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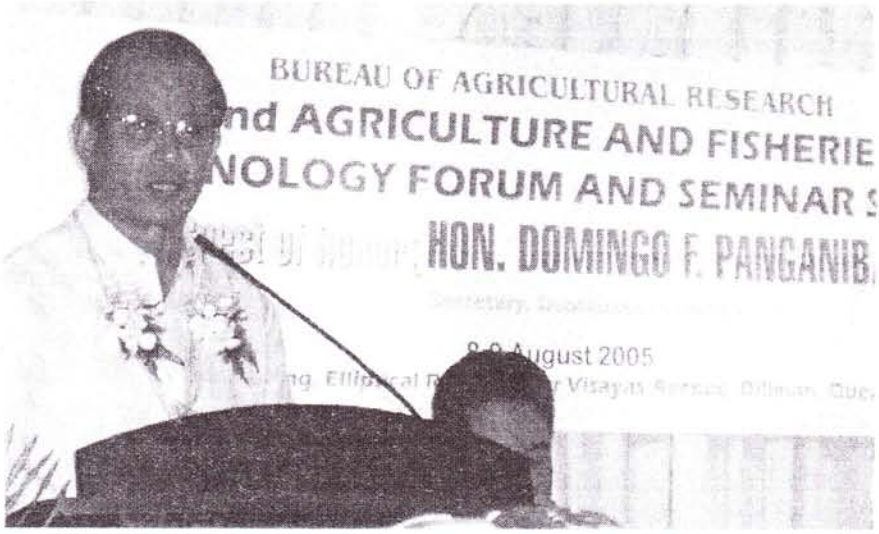
Secretary Panganiban lauds BAR programs



DA Secretary Domingo F. Panganiban delivers his keynote address during the opening program.

Department of Agriculture Secretary Domingo F. Panganiban helped usher in the Bureau of Agricultural Research (BAR) to its 18th year of existence, which BAR Director Nicomedes P. Eleazar called "an achievement on its own".

Secretary Panganiban gave the Bureau a pat in the back by acknowledging the technologies generated through research, that he says would be changing the lives of the farming communities and the common consumers of the country.

"Among these technologies that you can truly be proud of are the SNAP hydroponics, which I heard uses passive aeration and cheap materials, the virus-free planting materials, and the silica-gel component in rice hull, the coconut methyl ester as petro-diesel quality enhancer, and my favorite, the virgin coconut oil," Panganiban remarked.

He also expressed satisfaction with the direction the Bureau has assumed through the National Technology Commercialization Program, and the efforts BAR has put on developing its Agritech Online, and on the launching of the training manuals on geographic information systems.

" Saludo po ako sa proyektong ito dahil kailangang sumabay tayo sa takbo ng panahon at lundag ng teknolohiya," he stressed.

On the GIS training manual, he said, "I am happy to hear that this technology can be used for mapping disease outbreaks, or for matching

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Philippines to host simultaneous ASEAN ministers mtgs in Tagaytay

Agriculture and forestry ministers of the 10 member-countries of the Association of Southeast Asian Nations (ASEAN) and ministers of Japan, China, and South Korea will hold a week-long simultaneous meetings to discuss regional and global economic developments in the food, agriculture, and forestry sectors.

The Philippines, through the Department of Agriculture (DA), will host the 27th Senior Officials Meeting (SOM) of the ASEAN Ministers on Agriculture and Forestry (AMAF) that will be held simultaneously with the 5th SOM-AMAF Plus Three Meeting (including the three northeast Asian countries China, Japan and South Korea) and the AMAF Plus Three on 26 – 30 September 2005 in Tagaytay City.

In preparation for the meetings, the DA created various committees and working groups and

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This issue

This month, we are rightfully bringing back BAR's anniversary celebration to its original date after celebrating it in October for the past six years along with the annual National Research Symposium (NRS). Although BAR was established on 27 July 1987, its anniversary, by tradition, is celebrated on the first week of August. There are two reasons: BAR started operations in the first week of August 1987 and, because Dr. William D. Dar, the first director of BAR had the habit of starting his new job during the start of the month. Call it superstitious or whatever but that's a bit of trivia for you.

