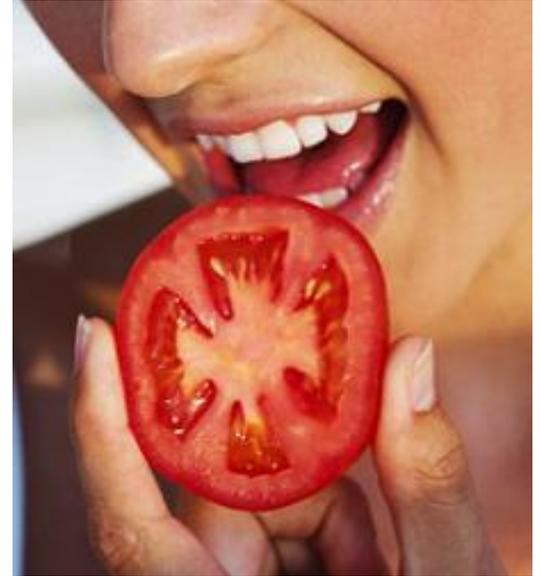




9 March 2007

Vitamin-enhanced GM Tomatoes Provide Daily Needs in One Serving



Researchers from the University of Florida have created transgenic tomatoes that express 25 times more folate than normal tomatoes, and may offer up to seven times more folate than green leafy vegetables, considered a rich source of the vitamin.

Folate is found in foods such as green leafy vegetables, chick peas and lentils, and an overwhelming body of evidence links has linked folate deficiency in early pregnancy to increased risk of neural tube defects in infants - most commonly spina bifida and anencephaly.

This connection led to the 1998 introduction of public health measures in the US and Canada, where all grain products are fortified with folic acid - the synthetic, bioavailable form of folate.

"However, food fortification can be difficult to implement in developing countries due to recurrent costs, distribution inequities, and a lack of an industrial food system," wrote lead author Rocio Díaz de la Garza. "Folate enhancement in plant foods (biofortification) through metabolic engineering therefore represents an attractive alternative strategy to increase the intake of natural folates in rich and poor countries alike."

Writing in the Proceedings of the National Academy of Sciences, the researchers report that by genetically engineering two different tomato strains to each

overproduce one folate precursor (pteridine or p-aminobenzoate (PABA)), and then crossing these, the resulting ripe fruit contained 25-fold more folate than normal tomatoes. That's enough to provide the recommended daily allowance for a pregnant woman "in less than one standard serving," said the researchers." To our knowledge, the folate levels we achieved are the highest reported for plants."

They noted that the concentrations of folate precursors are likely at safe consumption levels, but stated that more research is required to fully assess the potential and safety of accumulated pteridines in GM fruit and plants.

No GM crops with potentially enhanced health benefits have been approved for human consumption. The benefits of such crops will have to be dramatically demonstrated to overcome consumer concerns related to their potential environmental and health impacts.

Extracted from an article by Stephen Daniells, Food Navigator

*Source: Proceedings of the National Academy of Sciences
March 6, 2007, Volume 104, Number 10, Pages 4218-4222*

"Folate biofortification of tomato fruit"

Authors: R.I. Díaz de la Garza, J.F. Gregory III, and A.D. Hanson

New Publications (Articles & Books) Received by the Library

Bharathi, L.K. (2007). Ivy gourd. In: Underutilized & underexploited horticultural crops: vol. 1. New Delhi: New India Publishing Agency. p.275-282.

Cruz, von M.V., Luhman, R., Marek, L.F., Rife, C.L., Shoemaker, R.C., Brummer, E.C., Gardner, C.A.C. (2007). Characterization of flowering time and SSR marker analysis of spring and winter type *Brassica napus* L. germplasm. EUPHYTICA. v.153:43-57.

Peter, K.V., Sadhan Kumar, P.G. (2007). Tropical cucurbits and their improvement. In: Underutilized & underexploited horticultural crops: vol. 1. New Delhi: New India Publishing Agency. p.233-246.

Peter, K.V. (2007). Underutilized & underexploited horticultural crops: vol. 1. New Delhi: New India Publishing Agency. 377 pp.

Ariyama, K., Nishida, T., Noda, T., Kadokura, M., Yasui, A. (2006). Effects of fertilization, crop year, variety, and provenance factors on mineral concentrations in

onions. JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY. v.54(9):3341-3350.

Kumar, N. (2006). Principles and practices in breeding of annual horticultural crops: tomato. In: Breeding of horticultural crops: principles and practices. New Delhi: New India Publishing Agency. p.163-166.

