



**BUREAU OF AGRICULTURAL RESEARCH**  
Department of Agriculture

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## DA creates open academy for Philippine agriculture



*ICRISAT Director General William Dar (center) explains the need to establish an open academy for agriculture during the convenors's dialogue.*

The establishment an open academy for Philippine agriculture was the main agenda of a convenors' dialogue held on 10 April 2003 at the CERDAF Conference Room. The creation of an open academy is in line with the thrust of modernizing the agriculture sector by empowering farmers and fisherfolk with the latest technology developed through research and development (R&D).

The research institutions and organizations that participated in the dialogue were DA, Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCARRD), University of the Philippines Los Baños (UPLB), Department of Science and Technology (DOST), selected state colleges and universities (SCUs) and local government units (LGUs). This dialogue is on leapfrogging research-extension-and-farmers linkage which was previously identified as one of the major constraints why many important research results are

unable to reach the intended users.

Presiding over the dialogue were International Crops Research Institute for Semi-Arid Tropics (ICRISAT) Director General William Dar along with Bureau of Agricultural Research (BAR) Director William Medrano, Philippine Rice Research Institute (PhilRice) Executive Director Leocadio Sebastian, and BAR Senior Technical Adviser Santiago Obien.

Dr. Dar provided the background and the rationale for establishing the open academy. To realize the vision of a modernized agriculture, Dar said, "ICT should bridge the digital divide among different regions in the country. In today's fast changing time, farmers and fisherfolk should be empowered with an improved access to technologies along with the demand of a modernized agriculture. Conventional methods of information knowledge sharing are no longer adequate and appropriate. What is needed is to keep up with the on-going revolution in

information and communication technologies enabling distance education and strong linkage with important sectors in agriculture."

The main goal of the academy is, "to educate, train and mobilize the key actors of agricultural modernization, especially researchers, extensionists, farmers, and support service providers." ICT will play a very important role in this endeavor since the whole idea plays along the concept of distance learning and integrated communication media. The degree and non-degree programs of SCUs complement and supplement the open academy.

Aside from being the base of distance education, the open academy will also be a repository of timely information and knowledge to keep the farmers and fisherfolk updated thus empowering them in making good and wise decisions. The academy will also be an arena for important dialogues and consensus among agriculture stakeholders.

PhilRice is the lead agency for this project while other member-institutions that include BAR, PCARRD, UP Open University, selected SCUs, ATI

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## Urban gardens

**A**t one time I featured an urban garden established at the rooftop of a three storey residential house by a local government employee in Mandaluyong, a woman. What was unique about this garden is the variety of crops planted such as ampalaya, patola, camote, eggplant, pepper, including a malunggay tree. And not only this, it has an assortment of flowering plants such as orchids, kalachuchi, roses, and others. The trellis for the ampalaya and patola was constructed such that it houses a pair of chickens. The chicken manure is used for fertilizer. The garden does not only save the family's budget for vegetables but augments it. Sometimes the extra vegetables are sold and the money is spent for the family's other food needs.

Putting up a garden at the rooftop seems impossible with the soil transported as far as Batangas, but it was done. It demonstrated one's ingenuity and determination to use space, however small or inaccessible it is. Putting up the garden could not be done sitting down. It needed effort and a little investment which means that the lazy is out of the picture?

I had the privilege of working with a small group that went around Metro Manila establishing or encouraging the local government units even non government organizations to put up urban gardens. The group was composed of staff from former First Lady Loi Ejercito's office, Department of Agriculture (DA) Region IV, the Metro Manila Development Authority (MMDA) and myself representing the Office of the Presidential Assistant on Food Security (OPAFS). We were technically backstopped by two state universities, the Cavite State University (CavSU) and the Central Luzon State University (CLSU). Our targets were schools, subdivisions, and private vacant spaces that could be lent for cultivation. Later, the Bureau of Agricultural Research (BAR) made urban

agriculture as one of the networks established and that small team became part of the original technical working group of the urban agriculture network.