I assume it was not coincidental or by divine intervention that BAR celebrates its anniversary in August. The zodiac sign of August is Leo, and Leos are known for their leadership prowess. We like to think that BAR is like humans that are also influenced by zodiac signs. We are mandated to lead the agriculture and fisheries R&D system in the country. And lead it, we will.

As we turn 18 this month, our anniversary celebration becomes quite nostalgic. For those of us who were already in during the 1st BAR anniversary, our memories are filled with the pangs of birth pains. How fast time flies! It is as if we just recently marked our 1st birthday. For some of us, 18 years symbolize the debut to adulthood. But unlike a debutante, we have gone a long way. We have organized the networks, systematized the R&D efforts in the country, mingled with the users of our technologies, and many more. Yet, we are expected to do more in the coming years.

As we celebrate our anniversary month, we feature a varied mix of activities in this issue. This includes the formal ceremonies, the technical forums, and other fun activities for the staff and our guests. Let's savor every moment of this memorable month. Our featured articles, we hope, capture the spirit and the aspirations of our 18th anniversary. (AVD)

Panganiban...from page 1

technologies for commercialization with the areas across the country that need these technologies most."

Sec. Panganiban, however, did not fail to point out the rest of what needs to be done, especially in linking researches with those who will benefit from them. He said that there should be no question as to whether we can come up with the technologies we need. He expressed the belief that the R&D community could do that.

"The basic question is: whether these technologies are accepted or used by our farmers and fishers?" he stressed.

The Secretary also pointed out the need for developing a system that enables the agriculture technicians of the local government units to consult with scientists regularly regarding issues and concerns in the farmlands.

He tipped his hat to the Community-based Participatory Action Research (CPAR) program of BAR, which he says is a commendable effort in linking research with its ultimate users.

He also acknowledged the financial issues the Bureau has been facing owing to recent budget cuts, but expressed confidence in BAR's leadership and its capability to overcome this obstacle.

The Bureau "comes of age"

Meanwhile, Director Eleazar, in his welcome speech, likened the Bureau to a debutante who has come of age, and is ready to take on society's challenges. He said BAR has found its niche as the "central body for R&D system in agriculture and fisheries".

He remarked, " R&D is a basic prerequisite to modernize agriculture. It helps expand production through applications of newly generated technologies."

"Increased volume of production and awareness in quality would make us globally competitive, creating additional jobs that would eventually augment the average income of the rural areas," he added.

Director Eleazar also mentioned the Bureau's strategies to keep up with the needs of its clientele, which are strategic planning, setting priorities at the regional level, technology commercialization, collaboration with partners to promote productivity, profitability, and livelihood, and participation in trade fairs and exhibits to increase public awareness of BAR's mandate and accomplishments.

"Despite these gains, we still have a lot of work to do. We have to be realistically driven to make feasible and doable plans for the Bureau's clientele. There will be more hurdles to come, and more political and economic impediments to hinder our progress, but there will still be another 18 years to ensure that our beloved country gets the service it deserves from her servants, the people," he said in closing. *(Ma. Lizbeth J. Baroña)*

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NTCP fast tracks promotion and implementation

BAR Dir. Nicomedes P. Eleazar (2nd from left) awards the first prize winner of the poster-making contest to Junice Nepomuceno from the General Roxas Elementary School. Also in the photo are Dr. Teodoro Solsoloy, BAR OIC Asst.Dir.; Ms. Rosario Jimenez, one of the judges; and Dr. Marlowe Aquino, NTCP head

The Bureau of Agricultural Research's (BAR) National Technology Commercialization Program (NTCP) held a series of activities to fast track its implementation. During the week-long celebration of the BAR anniversary this month, the NTCP team spearheaded the conduct of the 2nd Agriculture and Fisheries Technology Forum, consultation-briefing with the Department of Agriculture Regional Integrated Agricultural Research Centers (RIARCs) and Regional Fisheries Research and Development Centers (RFRDCs), and a poster-making contest for the forthcoming publication of NTCP.

