The World Vegetable Center Newsletter
29 February 2008
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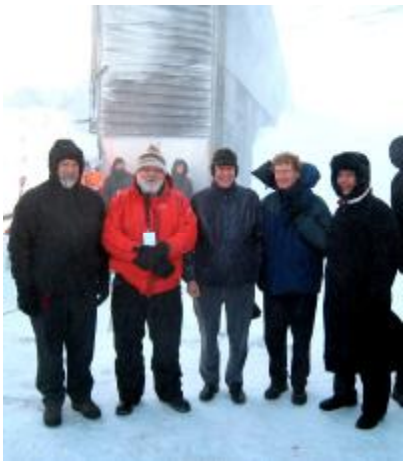
Where No Trees Grow, The Seeds of The Future Rest

Call it a new dawn: On February 26, the Svalbard Global Seed Vault on Spitsbergen Island in Norway officially opened – and though the island will see no direct sunlight for at least another week, the future was suddenly brighter, though not much warmer.



Dr. Thomas Lumpkin, director general of the World Vegetable Center, participated in the vault's dedication ceremony along with 149 other guests from 33 countries including the Prime Minister and Agriculture Minister of Norway, Nobel Laureate Wangari Maathai, the FAO Director General and the European Commission President Jose Manuel Barroso.

The World Vegetable Center sent 7,350 accessions from our collections to be stored in the vault. "I'm thrilled and excited that it's finally happening," said Dr. Liwayway Engle, head of the center's Genetic Resources and Seed Unit. "People have been talking about this project since the 1980s. It's been a concerted global effort, and that's perhaps the most gratifying thing about the vault. Governments, NGOs, regional and national seed banks, private companies -- so many people are concerned and involved; there's been real recognition of the importance of protecting germplasm."

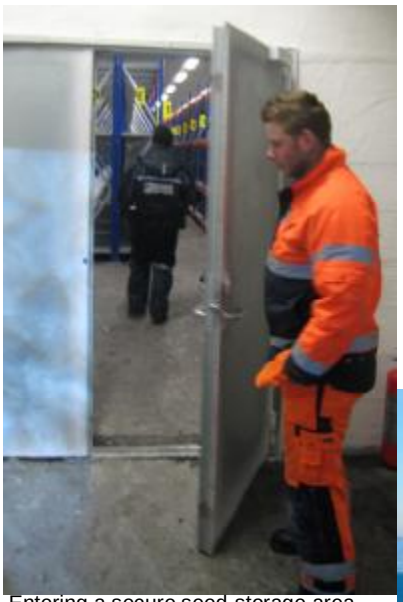
Seeds of indigenous vegetables from our regional centers in Africa, South Asia, Southeast Asia and Central Asia were added to the vault. One in 10 of all indigenous

plants are used as sources of food, particularly in developing countries, where many of those species are now threatened with extinction.

Dr. Engle and her team began preparing seeds in mid-November 2007. NordGen provided the laminated aluminum pouches and the hard black plastic storage containers.

(continued on page 2)

"We were asked to submit enough seed for two regeneration cycles," says Dr. Engle. "And they have asked us to refrain from requesting our collections for at least 10 years if possible."


Entering a secure seed-storage area

The process of filling the vault will continue over the next 3 to 10 years. The center will ship seed until most of the germplasm represented in our collection is also stored at Svalbard.

"We have a 'black box' arrangement with NordGen," said Dr. Engle. "We send them our sealed black boxes for storage in the vault, and those boxes can't be opened by anyone but us. Only we can decide when to open the boxes, and then they will be shipped back to the center."

Dr Engle notes the vault has the added benefit of consolidating information now stored in regional and national gene banks in a central database. "The seed vault has raised the profile of germplasm," she said. "People are beginning to understand just how important it is to conserve the diversity of the world's crops for the future."


EC President Jose Manuel Barroso speaks at the inauguration of the Svalbard Seed Vault.

The seed vault, a partnership of Norway, the Nordic Genetic Resource Center (NordGen), and the Global Crop Diversity Trust, stores duplicates of seeds from collections worldwide. If seeds are lost for any reason—natural disasters, accidents, war, power failure, or even funding cuts—the collections can be reestablished using the germplasm from Svalbard. Seed banks destroyed recently in the Iraq war and by Typhoon Xangsane in the Philippines show just how vital it is to have a backup.

