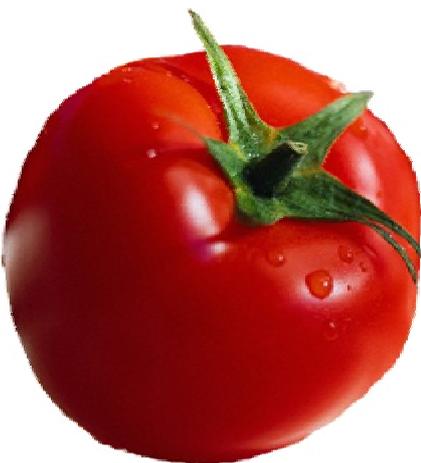




Organic Vegetables: A Vote of Confidence?

The debate whether organic food is healthier does not halt. A forthcoming study by researchers at UC Davis and University of Minnesota provides evidence that adherents and promoters of organic farming have long been eager to hear: The results of their ten year study comparing organic tomatoes with those grown conventionally suggests that organic vegetables indeed have higher health benefits.



The study is due to be published in the *Journal of Agricultural and Food Chemistry*. A preliminary report has been released by the *New Scientist* this week. According to the new findings, levels of the flavonoids

quercetin and kaempferol were found to be on average 79 and 97 per cent higher, respectively, in organic tomatoes.

"Flavonoids such as these are known antioxidants and have been linked to reduced rates of cardiovascular disease, some forms of cancer and dementia", says Alyson Mitchell, a food chemist who led the research at the University of California, Davis.

"Differences in soil quality, irrigation practices and the handling of harvested produce have made direct comparisons difficult in the past, says Mitchell. So in this study the researchers used data from a long-term project in which standardized farming techniques had been used to reveal trends in crop productivity.

The team reports the finding can be explained by the availability of nitrogen. Flavonoids are produced as a

defence mechanism that can be triggered by nutrient deficiency. The inorganic nitrogen in conventional fertilizer is easily available to plants and so, the team suggests, the lower levels of flavonoids are probably caused by over-fertilization.

Previous research has found no differences between organic and conventional crops such as wheat or carrots. Meanwhile a study proclaiming that organic milk had higher levels of omega-3 fatty acids failed to convince the UK's Food Standards Agency (FSA), which pointed out that these short-chained fatty acids do not have the health-promoting benefits offered by long-chained omega-3 oils.

"This latest study does not prove that a healthy diet must be organic. The evidence of health benefits for flavonoids is conflicting", says Peter Bramley at Royal Holloway College, University of London. And even if such benefits exist, higher flavonoid levels do not necessarily make organic food healthier, says John Krebs, former chair of the FSA and now at the University of Oxford. "This depends on the relevance of the differences to the human body," he says. "Tomato ketchup has higher levels of lycopene than either organic or conventional tomatoes. So if you wanted lots of lycopene you should eat ketchup."

Related links:

Organic tomatoes have more antioxidants
www.newscientist.com (<http://environment.newscientist.com>)

Which is more healthy, organic tomatoes or ketchup?
www.ucdavis.edu (<http://eggheadblog.ucdavis.edu/?p=593>)

- Communications

New Publications (Articles & Books) Received by the Library

Concellon, A., Anon, M.C., Chaves, A.R. (2007). Effect of low temperature storage on physical and physiological characteristics of eggplant fruit (*Solanum melongena* L.). *LWT - FOOD SCIENCE AND TECHNOLOGY*. v.40:389-396.

Elizabeth, S.V., Bender, C.L. (2007). The phytotoxin coronatine from *Pseudomonas syringae* pv. tomato DC3000 functions as a virulence factor and influences defence pathways in edible brassicas. *MOLECULAR PLANT PATHOLOGY*. v.8(1):83-92.

Huchette, O., Arnault, I., Auger, J., Bellamy, C., Trueman, L., Thomas, B., Ochatt, S.J., Kahane, R. (2007). Genotype, nitrogen fertility and sulphur availability interact to affect flavour in garlic (*Allium sativum* L.). *JOURNAL OF HORTICULTURAL SCIENCE & BIOTECHNOLOGY*. v.82(1):79-88.