NTCP consultation-briefing

During the consultation/ business meeting of DA-BAR with the DA-RIARCs and RFRDCs, the NTCP team gave the participants an overview of the program along with its framework.

Dr. Marlowe U. Aquino, national coordinator of the NTCP, presented the structure and thrusts of the program to the participants who are the regional partners of BAR in the NTCP's implementation. The briefing aimed to solicit comments and suggestions from the regions regarding the program's framework and clarify problems and concerns on the implementation of the program. The briefing was also BAR's way of calling for support and cooperation for the program since the regional agricultural and fisheries centers' partners are instrumental in promoting the technologies to be commercialized.

Techno forum

The 2nd techno forum was held at BAR on 9 August 2005 to present and promote the technologies generated by R&D scientists and researchers as well as by innovative farmers and fisherfolk in the country.

Eight new technologies from the crops, livestock, and fisheries sectors were presented. On crops, the "Improvement of the potato seed system using disease-free and true potato seed tubers" was presented by Mr. Luis Pacana and Dr. Susan Razo (SMIARC, Davao City), while the "Organically grown vegetables in Northern Mindanao" was presented by Mr. Carlos Osip and Ms. Carlota Madriaga (NOMIARC, Bukidnon). On livestock, the technologies promoted were "Energy and protein requirements of starting, growing and laying Philippine mallard ducks", "Breeding management of Philippine mallard duck raised under intensive and modified extensive management system", and the "Production of quality salted eggs". These were presented by Dr. Jovita Datuin (ILIARC, La Union). The technology "Protein-enriched sweetpotato pulp as feed for broilers" was presented by Dr. Maria Teresa Demo-os (Camiling, Tarlac). On fisheries, the "Process of extraction and formulation of icthyocides from derris plants" was presented by Dr. Florentino Sumera (University of the Philippines-NSRI, Diliman), while the "Seaweed culture using triangular method" was presented by Mr. Said Kalbi (DA-BFAR IX, Zamboanga City).

An open forum followed the presentations. The participants exchanged ideas regarding their methods, findings, and personal experiences and success stories regarding the adoption of the technologies.

Poster-making contest

A poster-making contest participated in by students from elementary schools in Quezon City was held on the last day of the BAR anniversary week. The activity was conducted in order to draw out a cover design for the forthcoming publication of the NTCP. The theme given to the students was "Making technology work for agriculture, fisheries, and industry". At least 15 elementary schools participated in the said contest. The participants from General Roxas Elementary School took home the P5,000 cash prize and a trophy. *(Miko Jazmine J. Mojica)*

GIS/RS manual, Agritech Online launched

The Bureau of Agricultural Research (BAR) formally launched the training manuals on *Implementation of Geographic Information Systems in Agriculture and Natural Resources,* and *Analysis of Remotely Sensed Data* authored by BAR's GIS expert Dr. Esteban Godilano, and **Agritech Online** during the BAR anniversary program, 8 August 2005.

GIS/RS training manual: The first of its kind

Dr. Godilano, who authored the training manuals on GIS implementation and remote sensing data analysis, said the book aims to "provide understanding and hands-on knowledge of the issues and requirements for implementing and applying geographic information systems and technology in agriculture and natural resources".

Dr. Godilano is an expert in space technology. He holds a doctorate degree in environmental information system from Cornell University, USA. He is considered a leading expert in remote sensing/ geographic information systems/ global positioning systems implementation and application in Asia. Various government agencies, hardware and software vendors, and non-government organizations seek Dr. Godilano's expertise on RS/GIS/ GPS.

