damage" (5 August 2008) - BBC ([news.bbc.co.uk/2/hi/health/7541639.stm](http://news.bbc.co.uk/2/hi/health/7541639.stm))

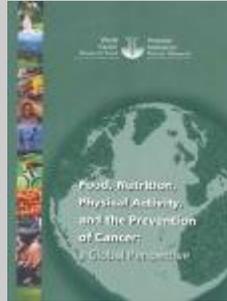
## The LIBRARY

### New publications

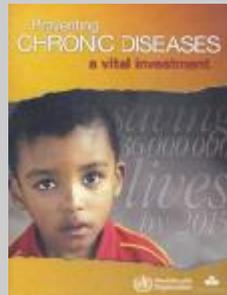
#### ... from Center staff

Alabi, O.J., Ogbe, F.O., Bandyopadhyay, R., Kumar, P.L., Dixon, A.G.O., Hughes, J.d'A., Naidu, R.A. (2008). Alternate hosts of Africa cassava mosaic virus and East African cassava mosaic Cameroon virus in Nigeria. ARCHIVES OF VIROLOGY. (online).

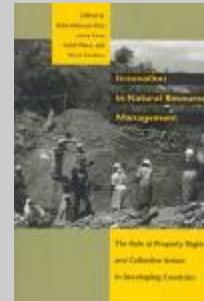
#### ... New books available



World Cancer Research Fund International (2007). *Food, nutrition, physical activity, and the prevention of cancer: a global perspective* (& CD). London: WCRF International. xxv, 517 pp.



World Health Organization (2005). *Preventing chronic diseases: a vital investment*. Geneva: WHO. xiv, 182 pp.



Meinzen-Dick, R., Knox, A., Place, F., Swallow, B. (2002). *Innovation in natural resource management: the role of property rights and collective action in developing countries*. Baltimore, MD: The Johns Hopkins University Press. xv, 317 pp.

### Online journal *Current Science* now on Library website

Founded in 1932, *Current Science* is an open access journal published by the Current Science Association in collaboration with the Indian Academy of Sciences. The journal serves as a forum for the communication and discussion of science and scientific activity.

Please visit the Library website [libnts.avrdc.org.tw](http://libnts.avrdc.org.tw) and click on "Electronic Resources" to access online journals.

Some useful articles from *Current Science*:

Roy, S.K., Gangopadhyay, G., Ghose, K., Dey, S., Basu, D., Mukherjee, K.K. (2008). A DNA-AFLP approach to look for

differentially expressed gene fragments in dioecious pointed gourd (*Trichosanthes dioica* Roxb.) for understanding sex expression. v.94(3):381-385.

Anjanasree, K.N., Srivastava, A., Handa, A., Bansal, K.C. (2005). Identification of differentially expressed ripening-related cDNA clones from tomato (*Lycopersicon esculentum*) using tomato EST array. v.88(5):792-796.

Jain, K., Kataria, S., Guruprasad, K.N. (2004). Effect of UV-B radiation on antioxidant enzymes and its modulation by benzoquinone and alpha-tocopherol in cucumber cotyledons. v.87(1):87-90.

Souframanien, J., Joshi, A., Gopalakrishna, T. (2003). Intraspecific variation in the internal transcribed spacer region of rDNA in black gram (*Vigna mungo* (L.) Hepper). v.85(6):798-802.

Chauhan, S.V.S., Singh, V. (2002). Detergent-induced male sterility and bud pollination in *Brassica juncea* (L.) Czern & Coss. v.82(8):918-920.

## PEOPLE

## Welcome...



Sokoine University of Agriculture,

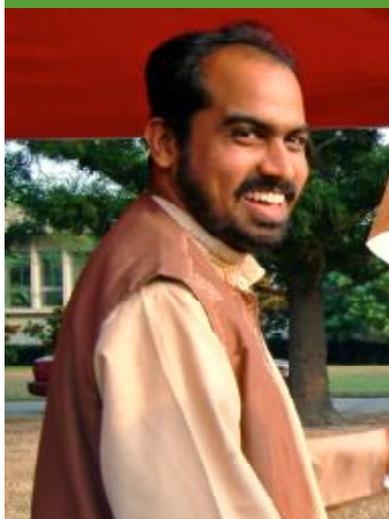
**Ms. Irene Mduma**, a graduate student from the Department of Food Science and Technology,

Tanzania arrived at Center HQ on 1 August 2008 for three months of training. Irene will work on "Modification of African traditional vegetable recipes to enhance nutrient retention and iron accessibility: case study of cowpea" for the project funded by BMZ-

African IV (II) in the Nutrition Unit under the supervision of Dr. Ray-yu Yang. Contact Irene at 434 (laboratory) and 871 (dormitory), email: <[irene\\_mduma@yahoo.com](mailto:irene_mduma@yahoo.com)>.