We got successful projects while the program was in effect like that one in Muntinglupa which even attracted foreign attention; in Barangay Talayan, Quezon City under a dynamic woman barangay captain who would be there even at night supervising the gardeners and seeing to it that no vegetable is destroyed because the area is open to all the elements. In Concepcion, Malabon, a three-hectare vacant space was lent by the owner and the surrounding slum dwellers were so thankful for the project. Of course, there were superficial ones that were put up **a la complacer**.

Urban gardens continue to exist with or without government intervention. As I look at the project now with a different perspective, an honest to goodness appraisal would be that the assistance we give our people be based on their felt need. Do they really feel the need to have vegetables and to grow them by themselves? Or is it more economical if they buy them than spending time to grow the vegetables? Or do they know how to grow them? For instance, there were doctors in a certain hospital who are interested to grow vegetables. I gave them seeds gotten from the Urban Agriculture Project of DA Region IV and reading materials on the technologies. They had plenty of questions that I, too, could not immediately answer. Even during the briefings conducted to orient the would-be recipients, one already knows the people's receptivity through their enthusiasm.

My involvement in urban gardens consequently made me look for this kind of garden if I go to cities. While in Kyoto, flaunted as the 'nature city' in Japan, I tried to look for urban gardens. Space is a scarce commodity such that there is a use for even the smallest space. And yes, they have urban gardens for tea and some for vegetables such as onion, radish, broccoli and their own type of pechay. There are a number of tea gardens and these are much bigger than the vegetable gardens. They got netted

enclosure and roof whose use I tried to rationalize since there was no one whom I could ask in English. (Japan is definitely a non-English speaking country). The net could be spread and consolidated since they have rings at the top edge attached to poles and could easily be pulled. To me, these are used to control the rain and frost like a blanket. I was there when winter was nearing its end.

The vegetables are grown on stony soils and I just wondered how they could grow there and yet they were growing well. Any sensitive Filipino would compare his own fertile soil to grow crops and the wide, wide areas to indulge in agriculture in his country. I could only guess that it is technology, with the gardeners putting the nutrient in the water, discipline, and the industry of the Japanese that make them succeed under those constraints. They are industrious, organized, systematic, and serious people. Their flowering plants are in containers, white and small ones, placed on wooden or steel stands in front of their houses. Very beautiful and breathtaking and one feels ecstatic and enamored just by looking at them. When can we have things like this in our country? We say that our climate is much different. But those who have seen the seasons change in Japan tell us that their summers are simmering and one can hardly survive the heat.

I just have to keep on dreaming for my own country in the meantime. ■

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# PCA collaborates with international institutions to unravel coconut genome

An international project on coconut and oil palm biotechnology is being funded since 2001 by the European Commission (EC) under its program on International Cooperation with Developing Countries (INCO-DC). It is jointly carried out by research laboratories in seven countries, namely, Germany: MPIZ; Spain: NEIKER; France: CIRAD; Philippines: PCA-ARC; Indonesia: IOPRI; Malaysia: MPOB; and Indonesia: SOCFINDO; and three subcontractors, namely, Tanzania: MARI; Mexico: CICY; and Ivory Coast: CNRA.

The project has five components: 1) construction of high-density (HD) DNA marker maps on coconut and oil palm, and QTL analyses on characters of economic interest; 2) physical mapping; 3) synteny studies; 4) establishment of field trial systems consisting of several populations to be used for future marker-assisted breeding; and 5) bioinformatics and biotechnology transfer through internet and international workshop/laboratory courses.

For coconut, the first linkage maps to be constructed were based on MYD x LAGT mapping population established at PCA-ARC, Guinobatan, Albay. Published in the 2000 journal issue of *Theoretical Applied Genetics* 101: 292-300, different PCR-based DNA marker types were used such as inverse sequence-tagged repeats (ISTR), randomly amplified polymorphic DNAs (RAPD), and amplified fragment length polymorphisms (AFLP). Since then, other coconut mapping populations have been established. To date, there are five individual maps (including the MYD and LAGT maps) that are being expanded or saturated with more AFLP markers. Also, microsatellites or simple sequence repeats (SSR) screened from genomic libraries enriched for (GA)<sub>n</sub> sequences and cosmid (COS) clones were prepared for genomic studies, gene isolation and sequencing. The coconut genome size is about  $2.15 \times 10^9$  bp.