The author's extensive experience in his field of specialization are on basic and applied research in rice cropping and farming systems; community-based natural resource management; geospatial information technology application in agriculture and natural resources; land-use planning and tax-mapping for local government units; implementing sustainable agricultural researches and production programs with the National Agricultural Research System; implementing poverty mapping and sustainable livelihood programs; precision agriculture; computer hardware and RS/GIS/GPS training; agricultural project management and NARS collaboration; and working in multi-cultural settings.

Top photo: Mr. Jerson Cruz of MISD explains how the Agritech Online operates. Bottom photo: GIS manuals launched during BAR's anniversary

Agritech Online: Breaking barriers

Agriculture and cyberspace are not strange bedfellows after all.

Somewhere along the left bar of the BAR's website, is the icon that leads you to **Agritech Online** – BAR's web-based knowledge portal that is a virtual one-stop shop for anybody on the search for information on farming processes, post-harvest handling, market information, and even an on-line discussion board with other agriculture enthusiasts.

The portal is one way of addressing the issue on the communication gap that exists between research institutions and those who need information, whether farmers, businessmen, investors, or even just the curious. Since it takes advantage of the information and communication technology, the time element in information transfer is reduced, may even be eliminated.

Agritech Online is made up of sections that offer different services, including **AgriBalita**, where news and updates about the agriculture and fisheries sectors can be accessed. Successful farmers and their stories are featured in the **AgriGaling** section. This section also features investors and entrepreneurs who have been successful in agri-entrepreneurship ventures. **AgriKaalaman** is where one finds trivia and snippets of agriculture-related information. Perhaps, the section that offers the most choices of sources of information is the **AgriGabay** section. This section features the **AgriGabay** map – the interactive kind where you find lists of commodities suitable for planting in different provinces across the country.

The section also features pages on provincial and commodity profiles. Provincial profiles include topography, climatic and geographical information, population, soil composition, and economic profile. Commodity profiles feature product description, production process, import and export information, market

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BAR as R&D bureau safeguards Philippine knowledge

Dr. Agillon (first row, 2nd from right) and the other participants during the training in Svalov, Sweden from 18 May to 8 June 2005.

As the country's lead agency in agricultural R&D, BAR sets forth to arm the R&D system in safeguarding the country's recent developments in genetic resources and local knowledge and their proper access, use, and commercialization. Dr. Andrea B. Agillon, BAR Intellectual Property Rights Office (IPRO) head, attended the advance international training program on genetic resources and intellectual property rights in Svalov, Sweden from 18 May to 8 June 2005.

Twenty-six participants from 23 countries including the Philippines, Brazil, Cambodia, Chile, China, Ethiopia, Ghana, and India, converged at the Svalof Weibull AB in Svalov, Sweden for the training course.

Before to the training, Dr. Agillon and Ms. Jane G. Payumo, project development officer of the Philippine Rice Research Institute (PhilRice) Intellectual Property Management Office, co-wrote a paper on the country's experience on genetic resources and intellectual property rights (IPR). The paper explained the issues and concerns in the implementation of an intellectual property (IP) protection system. It also posited a balance in legislation accorded to genetic resources and sharing of benefit, and its implementation. This served as the preparatory phase of the Sweden training for the Philippine contingent.

The whole seminar-workshop was divided into three parts - lectures on genetic resources and IPR issues, bioprospecting, IP issues on crop breeding, treatises on IP concepts; field visits to related institutions; and group exercises such as role playing of IP owner and commercial company, IP negotiation on policy implementation, access and use of genetic resources, where participants acted as negotiators.

"Some of our indigenous knowledge and biological materials could be shared to other countries that do not have these materials without undergoing intellectual property right procedures," said Dr. Agillon. This would mean an intellectual loss for the Philippines. The country is blessed with various and diverse biological and genetic resources which could be seen as an opportunity for foreign countries to get raw (genetic) materials from the Philippines and process these as its own.