— Lydia Wu, Global Technology Dissemination

## SKETCH



**Name:** R. Srinivasan

**Home:** Tamil Nadu (India), where my grandparent, parent and sister are still living.

**Position:** Entomologist

**Why you do what you do:** I grew up in a farming family. My grandfather was an innovative farmer in those days. He was the first to introduce cassava in our region. Hence, I developed an interest in agriculture. Secondly, most people in the developing world depend on agriculture for their livelihoods. If anyone wants to improve their livelihood, he/she should improve agriculture. Thus I decided to study agriculture, and received my BSc in Agriculture from Tamil Nadu Agricultural

University. Later, I received my MSc and PhD in Agricultural Entomology from the same university. I did my thesis research at AVRDC, through the prestigious Jawaharlal Nehru Memorial Scholarship for Doctoral Studies, which is offered for eight doctoral scholars across the country every year. Before joining AVRDC, I was working as a Postdoctoral Fellow in the Department of Biotechnology in India, and then as a Research and Development Manager for a sago company.

**Why you do it at AVRDC:** Insect pests are one of the major production constraints in vegetable crops in the tropics. India is the second largest vegetable producer in the world, and I have seen firsthand how pesticides are misused on vegetable crops there. Hence, I wanted to contribute something to reduce pesticide misuse on vegetables. As I did my thesis research at AVRDC, I was quite familiar with the Center's Research and Development activities, which impressed me a lot and motivated to join.

**Research:** Our current research targets the key insect pests on major vegetables such as tomato, eggplant, pepper, vegetable legumes, brassicas, and cucurbits.

We're developing alternate pest management techniques based on biopesticides, natural enemies, sex pheromones, and cultural practices to reduce pesticide misuse on vegetables. After a pause, we've also started germplasm screening for resistance against whitefly, aphids, and mites.

**Priorities for next five years:** To develop an effective integrated pest management strategy for *Maruca vitrata* in Southeast Asia; for spider mites in Africa; and for thrips and tospoviruses in South Asia.

**Most amazing experience in Taiwan:** Everybody in my family loves nature very much. Hence, we usually drive to the mountains, hot springs, waterfalls, national parks, reservoirs, and coastal areas of Taiwan. We explored the east coast during the 2007 Chinese New Year holidays and we visited several places. One of them was 'Water Running-up,' where the water was flowing from a lower point to an upper point in an open channel. Still I do not understand how it's possible!

**Favorite vegetable(s):** Eggplant and snake gourd.

## FOCUS: AFRICA

AVRDC entomologist Srinivasan Ramasamy and vBSS staff Mathew Abang, Jan Helsen, and Ronia Tanyongana met on 19 July at RCA to address insect pest management issues within vBSS. IPM strategies and entomology research activities were highlighted, and the institutional and management framework within which entomology research issues will be addressed in vBSS were clarified.

A meeting to brainstorm on vBSS innovation platforms and public-private partnerships was held on 21 July at RCA. Major issues included the focus and sustainability of the innovation platforms; differences between hubs and the need for flexibility at each hub; the necessity to build on existing structures and frameworks; other regional and subregional initiatives; and engaging the private seed sector in sub-Saharan Africa.



Participants in the meeting on vBSS innovation platforms and public-private partnerships at AVRDC-RCA, 21 July 2008.

The mid-term review of the vBSS baseline study took place from 23 to 24 July. The baseline survey consultants (Prof. Joseph Hella, Drs. Jim Ellis-Jones, John Stenhouse, Howard Gridley, and Moses Onim) gave presentations on hub and spoke countries and made recommendations based on their findings.

### Farewell

Dr. Germain Pichop has accepted a new position in the USA and left AVRDC-RCA on 5 August. We wish him all the best in his new job.

## MORE NEWS

### Conference calendar



**14th International Sustainable Development Research Conference**  
21-23 September 2008  
New Delhi, India

[www.14aisdrc2008.com](http://www.14aisdrc2008.com)

The International Sustainable Development Research Society hosts its annual conference to discuss papers categorized into 23 tracks or areas of interest, including:

- ∨ consumption and production
- ∨ global supply chains
- ∨ agriculture
- ∨ education
- ∨ industrial ecology
- ∨ environmental policy
- ∨ climate change
- ∨ information technology

Always up-to-date, the Center's intranet features a comprehensive list of upcoming events and conferences that are related to science and development:

[http://www.avrdc.org/intranet/events\\_2008.html](http://www.avrdc.org/intranet/events_2008.html)

If you know of an important event that is not listed yet, please share it with your colleagues and make sure it will be listed.