Khokhar, K.M., Hadley, P., Pearson, S. (2007). Effect of photoperiod and temperature on inflorescence appearance and subsequent development towards flowering in onion raised from sets. *SCIENTIA HORTICULTURAE*. v.112(1):9-15.

Luther, G., Wang, T.C. (2007). Chilli integrated disease management rapid rural appraisal in Central Java, Indonesia. Shanhua, Tainan: AVRDC – The World Vegetable Center. 54 pp.

Saini, R., Singh, R.P., Jaiwal, P.K. (2007). *Agrobacterium tumefaciens* mediated transfer of *Phaseolus vulgaris* alpha-amylase inhibitor-1 gene into mungbean *Vigna radiata* (L.) Wilczek using *bar* as selectable marker. *PLANT CELL REPORTS*. v.26(2):187-198.

Yang, R.Y., Hanson, P.M., Lumpkin, T.A. (2007). Better health through horticulture - AVRDC's approach to improved nutrition of the poor. *ACTA HORTICULTURAE*. no.744:71-77.

Lange, S., Williges, S., Saxena, S., Willer, H. (2006). Country report on organic food and farming research in Germany. In: Research in organic food and farming: reports on organisation and conduction of research programmes in 11 European countries. Bonn: Federal Agency for Agriculture and Food. p.96-128

Lin, S.W., Gniffke, P.A., Wang, T.C. (2006). Inheritance of resistance to anthracnose in chilli pepper (Abst.). In: Abstracts: 27th International horticultural congress & exhibition. Leuven: ISHS. p.14

Pae, D.H., Chae, Y., Wang, T.C., Engle, L.M., Shanmugasundaram, S. (2006). Selection of new breeding materials with resistance to anthracnose in *Capsicum annuum* (Abst.). In: Abstracts: 27th International horticultural congress & exhibition. Leuven: ISHS. p.419

New Popular Magazines Now Available in the Library

The Economist: The trouble with private equity – 7th–13th July 2007

National Geographic (Chinese) – July 2007

Scientific American (English) – July 2007

Time: Keeping an eye on terror – 16 July 2007



Recommended Web Link: My Pyramid Tracker

This online tool cannot judge how tasty your dishes are, but it can detect whether your daily foods contain all necessary micronutrients and other essential components. MyPyramid Tracker is an online dietary and physical activity assessment tool that provides information on your diet quality, physical activity status, related nutrition messages, and links to nutrient and physical activity information. It is provided by the

Center for Nutrition Policy and Promotion of USDA. Certainly we cannot make any predictions on your personal dietary status, but we have no doubt that the results will give you some food for thought. We, at least, were surprised.

<http://www.mypyramidtracker.com>

New Staff – Dr. Madhusudan (Madhu) Bhattarai , Agricultural Economist

Dr. Madhusudan (Madhu) Bhattarai has been appointed as Agricultural for an initial period of two years and will report for duty at the HQ on 20 August 2007. He will be accompanied by his wife (Anita) and their two children (daughter Akriti at six and son Raunak at one). The Bhattarais will stay in House 808 (ext. 808) on campus. Madhu's office will be located at the Guest Room 207 (at the north wing of the 2nd floor of the FDS building) with extension number 150.

Madhu received his Ph. D. in Applied Economics (major in Environmental and Resource Economics) from Clemson University, South Carolina, USA. He has over thirteen years of professional work experience as a development, environmental and water resources economist, and applied public policy analyst. Madhu will be based at Headquarters and will report directly to Dr. Katinka Weinberger, Socio-Economist.

Madhu's major responsibilities are (1) participate in applied research projects in South and Southeast Asia, in collaboration with a team of bio-physical scientists, and coordinate all economic research activities in the projects assigned to him; (2) develop innovative modeling frameworks for understanding adoption pathways of new horticultural technologies; and for the appraisal of the effects of technological change on resource use and poverty outcomes at a farm household and regional level; (3) contribute to the Center's efforts

on establishing a culture of impact assessment by providing technical and analytical support in Monitoring and Evaluation (M&E) activities and by contributing to the development of proposals, procedures, surveys and databases; (4) actively conduct field work in collaboration with NARS, Universities and NGOs; (5) identify training needs in socio-economic analyses among national collaborators; develop training materials and provide training as required; (6) produce high-quality technical reports, an average of at least two refereed journal articles per year and other documentation as required, and disseminate research findings to the relevant audiences; (7) establish close contacts with policy makers, relevant research and development agencies, donors and other stakeholders in the region as appropriate; (8) identify research funding opportunities and prepare successful grant proposals to support his/ the Center's research activities; and (9) carry out other duties as may be required.