For physical mapping, two approaches are applied: 1) association of mapped AFLP markers to COS clones via amplification of multi-dimensional pools; and 2) sequencing the ends of randomly picked, individual COS clones to design primers for single nucleotide polymorphisms

(SNP) that generate segregating amplification products in the progenies.

SNP markers in coconut are in part available to the project from the sequencing of putative resistance and homeotic gene families. These will serve as candidate genes representing resistance to biotic stress (fungi, bacteria, viruses, nematodes, and aphids) and for controlling important processes in plant development and differentiation such as leaf development, flower induction and organogenesis.

Towards the end of the project (December 2004), the individual maps will be integrated into a HD reference map with 16 linkage groups representing the 16 chromosomes of coconut. It is expected to consist of 1, 200 to 2, 250 DNA markers covering the whole genome and it will be filled with QTLs co-segregating with important traits such as early flowering, increased nut and oil yield, leaf wax composition and possibly resistance to biotic and abiotic stress. Standard subsets of



primers derived from AFLP, SSR and SNP markers with good genome coverage will be selected for future applications. As synteny studies between coconut and oil palm showed a high degree of homology with respect to linkage order and sequences, the coconut HD map will be highly informative for oil palm and vice versa. (PCA Press Release)

(For information dissemination and technology application, research results are made available to the scientific community through <http://www.mpiz-koeln.mpg.de/~rohde/link2palm.html> and <http://www.neiker.net/link2palm>)

## EU tariff preferences benefit RP

Some Philippine exports to Europe can now enjoy reduced or zero tariff rates as the European Union (EU) is now enforcing the New Generalised Scheme of Tariff Preference (GSP) for 2002 to 2004.

GSP is a system of granting tariff preferences to developing countries like the Philippines. Tariff preferences means duty-free entry of an export item to EU, or a tariff reduction on the exports — provided that certain conditions like the origin of the product are fully satisfied by the exporter. Fresh pineapples exported to Europe are entitled to a 3.5% reduction in tariff rates, originally pegged at 5.8% down to 2.3%.

In a seminar held at the Shangri La Makati, GSP Desk Officer Ivano Casella said that the Philippines has an underutilized GSP in 2001. Of the total agricultural, industrial, and textile exports

1.4 billion worth of Philippine exports are eligible for GSP, but only 0.5 billion worth of goods were exported.

Mr Casella recommended an intensified compliance to the rules of origin — the more value added in the product, the more likely that the Philippines will enjoy tariff cuts. Promoting industrial cooperation and intensifying the awareness campaign for GSP among the local exporters were also emphasized.

The EU – GSP desk officers asked assistance from government agencies like the Bureau of Agricultural Research (BAR) in disseminating the advantages of GSP to the Filipino exporters.

Exporters who want to know the tariff cut for their exports can log on to EU's database at [http://europa.eu.int/comm/taxation\\_customs/dds/en/home.htm](http://europa.eu.int/comm/taxation_customs/dds/en/home.htm). This website contains various information on GSP rate for a product in a country. (Carmela B. Brion)



# Making his mark

by Virginia A. Duldulao



He looks back to see the road he traversed. It has been a rugged and stony way and he had no choice, for there was no other way. Now he heaves a sigh of triumph and relief as he scans his surroundings. Could all these be true? The nine-year old boy who carried the burden of taking over where his father left off is now a man whose feet are firm on the ground, certain of what he wants, and whose vision is focused on a better tomorrow not for himself but for the greater majority of those who have less in life.

Today, on the shoulders of this man is a different burden, no longer mundane and personal, but on a wider scale and proportion and the responsibility is great. This time he is ready to carry that burden steadfastly and unflinching. His preparation is solid. He is tempered by experience. He is inherently endowed with potentials and with faultless humility.

Dr. William C. Medrano, the once nine-year old boy who realized early the cruel meaning of poverty and experienced responsibility at a tender age is now one of the stalwarts of Philippine agriculture today. His stint as director of the Bureau of Agricultural Research (BAR) may be short but like those positions where he had been assigned through the years he will surely make a mark.