Moustier, P., Figue, M., Loc, N.T.T., Son, H.T. (2006). The role of coordination in the safe and organic vegetable chains supplying Hanoi. ACTA HORTICULTURAE. no.699:297-307.

Akindahunsi, A.A., Salawu, S.O. (2005). Antioxidant indices of some green leafy vegetables. TROPICAL SCIENCE. v.45:33-35.

Jongen, W. (2005). Improving the safety of fresh fruit and vegetables. Cambridge: Woodhead Publishing Limited. xv, 639 pp.

- Source: Fang-chin Chen/Library Services Unit

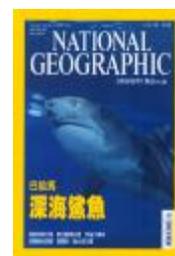
New Popular Magazines Now Available in the Library

The Economist: A walk down Wall Street – 3rd – 9th March 2007

National Geographic (Chinese) – March 2007

Photo Techniques – March/April 2007

- Source: Fang-chin Chen/
Library Services Unit



Recommended Web Link of the Week: GEO-Guide

GeoGuide – is a subject gateway to scholarly relevant websites in earth science and geography. It is part of the Virtual Library for Earth Science, Geography and Mining: GEO-LEO. In addition, GeoGuide offers a

linklist to many related sites.

Please visit <http://www.geo-guide.de/>

- Source: Fang-chin Chen/Library Services Unit

CIRAD Electronic Newsletter English Version Available

The English version electronic newsletter from CIRAD is available on-line now. You may click : <[anglaise](#)> to get it. If you wish to receive the CIRAD Newsletter, the

link is: <http://www.cirad.fr/en/lettre/lettre.php>

- Source: Dr. Rémi Kahane/GHI

Bangkok and Kamphaengsaen Ready for 40th AVRDC Board Meeting



Next week our 40th Board Meeting will take advantage of the diverse facilities at the Asian Regional Center in Thailand while making key management decisions and viewing our work in action in the field.

Unlike other regional centers, the Asian Regional Center has offices at two sites—the administrative office at Kasetsart University campus in Bangkok and the field station at the University's rural campus in Kamphaengsaen about 90 minutes drive east of Bangkok. The Board meeting will be held at the two venues.



In Kamphaengsaen, the Board will meet at the National Agricultural Extension Training Center close to the ARC field station. In addition to providing technical and logistical backup there, the Asian Regional Center will also facilitate documentation for the three days of meetings. After viewing training facilities and opening the new ARC Indigenous Vegetable demonstration plot the Board will return to Bangkok to visit a large wet market and finish with a dinner boat cruise on the Chao Phraya River. The arrangements for this year's Board meeting will provide both excellent meeting facilities as well as an opportunity for members to see at first hand the work of our Asian Regional Center.

- Source: Dr. Peter Ooi/Director/
AVRDC-ARC

Welcome

Dr. Sanjeet Kumar has been appointed as Vegetable Breeder for the Sudano-Sahelian Region effective 19 March 2007. This is a joint appointment with ICRISAT. Dr. Kumar will be based at the Central and West African Regional hub of ICRISAT in Sadore, Niger.

Dr. Sanjeet Kumar is 36 years old, from India, married, with one daughter, and has a PhD degree in Genetics, Cytogenetics and Plant Breeding from the Indian Agricultural Research Institute. He is at present a plant genetics scientist at the Indian Institute of Vegetable Research in Varanasi.

Dr. Kumar will work with the crops diversification staff of ICRISAT stationed at Sadore, and in cooperation with AVRDC's scientists at HQ, stationed at Samanko, Mali and AVRDC-RCA to evaluate and select among existing vegetable varieties, and develop new ones, with the objective of improving yields and quality of the region's major vegetable crops, as well as lengthening the usable vegetable production season. His e-mail address is <sanjeek1@gmail.com>.

- Source: Dr. Tom Lumpkin/Director General



Ms. Maria Eduviges Alpizar Vargas, Graduate Student from National Pingtung University of Science and Technology, Taiwan, arrived at AVRDC on 2 March 2007 for four months of training. Ms. Alpizar Vargas is a Costa Rican. She will work on "Developing Integrated Pest Management for thrips on hot pepper" under the supervision of Dr. Srinivasan Ramasamy. She can be contacted at 422/423 (office) and 873 (dormitory), <edualpizar@hotmail.com>.