Located more than 950 kilometers north of mainland Norway, the frozen, treeless Svalbard archipelago is the northernmost point in the world to be serviced by scheduled commercial flights. The ability to hold the

cold is one reason why Spitsbergen, the largest island of the archipelago, was selected for the vault.

An elongated concrete tower protruding from Plataaberget Mountain marks the vault's entrance. It's capped by an art installation created from steel, mirrors and prisms to reflect the polar light in the summer; fiber-optic cables woven throughout the design give off a green glow in winter.

A 125-meter-long steel-lined tunnel leads to three separate, secure chambers for storing seeds, each reached through a frost-covered metal door. Each of the 10-by-30-meter vaults has blue and orange metal shelves that can hold 1.5 million seed packages. Anyone seeking access to the seeds will have to pass through four locked doors: the heavy steel entrance doors, a second door approximately 115 meters down the tunnel, and finally the two keyed air-locked doors. Keys are coded to allow access to different levels of the facility.

The vault has space for seeds as big as coconuts or for more than 100,000 different crop cultivars. Some of the seeds are from early cultivars and ancestors that no longer grow anywhere on Earth, as farmers have stopped planting them or their habitat has been lost to modern agricultural practices.

More information and photos see the Center's homepage: http://www.avrdc.org/

- Source: Communications

Latest Publication from the Center's Staff

Congratulations to **Ms. Shih-wen Lin**, **Drs. Paul Gniffke** and **Tien-chen Wang** for their latest publications, recently received by the library.

Lin, S.W., Gniffke, P.A., Wang, T.C., (2008). Inheritance of resistance to pepper anthracnose caused by *Colletotrichum acutatum*. ACTA HORTICULTURAE. no.760:329-334.

You Asked for It...

Recently we offered customized literature searches for anyone who wanted them for their research work. One of those completed was for Dr Gregory Luther who asked for publications on **(1) IPM training/technology transfer/technology dissemination and (2) Farmer Field School(s).** We found 12 references in the library, (a selection is shown below) as well as a further 45, many of which can be obtained through interlibrary loans.

If you need specialised literature searches to support your research work please contact Fang-chin Chen, Head librarian at **fcchen@avrdc.org**

Atreya, K. (2007). Farmers' willingness to pay for community integrated pest management training in Nepal. AGRICULTURE AND HUMAN VALUES. v.24(3):399-409.

Sithanantham, S. (2004). Development and dissemination of IPM for vegetables in eastern African. Nairobi : ICIPE. vii, 51 pp.

Hsieh, S.C. (2003). Agricultural technology transfer to developing countries. Pingtung : National Pingtung University of Science and Technology Press. ix, 415 pp.

Huang, S.C., How, F.W., Lin, C.Y. (2003). Agricultural technology transfer and its consequences; Proceedings of AARDO international workshop. Wufeng, Taichung Hsien : Agricultural Research Institute, COA. xiv, 313 pp.

Uthamasamy, S., Palaniswamy, S. (2003). Emerging trends in transfer of technology. Coimbatore : Tamil Nadu Agricultural University. 105 pp.

Pontius, J., Dilts, R., Bartlett, A. (2002). From farmer field school to community IPM: ten years of IPM training in Asia. Bangkok : FAO Regional Office for Asia and the Pacific. xiii, 106 pp.

Uthamasamy, S., Palaniswamy, S., Manoharan, M., Devasenapathy, P., Theodore, R.K. (2002). New dimensions in transfer of technology. Coimbatore: Tamil Nadu Agricultural University. 195 pp.

Dochen, T. (1999). Training report on integrated pest management of vegetables with emphasis on chili blight at Asian Vegetable Research and Development Center. Shanhua, Tainan : AVRDC. 13 pp.