The relationship between Dr. Medrano and the Isabelo State University (ISU) had been mutual. The ISU was his benefactor and training ground and in return he gave his school the best of his professional life. His school provided him job while struggling financially for his college education and he did not leave it for better opportunities after graduating *cum laude* but grew with it from instructor to the highest level of professorship. Even after finishing both his Master of Science and Doctor of Philosophy degrees from the University of the Philippines at Los Banos, his loyalty to ISU remained strong. He was chairman of the Department of Animal Science and director

for Research, Extension, and Development.

When he was tapped to become the director of BAR, he was Professor VI at ISU and concurrently vice president for research, development, extension and training of the same university and director of Cagayan Valley Agriculture and Resources Research and Development (CVARRD) center. The consortium is composed of 17 government line agencies in Region 2. He was in the last position since 1991 to the present and for that period he brought prestige and honor to the consortium by capturing the Ugnay Award in 1998 and for three more consecutive years (2000, 2001 and 2002) from the Philippine Council for Agriculture and Resources Research and Development (PCARRD). His appointment to head a research institution at the national level was understandable since he was already moving about in familiar grounds.

Director Medrano shared his

expertise and leadership to various institutions. He was livestock specialist to the Orient Integrated Development Consultants, Inc. from 1990 to 1996; team leader or member of projects by PCARRD, ISU Development Foundation, Inc., Commission on Higher Education, and the European Union-Department of Agriculture. He was author or co-

author of technical papers published in various publications. He has gone to many places including that of Korea, Netherlands, and Australia, either to share what he knows or to learn some more. He has garnered many awards and citations as a student, professional and leader. Presently he is the president of PCARRD Scholars Association, the Philippine Society of Animal Science (Cagayan Valley Chapter) where he is a life member, and president-elect of the Philippine Association of Research Managers (PHILARM).

Learning is a lifetime endeavor for people who love to learn. Sharing one's knowledge is a commitment to those who realize that they can contribute something to make this world a better place to live in. Learning and sharing thrive best where humility is a virtue that is in the heart. Usually, people with the common touch manifest these attributes. And Medrano has that touch. ■

## GIS application in irrigation emphasized

To provide an understanding and hands-on experience of the issues and requirements for implementing and applying geographic information systems technology in agriculture and natural resource management, the Geographical Information Systems (GIS) Application in Irrigation Systems Management Training was conducted at the Water Resources Management Center, Central Luzon State University (CLSU) on March 24-28, 2003. Dr. Esteban C. Godilano, Information Communication Technology Section (ICTS) adviser for Geographic Information Systems (GIS) of the Bureau of Agricultural Research (BAR) and the Southeast Asian

Ministers of Education Organization – SEAMEO Regional Center for Graduate Study and Research in Agriculture (SEAMEO-SEARCA), served as lecturer.

Topics discussed in the GIS lecture were: introduction to ArcView 3.2; creation of digital map; map anatomy and tabular data; spatial analysis and topological overlay; interpolation, buffering, and geostatistics; climate analysis and map lay-out; clipping features and ArcView avenue; screen digitizing, wrapping and transformation; spatial analysis using ModelBuilder; topological overlay and cartographic modeling; and metadata development.

see GIS application...next page



# El Niño and coping with it

by Junelyn S. de la Rosa



**C**enturies ago, Peruvian fishermen noticed a current of unusually warm water that came to their shore every few years near Christmastime. Since the fishermen believed in the birth of the Christ child at Christmas, they named the hot water El Niño, which means "the infant" in English.

Today, after the severe drought and food shortage in 1989 and 1990, everybody would probably agree that El Niño is a misnomer. In the Philippines, El Niño has resulted to an abnormally long dry season and severe drought and higher temperature.

The Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) reported nine El Niño incidents from 1968 to 1997. Of these nine events, five were considered strong. In 1998, the Department of Agriculture reported a 14.36% reduction in the hectareage planted to major crops due to El Niño and typhoons Emang and Gading.

The drought in 1990-1993 resulted to the most severe reduction in corn yield for the past 26 years. An estimated 478,000 metric tons of corn valued at PhP2.1 billion was destroyed triggering a shortage in the local corn supply and resulting to high prices of feeds for livestock and meat and poultry products.