Ms. Joyce Boniface Ngegba, Graduate Student from Sokoine University of Agriculture, Tanzania, arrived at AVRDC on 2 March 2007 for three months of training. Ms. Ngegba will work on "Africa IV recipe design for higher iron consumption" under the supervision of Dr. Ray-yu Yang. She can be contacted at 436 (office) and 878 (dormitory) <joyce.ngegba@netra.avrdc.org.tw>.

- Source: Rose Chan/CTO

Travel

Drs. Thomas Lumpkin, Jackie Hughes, Yin-Fu Chang, Warwick Easdown, Mr. Vincent Lu, and Ms. Adrienne Mak, 11-16 March, to Bangkok, Thailand, to participate in the 40th meeting of the Board of Directors. During this trip, Dr. Hughes will organize the Regional Directors meeting in conjunction with the 40th Board Meeting. Dr. Easdown will also meet with regional directors to discuss the future of training in the Center.

Dr. Paul Gniffke, 11-18 March, to Aleppo, Syria, to attend and present a keynote address at the conference on "Role of Horticulture for Domestic and Export Markets and Poverty Alleviation in the NENA Region" which will be held at ICARDA.

Dr. Ray-yu Yang, 13-16 March, to Bangkok, Thailand, to attend and present in a JIRCAS workshop on "Functional properties and utilization of indigenous vegetables."

Dr. Antonio L. Acedo Jr., 14-17 March, to Phnompenh, Cambodia, to provide advice and ensure proper conduct of PHT research on chili harvest from the large-scale variety trial and the training on chili drying; to discuss other project activities and concerns.

- Source: Yvonne Ting/ASU

Job Announcement: Technician – Technical Services Office (TSO)

技術服務室徵才

The Technical Services Office (TSO) is seeking a Technician to manage masonry work and the supervision of cleaning work. **Job Objectives:** 1) To be in charge of the required materials and facilities to meet the Center's maintenance and repair needs; and 2) To execute routine cleaning work to maintain a neat, tidy and comfortable office and lab environment. **Specific Responsibilities:** 1) to maintain the materials and equipment for masonry repair and maintenance work; 2) to execute the "Job Requests" as related to masonry works and to keep daily cleaning activity moving efficiently; 3) to examine and supervise the masonry and cleaning works to be accomplished; 4) to calculate the cost of materials consumed for budget purposes; 5) to follow the plan and procedures for maintenance, renovation or construction of masonry works requested; 6) to supervise and arrange cleaning work performed by janitors in administration, the lab and other buildings; 7) to support casual services for requests related to masonry and cleaning works; and 8) to supervise contractors' works related to masonry construction. **Qualifications:** Technical school graduate; minimum 5 years' experience on masonry and cleaning work and basic English communication. **Application:** Submit a letter of application, Curriculum Vitae, with names and contact addresses (phone number and e-mail) of three referees. Send to: Personnel Office, AVRDC, P.O. Box 42, Shanhua, Tainan 74199, Taiwan; e-mail: <jobapply@netra.avrdc.org.tw>; fax: 886-6-583-0009 no later than 31 March 2007.

技術服務室徵才。工作目標：負責中心維修所需材料及設施以及執行日常清潔工作，以維持辦公室以及實驗場地的整潔與舒適。主要負責工作：維持水泥磚石工作所需物料及機具；依工作單順序，每日有效率地進行清潔工作；確實檢查完成水泥磚石及清潔工作；計算材料之耗損以便預算調度；依照維修、整建或新建工程計劃及程序執行水泥磚石工作；管理及安排行政大樓、實驗室及其他建築物之清潔工作；依照需求提供水泥磚石及清潔工作相關服務以及監督外包水泥磚石工程。應徵資格：職業學校畢業；五年以上水泥磚石及清潔工作經驗；具基本英語會話能力。意者，請寄履歷表、自傳、畢業證書影本/證照至：亞洲蔬菜研究發展中心台南縣善化鎮郵政信箱 42 號，人事室收。

- Source: Felisa Wang/ASU

NRS Performance Bonus for 2006

The NRS performance bonus for 2006 will be deposited into the postal accounts of staff members on 15 March 2007.

在地員工2006年績效獎金，3月15日將存入個人的郵局帳戶內。

- Source: Dr. Yin-Fu Chang/DDG-A&S

Certificate of Insurance Premium Paid 健保、勞保繳費證明

Please call Ms. Felisa Wang (ext. 215) for the Certificate of Insurance Premium Paid for the 2006 income tax report before 30 April 2007.