We wish Madhu every success in his new appointment with AVRDC.

- Source: Dr. Yin-Fu Chang/DDG-A&S,
Lilia Tan Habacon/Human Resources Manager

News from Africa

Training

AVRDC-RCA conducted a two day training course on Vegetable Production, Processing and Preservation for

30 farmers from Ulonga, Arumeru District, Arusha Region (July 12 – 13, 2007).

Visitors

Mr. Hamad Almas and Mr. Iman Francis, Bsc students in Agronomy from Sokoine University of Agriculture, Tanzania joined AVRDC-RCA as Research Interns for five weeks (June 18–July 20). They are participating in production research, home gardening and seed storage and processing application at RCA.

Ms. Anna Herforth, PhD student in International Nutrition from Cornell University, New York State, will join AVRDC-RCA (16-31 July 2007) for a nutrition study on "Impact selling fruits and vegetables to supermarkets can impact household diet quality". Anna has an MSc in food policy from Tufts University (Boston, MA) and a BSc in plant Science from Cornell University.

- Source: Dr. Shilpi Saxena/AVRDC-RCA

Travel

Dr. Paul Gniffke, 16 July-3 August, on annual leave. During this period, Dr. Gniffke will attend the ASHS annual conference in Scottsdale, Arizona, and deliver a presentation at a symposium on current developments in International Horticulture strategies (16-19 July); to attend the Centennial Celebration of the Plant Breeding Department at Cornell University, Ithaca NY (20-22 July).

Mr. Wen-shi Tsai and **Mrs. Hsiu-mei Liu**, 16-21 July, to Thailand, to collect samples of pepper (*Capsicum* sp.) for identification at HQ, especially for geminiviruses and ChiVMV of chili; to interact with GTZ/Chili II project virology cooperators of Thailand.

Dr. Manuel C. Palada, 21-29 July, to Honiara, to participate in the inception and planning meeting workshop for ACIAR-AVRDC Project – integrated Crop Management Package for Sustainable Smallholder Gardens in Solomon Islands; to discuss the activities and implementation of the project with local

collaborators and partners; to clarify some administrative matters in project implementation; to visit project sites and facilities of collaborating partners around Honiara and nearby islands.

- Source: Yvonne Ting/ASU

Dr. Mel Oluoch will be on leave to Kisumu, Kenya, (9-10 and 12-13 July); 14 July, to Kisumu, Kenya, to visit Lagrotech Seed Company; 15- 19 July, to Kampala, Uganda, to visit various Seed Companies and Kawanda Agricultural Research Institute as well as partners in collaborative projects; 20 July, to Nakuru, Kenya to visit FAIDA Seed Company and to Naivasha, Kenya to visit HORTITECH Seed Company.

Dr. Detlef Virchow will be on leave on 19– 24 and 26-27 July.

- Source: Dr. Shilpi Saxena/AVRDC-RCA

Farewell to Mr. Tung-jai Cheng



For over 18 years, Mr. Tung-jai Cheng has given AVRDC's print publications and newsletters their face. Today is his last working day at the Center.

Mr. Cheng joined AVRDC on 15 May 1989, and kept on supporting CTO as a fixed term worker after his official retirement on 9 July 2000. His gentle and helpful attitude towards the colleagues, his reliability and his diligent and fantastic skills on printing and binding always impressed us. We express our deep and heartfelt appreciation for his hard work during the past years with the Center. We wish him good health and much happiness!

今天我們敬愛的鄭同結先生在亞蔬中心服務18年的最後一個工作天，鄭先生1989年5月份加入中心從事印刷工作，2000年7月屆齡退休後，由於對印刷工作的專業，又被回聘擔任兼職的印刷技術員。鄭先生對同仁們的和善、工作上合作、勤奮、令人信賴的態度，以及在印刷、裝訂專業上高超的技術，在在都令我們印象深刻，我們祝福鄭先生正式自中心退休後，身體健康精神愉快！

- Source: Communications