Another negative impact of El Niño is the water shortage in different parts of the country. Thirty-two percent of the water sources, rivers and springs dried up in Iloilo, Batangas, Cebu and some parts of Mindanao. For instance, in Davao del Sur, residents coped with the water shortage by boiling banana tree trunks.

Researchers documented the different ways in which farmers cope with El Niño over the years. Many farmers installed water pumps and shallow tube wells. Others saved on-farm

and household expenses and engaged in other jobs to supplement the family income. Some farmers substituted rice with sweet potatoes and borrowed money from relatives and friends to meet their basic needs.

Case studies in Talugtug, Nueva Ecija showed the success of Small Water Impounding Projects (SWIP) in the four villages- Alula-Sampaloc, Buted, Maasin and Villa Boado. The sites were predominantly rainfed with rolling to hilly and flat to gently sloping topography. Most of the farmers practiced a rice-rice cropping pattern with the first cropping season in June to July and the second cropping season in November to December.

Benefits from SWIP include extra income from fish production, recreational use, irrigation for vegetables and forage production along the canal. The dam was also used as a drinking area for their livestock and other household activities.

Other coping strategies of the farmers were: cogon gathering, charcoal making, helping harvest rice in other farms, working in other non-farming jobs, renting pumps to get additional irrigation from the creek, working as hired farm laborer, engaging in backyard swine production and reducing household spending.

On a national level, PAGASA established the national Drought Early Warning and Monitoring System (DEWMS) to provide decision makers with relevant information about the onset, continuation, termination and severity of drought conditions. PAGASA issues drought advisories to governors in the provinces.

Research and development activities on El Niño are being done and/or funded by the Bureau of Agricultural Research of the Department of Agriculture (DA-BAR), the PCCARD-DOST, state colleges and universities and other research institutions. A multi-agency collaborative R&D program was implemented in 1998 headed by PCARRD with funds from the Department of Agriculture. The El Niño R&D program was created to provide a

stronger basis for a more effective and efficient information, education and communication (IEC) campaign on El Niño.

Policies for water resources development and management were also implemented. All of these strategies are crucial in coping with El Niño and ensuring that Filipino rice and corn farmers are better prepared for any El Niño incident in the coming years. ■

*Source: El Niño Impacts on Agricultural Production and Coping Strategies by F.C. Monsalud, J.G. Montesur and E. R. Abucay of the Farming Systems and Soil Resources Institute, College of Agriculture, UP Los Baños, College, Laguna*

## GIS application...

This training aimed to develop human resource capability needed to establish a GIS facility. At present, Agriculture and Fisheries Research and Development Information Systems (AFRDIS) member-institutions and BAR are not equipped with knowledge and skills in GIS technology and its applications.

GIS is the core component of AFRDIS under the Bureau. GIS technology geographically targets technologies developed in agriculture and fisheries and integrate the biophysical, climatic, and socio-economic databases for efficient and effective resource allocation. It is also a management tool that can synthesize, analyze, retrieve, and produce spatial information needed by resource agencies for managing referenced research outputs. One of the features of this system is the integration and analysis of data from various sources and present the output in a geographic environment. Policy makers in agriculture, business, transportation, and other service organizations benefit from GIS. (Likha C. Cuevas)



Recently, sweet potatoes (*Ipomoea batatas*) are gaining popularity as health food in many countries. They are rich in beta-carotene, Vitamin C, and antioxidants that can eliminate harmful radicals in the body. They are also anti-inflammatory and "antidiabetic" which means it can control sugar levels and lower insulin resistance. In the Philippines and other tropical countries, sweet potatoes have

that a condition similar to "camote-kulot" is caused by a simultaneous infection of aphid-borne SPFMV and whitefly-borne sweet potato chlorotic stunt virus (SPCSV).

To test their hypothesis, the scientists identified the different viruses infecting sweet potato in Tarlac and Bataan, the provinces that produce the highest tonnage of sweet potato

Bataan where sweet potato is not heavily infected with the viruses.