請於96年4月30日前向人事王淑真(分機 215)登記領取95年度健保、勞保繳費證明，申報所得稅。

- Source: Felisa Wang/TSO

New E-mail Address

Ms. Hiroko Kunori, Undergraduate Student from Tokyo University of Agriculture, Japan, in Nutrition

Unit, <hiroko.kunori@netra.avrdc.org.tw>.

- Source: Shirley Chen/Computer Services

SAS Software Version 9.1 Available Now

The SAS program version 9.1 is now available to Headquarters staff. The Center has purchased two sets of the latest version. One is with Ms. Didit Ledesma, our statistic specialist. Another copy has been installed on

the public computer at the reading room of the Center's library. You are welcome to use it.

- Source: CTO

AVRDC Websites Updates

Internet: <http://www.avrdc.org>

- News and Events: 40th AVRDC Board of Directors' Meeting at ARC
- New Board Members from Philippines and Thailand
- AVRDC Themes and Activities
- AVRDC's Regional Priorities

Intranet: <http://www.avrdc.org/intranet/home.html>

- Presentation on 'The role of the Assistant to the Deputy Director General for Research' by Ira

Frydman (candidate for the position)

- Revised Room Reservation Form as of March 2007
- Newsletter 2 March 2007 issue
- Weather data: February 2007
- Photos of the 2006 Lunar Year-end Party and the 2006 International Food Fair at headquarters

Anthracnose Website: <http://www.avrdc.org/anthracnose/index.html>

- Updates on the First International Symposium on Chili Anthracnose

- Source: Christie Clavero/CTO

GlobalHort Updates

GHI website: <http://www.globalhort.org/news.html>

- Horticulture Events in 2007, including symposia,

conferences, workshops, exhibitions around the world

- Source: Crystal Tseng/GHI

News from the Recreational and Social Committee

2007 Taiwan International Orchid Show

2007 台灣國際蘭展

Come to the exhibition to experience the fascination of orchids through the displays, competitions, art design and plant sale of numerous varieties of orchids from around the world.

Time: 10-18 March, 2007, 0900 – 1800 hours

展出時間：3月10-18日,上午9點至下午6點

Venue: Taiwan Orchid Plantation, No. 235 Wushulin, Wushu Village, Houbi, Tainan County

展出地點：台灣蘭花生物科技園區台南縣後壁鄉烏樹村烏樹林325號

For directions, visit <<http://top.tainan.gov.tw/b.php>>

Forever Tango (永恆的探戈)

Fifteen dancers from a famous Argentinian dance group will perform the passionate, dynamic Tango. Classical Tango music will also be performed by the group. The Tango is not only expressed as a dance, but is both a cultural and musical experience—a life style on its own.

15位來自阿根廷國寶舞團—永恆的探戈，以生命歌頌青春的舞步，感性與情慾交織，一場屬於阿根廷探戈的生命頌歌。探戈是本世紀中最互久、影響力最鉅的流行舞種，探戈的影響力也跟阿根廷這國家名稱劃上等號。

Time: 13-14 March, Tuesday and Wednesday, 1930 hours

表演日期及時間：3月13-14日(星期三、星期四)晚上7點30分

Venue: Kaohsiung City Cultural Center, Chih-The Hall

表演地點：高雄市立文化中心至德堂

Tickets: NT\$500, 700, 1000

門票：NT\$500, 700, 1000

Farewell: Dr. Motoki Takahashi and Mrs. Akiko Takahashi

I have been working for the genetic improvement of vegetable soybeans and mungbeans since I joined AVRDC on 1st December 2004. During my term of two years and four months, I have been given great support and encouragement by the Legume Unit staff and all

other AVRDC staff. As a result of your cooperation, my research projects have progressed mostly as planned. I am especially satisfied with the development of vegetable soybean lines with basmati flavor and the selection of promising supernodulating vegetable soybean lines.

During my term in AVRDC, I have gained a lot of valuable experiences. When I visited India in 2005, I had the distinct impression that legumes have the potential to improve the nutritional and economical conditions of people living in developing regions.

I wish that AVRDC will progress more and more toward the goal of eradicating malnutrition and poverty from the world.

Again, I appreciate all of your kindness. Thank you very much!

- Source: Motoki and Akiko Takahashi
Contact e-mail: <motoki@affrc.go.jp>