New Popular Magazines Now Available in the Library

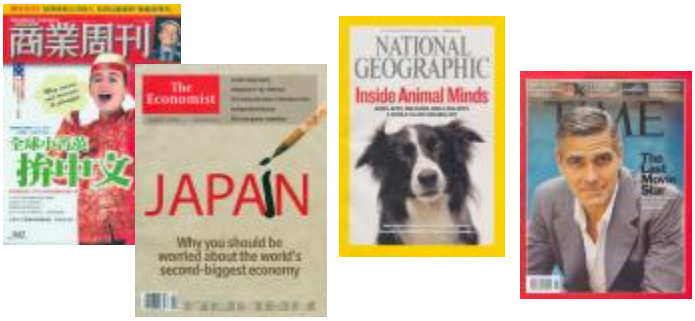
Business Weekly (Chinese) – 25th February–2nd March 2008

The Economist: Japan –23rd–29th February 2008

National Geographic (English): Inside Animal Minds – March 2008

Time: The Last Movie Star – 3 March 2008

- Source: Fang-chin Chen/Communications



Narrowing the GAP—ASEAN Benefits from Regional Training Course

Group picture of the 23 participants from 10 ASEAN countries together with the VP of KU and the facilitators.

Good Agricultural Practices (GAP) for fresh fruit and vegetable production moved a step closer to harmonization across South East Asia this week with the completion of a training course at the Asian Regional Center in Thailand. Funded by the ASEAN-Australia Development Cooperation Program Regional Partnership Scheme, the course ran from February 25-29 and was held at the National Agricultural Extension and Training Center of the Kasetsart University, Kamphaengsaen campus.

The Course was opened by the Vice President of KU Kamphaengsaen, Dr. Chawalit Hongprayoon. He stated that while the course focused on capacity building and awareness raising, it would also enable ASEAN countries to formulate their own GAP and help align national GAP programs with ASEAN GAP.

The facilitators for the course included **Mr. Scott Ledger** (Australia), **Dr. Robert Premier** (Australia), **Dr. Uthai Cenpukdee** (Thailand), **Ms. Khoo Gek Hoon** (Singapore) and **Dr. Peter A. C. Ooi** (ARC Director). **Dr. Stephen Duggan** represented the RMIT University.

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

vBSS Appointments and Progress in Madagascar

New Research Assistants Appointed to Work in Vegetable Breeding

Miss Haja Felana Andrianaivo was appointed on 15 February 2008. She is 26 years old and graduated with a diploma of Engineering in Agronomy, specialising in Agriculture from the University of Madagascar Antananarivo in 2006. She worked with the Millennium Challenge Account-Madagascar for 16 months where she was in charge of Technical and Organizational issues for 8 months and Information Management for 8 months in the Amoron' i Mania region.

Miss Alice Marie Rahantanirina will be appointed 1st March 2008. She is 29 years old and obtained a diploma of Engineering in Agronomy, specialising in Agriculture from the University of Antsirabe in 2007. She previously worked on the micropropagation of tuber plants including potato, cassava, sweetpotato and taro at FAMANOR, a National Agricultural Research Center in Antsirabe, Madagascar.

AVRDC Introductions Off to A Good Start

Mr. Benjamin Rakotoarisoa (vBSS Laiason Officer, Madagascar), **Haja Felana Andrianaivo**, (Research Assistant vBSS for Madagascar) and **Jean Armand Randriamampianina** (Head Quarantine Service Madagascar) visited SEMANA (Vegetables Seed Malagasy) in Anosimboahangy Fokontany, Madagascar on 21 February. SEMANA is helping to carry out quarantine tests on tomatoes and other vegetables varieties imported by the project. Some preliminary results at 36 days after transplanting are as follows:

Under greenhouse tunnels conditions

- Tengeru 97 and LBR 19-2 tomato varieties perform well compared to the others.
- CSR 16804 and CSR 14604 tomato varieties perform as early varieties .

Under field conditions:

- Varieties Tengeru 97 and CSR 14704 perform well and withstood the strong rainfall during the recent devastating Cyclone Ivan.

Early fruit set tomato variety, 36th day after transplanting

They also attended the field day organized by CEFFEL (Fruit and Vegetables Experimentation and Training Center) in Andranobe, Madagascar on 22 February, with a view towards a closer working relationship with the organization.

- Source: Dr. Shilpi Saxena/AVRDC-RCA

Other Training And Workshops in Africa

Farmers Use Vegetables to Prevent Malnutrition

AVRDC-RCA conducted a farmer' training course on Production, Processing and Utilization of Vegetable Crops to Prevent Micronutrient Malnutrition from February 21 to 22. There were 15 female farmers from different villages in Arumeru and Arusha municipal districts, Northern Tanzania involved.