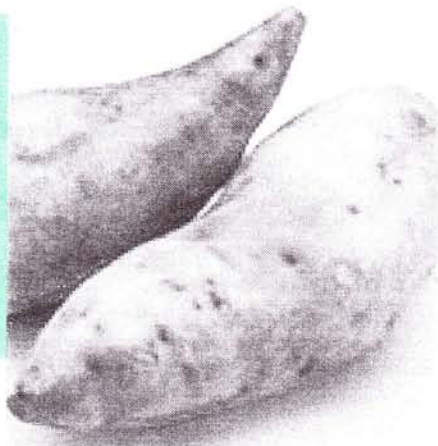
Finally, the scientists recommend that farmers should control aphids (*Aphis gossypii* and *Myzus persicae*) and whitefly (*Bemisia tabaci*) especially during the preparation of planting materials as these are vectors of the diseases. Also, sweet potato

and weeds exhibiting similar symptoms should be eradicated from the field or the screenhouse to prevent the spread of the disease.

Source: Sweet Potato Viruses in Central Luzon by Erlinda A. Vasquez, Manuel K. Palomar, Edgardo E. Tulin and Edgardo B. Barsalote of PhilRootcrops, Leyte State University, Baybay, Leyte at Tel. No. 053-335-2626

## What's ailing our sweet potatoes?

by Junelyn S. de la Rosa



been a lifesaver for centuries not only as food on the table but as an important source of income to many farmers and their families.

In 1989 and 1990, sweet potato viruses wiped out the most popular variety "Bureau" in Central Luzon. Bureau was replaced with VSP 6 or "Super Bureau", a new variety which is high-yielding, early maturing, with red skin and is more tolerant to virus diseases.

Unfortunately, the same virus that attacked the "Bureau" variety years ago is making "Super Bureau" sick. Farmers worry that another attack could damage the quality of sweet potatoes and significantly lower their yields. In 1999, yield losses of more than 50% was reported due to the use of infected planting materials.

Locally known as "camote-kulot", infected plants become yellowish, stunted with curled leaves. These are the same symptoms of a plant infected with the sweet potato feathery mottle virus (SPFMV).

The International Potato Center (CIP) reported that SFPMV alone does not lower yields severely rather a mixed infection of SPFMV and other viruses cause crop degeneration and yield reduction.

Scientists from Leyte State University (LSU) theorized that there might be more than one virus simultaneously attacking the infected plants. Research reports from West and East Africa showed

for commercial uses. The

study was conducted in May and June 2002, the dry season planting.

Using the nitrocellulose membrane-enzyme linked immunoabsorbent assay (NCM-ELISA) kit, the scientists found eight kinds of viruses attacking sweet potatoes in these areas, namely: sweet potato feathery mottle virus (SPFMV), sweet potato mild mottle virus (SPMMV), sweet potato latent virus (SPLV), sweet potato chlorotic fleck virus (SPCFV), C-6 virus, sweet potato mild speckling virus (SPMSV), sweet potato caulimo-like virus (SPCaV) and sweet potato chlorotic stunt virus (SPCSV).

The scientists said their theory is correct- "camote-kulot" disease of sweet potato is due to a mixture of two or more viruses infecting the sweet potato simultaneously such as SPFMV with other viruses like SPMMV, C-6, SPMSV, SPCaV and SPCSV. Other mixtures among C-6, SPMSV, SPCaV and SPCSV were also observed.

They reported that virus infection of sweet potatoes in Tarlac is relatively high and that it is not safe to use planting materials from healthy-looking plants since some viruses do not produce visible symptoms. They recommended that farmers get their planting materials from

## DA creates open...

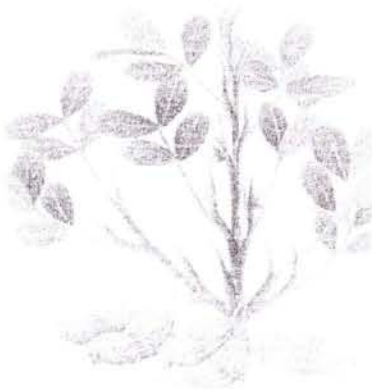
centers, RIARCs, and Asia-based CGIAR centers like ICRISAT, IRRI and ICLARM are the supporting organizations. The academy's operational hub will be based at PhilRice. The DA Office of the Secretary shall provide the strategic management to the academy. BAR, PCARRD, and ATI will fund and train RIARCs, Farmers' Information and Technology Services (FITS), and selected Centers to serve as learning hubs for the academy while LGUs will partially fund participants like extensionists and farmers to enrol in the programs of the academy. The UP Open University will offer the degree and non-degree programs for DA, LGU and CSO staff on distance mode. Meanwhile, international organizations like Winrock and ICRISAT will assist in the resource mobilization and the establishment of the academy.