Industry Workshop to Improve Seed Movement across Africa

Dr. Rémi Nono-Womdim and **Mr. Jan Helsen** participated in the annual Africa Seed Trade Association Symposium, in Casablanca, Morocco from 25 to 28 February. The aim of this symposium was to bring together agents from the public and private sectors engaged in seed systems in Africa to facilitate the movement of seed in the region.

Dr. Nono-Womdim also presented a paper entitled: "Strengthening the link between Public and Private Research for better Vegetable Production and Marketing in Africa."

New PhD Student Starts Work in Tanzania

Ms. Bronwen Powell is a PhD Candidate at the School of Dietetics and Human Nutrition and the Centre for Indigenous Peoples' Nutrition and Environment (CINE), McGill University, Montreal, Canada. She is visiting AVDRC-RCA from 25 February to 15 March to develop collaborative work and to set up her PhD research entitled "How does traditional knowledge mediate the relationship between human nutrition and biodiversity use?" She plants to start her research, using participatory and ethnographic qualitative methods and a quantitative cross-sectional survey in the summer of 2008. She has previously been to East Africa, having stayed in Kenya for a year in 2001 and hopes to spend between 6-12 months in Tanzania while working on her project.

- Source: Dr. Shilpi Saxena/AVRDC-RCA

Staff Reassignment and Recruitment, at Headquarters

Mr. Chen Tu-sheng (陳土生) will be appointed as a Technician and transferred from the Bulb Allium Unit to the Technical Services Office. Mr. Chen can be contacted at ext. 228 effective 1 March 2008.

Mr. Chen Tsang-hua (陳倉華) will be hired as a Field Laborer in the Bulb Allium Unit to replace Mr. Chen Tu-sheng, effective 1 March 2008. He can be contacted at ext. 313.

- Source: Felisa Wang/HR

2007 Performance Bonus for NRS at Headquarters Postponed

As indicated in your re-appointment letter dated 26 December 2007, the NRS at HQ will be given a performance bonus for 2007, which was to be decided by the management and unit heads in February 2008. However, due to the very busy schedule during the search for a new DG over the past months, I regret to inform staff that the payment of the performance bonus for 2007 will be postponed until the end of March 2008.

本地2007年員工的績效獎金原預定在二月份發放，由於遴選中心下任新主任作業過於繁忙，因此績效獎金延至三月底發出，在此，向全體本地員工致歉！

- Source: Dr. Yin-Fu Chang/Deputy Director General for Administration & Services

Arrival of Dr. Edwin Javier, International Variety Development Coordinator, International Variety Development Unit

Dr. Edwin Javier will report for duty at HQ on 10 March 2008. His initial appointment will be for two years . Dr. Javier will temporarily stay in the mini suite 217 (Ext. 887) on the 2nd floor of the Dormitory before other accommodation (Apartment 824) can be made available to him in November.

His office will be located at the south-west wing on the third floor of Chandler Hall and he can be reached at extension 500.

Ms. Jessica Lin has been assigned to be the secretary to Dr. Edwin Javier.

- Source: Dr. Yin-Fu Chang/Deputy Director General for Administration & Services

Travel

Dr. Antonio L. Acedo Jr., 2-5 March, to Bangkok, Thailand, to serve as a resource person on physiological processes and quality changes in vegetables and fruits and to participate in the training of Trainers in Horticulture Chain Management (HCM).

Dr. Tien-chen Wang, 3-7 March, to Indonesia, to visit the Indonesian Vegetable Research Institute (IVERGRI) in Lembang to monitor progress on the study of pepper anthracnose and phytophthora blight, and to address obstacles for the ACIAR-IDM project; to visit the East-West Seed Company in Purwakart to discuss future cooperation and dissemination work.

Dr. Peter Juroszek, 8-10 March, to Seoul, Korea, to meet with former German colleagues and Korean scientists to discuss collaboration options; 11-14 March, to Cheonan, to attend the ISOFAR Conference at Dankook University; 15-18 March, to Samcheok, to give a speech at Gangwon University.

- Source: ASU

Dr. Peter Ooi, 1-7 March, to Arusha, Tanzania, to attend the symposium on "Underutilized Plants for Food, Nutrition, Income and Sustainable Development."

- Source: Dr. Peter Ooi/AVRDC-ARC