Following the convenor's dialogue are groundwork activities. On 8-9 May 2003, PhilRice will be organizing a seminar-workshop on e-extension to be held in Maligaya, Muñoz, Nueva Ecija. From this seminar-workshop, an operation plan is developed and submitted to DA Secretary Lorenzo. (Rita T. dela Cruz)



# The world's first GM peanut

by Rita T. dela Cruz



The world's first genetically-modified peanut has been developed by the International Crops Research Institute for Semi-Arid Tropics (ICRISAT), one of the 16 members of the Consultative Group for International Agricultural Research (CGIAR).

Before the GM peanut was developed, the peanut industry was beset with various problems. Although average production is increasing, it is still considerably lower than the world's average, thus the demand for peanuts is not met. Factors like drought, low soil fertility, and diseases continue to affect production.

One leading problem of the industry is the peanut clump virus (PCV), a type of virus that is transmitted by a soil-borne fungus. PCV is prevalent in India and West Africa and is hard to control because of its high survival in soil. It could live inactive inside the soil for years. Infected seeds can also transmit the

virus to other plant. Aside from peanut, it infects various economically important crops like corn, sorghum, sugarcane, cowpea, and other legumes. The symptoms of the disease are manifested by stunted growth and discolored leaves.

The lack of effective biocides and the unavailability of resistant varieties have continued to hamper peanut production throughout the world. The havoc of PCV alone resulted to annual losses of US\$40 million globally.

ICRISAT screened more than 10,000 peanut lines to identify traditional sources of resistance to PCV. A research team led by Dr. Kiran Sharma developed a technology to genetically transform peanuts by introducing resistant genes into the plant PCV. The researchers transferred the coat protein and the *polymerase* gene of the IPCV through genetic transformation. The genes were initially obtained from the Scottish Crops Research Institute (SCRI) and the

sequencing and cloning of genes were done under the collaborative effort of ICRISAT and SCRI.

After many laboratory tests, the GM peanut is now undergoing greenhouse tests and field trials in India. Dr. Farid Waliyar is leading the field trials while Dr. Philippe Delfosse is testing them in

West Africa. The team in West Africa has recently completed its peanut germplasm project. Researchers have collected and identified the 40 varieties that are for possible use in increasing the yields of peanut in the region.

Results of the initial trials in India showed that the newly developed GM peanut yielded 30% more than farmer's traditional variety.

According to Dr. William Dar, Director General of ICRISAT and a Filipino who was one time BAR director, said it would take about three years before the GM peanut is commercialized. He further stated that, aside from peanut, ICRISAT is also developing GM pigeon pea and sorghum, which he anticipates to bring enormous benefits to Asian farmers. ■

(Source: "ICRISAT Developing GM Peanut" <http://www.afaa.com.au/news/news-1021.asp>; "Groundnut in West Africa" <http://www.icrisat.org/text/satrends/03jan/1.htm>)

## STORIES IN PICTURES

### BAR's first ever sportfest

### The tug of war in colors

#### Preliminary Team Standing

Green Team- 16 pts  
Red Team- 13 pts  
Yellow Team- 12 pts  
Blue Team- 10 pts





## BAR joins Asia IT and C workshop

The Bureau of Agricultural Research (BAR) Information and Communication Technology Section (ICTS), represented by Mr. Winston Tabada, participated in the InterSard workshop on, "Asia IT and C: Sharing Local Knowledge and Innovations," at the International Institute of Rural Reconstruction (IIRR), Y.C. James Yen Center, Biga, Silang, Cavite recently.

The workshop aimed to lay the foundation for sharing information on good practices/methods for sustainable rural development and natural resources management. This concerns 'good practices/methods', technologies and approaches that have been applied successfully and can help improve the situation of the rural poor. Participants helped in drafting policy guidelines for the implementation of the InterSard initiative based on concept papers on the themes: best practices, intellectual property rights, information management, institutional framework and information technology. During the workshop, participants also drafted functional design for the WISARD/InterSard and developed a draft strategic action plan for the future of the initiative. The workshop is participatory wherein concept papers were presented and critiqued by participants and partner organizations made revisions on their work.

InterSard is an initiative, "to build a global network of Southern and Northern

partners to share information on good practices and technologies for urban, peri-urban, and rural development and sustainable management of natural resources through a web-based information system." InterSard Asia believes that these initiatives may contribute greatly from the use of innovative information and communication technologies (ICT) although, according to the people behind InterSard, "the use of the web-based ICTs is still hampered by connectivity problems and hardware/software limitations in the South." In the present InterSard - Asia project, good practices of technologies and methodologies will be investigated, documented, and made accessible via a process of collaboration and dialogues between grassroots organizations, farmers' organizations, NGOs and professional public information providers, and expert networks.

Information on lessons learned, practices and technologies in agricultural production and natural resources management are important for local communities to improve their situation. According to InterSard, "access to information on proven technologies and good practices in other regions can be very valuable for grassroots organizations." InterSard's role is to apply appropriate new technologies for information and knowledge sharing (Likha C. Cuevas).

## Web<sup>NEWS</sup>

**DA chief warns vegetable farmers against 'pole-vaulting'**  
(<http://www.da.gov.ph>)

**Monterrey bridge coalition moves on, coalition to meet in Mexico City, 2-3 June**  
(<http://www.futureharvest.org>)

**Chickpea changes lives in Myanmar**  
(<http://www.icrisat.org>)

**Cash from cowpea (yes, cowpea!)**  
(<http://www.icrisat.org>)

**Protein discovered for disease protection**  
(<http://www.jic.bbsrc.ac.uk>)

**FSA "citizens' jury" favors GM food**  
(<http://www.foodstandards.gov.uk/news/newsarchive/verdict>)

**EU requests 12 states to adopt GMO legislation**  
(<http://europa.eu.int>)

## Philippine agri'l engineering standards launched

The Philippine Agricultural Engineering Standards were launched and discussed during the 53<sup>rd</sup> Philippine Society of Agricultural Engineers (PSAE) National Convention held at the Waterfront Hotel, in Davao City on April 21-25, 2003. Technical Adviser Winston Tabada of the ICTS represented BAR in the convention.

The standards was recently adopted by the Department of Agriculture (DA) Administrative Order No. 10 (series of 2002) and was promulgated by the Board of Agricultural Engineering of PRC through

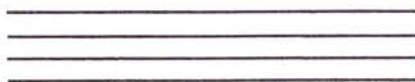
Resolution No. 5 (series of 2002). There was also a public hearing and discussion on the proposed amendments of the implementing rules and regulations of the National Building Code pertaining to agricultural buildings. Participants in the convention discussed the results of the PSAE - Bureau of Postharvest Research and Extension (BPRE) collaborative project on the nationwide inventory and masterplan of postharvest facilities and agricultural machinery. They also discussed the QUENDANCOR-PSAE-COCAFM Credit and Entrepreneurship Program for

PSAE convention with the theme, "Agricultural Engineering: Key to Agri-Industrialization," was the highlight of the 14<sup>th</sup> Philippine Agricultural Engineering Week. The PSAE South Eastern Mindanao Chapter hosted the 53<sup>rd</sup> Annual National Convention, wherein plenary and technical sessions on the new developments and technologies in the various fields of agricultural engineering were conducted. An agri-business forum, trade-matching, and eco-tour of Davao City were also held.

PSAE was founded in 1950 to advance the theory and practice of agricultural engineering. The society is engaged in professional career advancement activities and initiates moves in quest for recognition. The members' common interest is to uplift the standard of living of the Filipino farmers through optimized farming systems. (Likha C. Cuevas)

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