One of the fundamental issues raised on the recognition of the importance of genetic resources and IPR in the Philippines is the implementation of legislation related to regulating the "access, use, commercialization, (and prevention of exploitation) of biological genetic resources and patenting of foreign entities to species endemic to the Philippines."

Executive Order 247 is the first national legislation on the "access to genetic resources and benefit sharing which aims to increase awareness on regulating the use and conservation of biodiversity in the Philippines." While the Philippine government is rich in policies on genetic resources, the country should also be well informed on strategies on negotiating, handling, addressing, and dealing with genetic resources and IPR issues. Genetic resource has become one of the fundamental structures in the advancement of technologies in agriculture and industrial crops, pharmaceuticals and the natural products industry in the country.

The Philippine contingent who attended the seminar-workshop will serve as the catalyst for IPR policies and implementation and frameworks on genetic resources at the national and institutional level.

The Sweden International Development Cooperation Agency (SIDA) covered the training program's cost including participation and accommodation fees. The agencies responsible for the training program are the Stockholm Environment Institute (SEI), an independent, international research

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institute specializing in sustainable development and environment issues. Svalof Weibull AB is one of the world's leading plant breeding and seed groups in Europe that also pursues comprehensive research and development program in gene technology. The Swedish Biodiversity Centre (CBM), on the other hand, is the national research center for research on biodiversity.

The participants were housed at the Star Scandic Hotel in Lundt City, Sweden. *(Angela E. Obnial)*

Sources:

1. *A.B. Agillon. "Genetic Resources and Intellectual Property Rights," Svalov, Sweden; May 18 to June 8, 2005. A training report.*
2. *Jane G. Payumo and Andrea B. Agillon. "Genetic Resources and Intellectual Property Rights: The Philippine Experience." Presented at the International Training Program on Genetic Resources and Intellectual Property Rights, Svalov, Sweden, 18 May to 8 June 2005.*
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New corn variety with insect resistance and herbicide tolerance approved for planting in the Philippines

Adding to the menu of agri-technology choices available to farmers, the Philippines' Bureau of Plant Industry recently approved a new corn variety for planting. So called "stacked-trait corn," the plant bears two introduced genes in its genetic make-up. The first one, called Bt gene (cry1ab), comes from a common soil bacterium, *Bacillus thuringiensis*. This makes protein that enables the corn plant to resist the attacks of Asiatic corn borer, a dread insect pest that can cause as much as 80% yield reduction.

The second one, the EPSPS (5-enolpyruvylshikimate-3-phosphate synthase) gene, isolated from CP4 strain of Agrobacterium tumefaciens, is a naturally-occurring bacterium in the soils which enables the corn plant to continuously produce essential aromatic amino acids even in the presence of glyphosate, a non-selective herbicide.

Thus, glyphosate kills the weeds without harming the corn plant. When conventional corn plants are sprayed with glyphosate, they stop producing the aromatic amino acids such as tyrosine, phenylalanine and tryptophan which are essential to their survival. The EPSPS enzyme can be found in all plants, bacteria and fungi. Animals do not produce their own aromatic amino acids; thus, they need to obtain them from plants for survival.

EPSPS is normally present in foods made from plants and microbial sources. This latest corn variety combines the traits of two earlier approved biotech corn varieties developed by Monsanto-the Roundup Ready corn and Bt corn.

In 2002, the Philippines approved Bt corn Mon 810. This gene is incorporated into the different commercial local corn varieties of Monsanto Philippines and Pioneer Hi-bred Philippines. Locally, the Monsanto Bt corn hybrids are known as Dekalb(DK) 818YG, DK9161YG, and DK9051YG. On the other hand, the local Bt corn hybrid varieties of Pioneer Hi-bred Philippines are sold as 30Y84, 30Y50, 30Y80, 30Y73, and 30Y34.

In 2005, another Bt corn-event Bt 11 of Syngenta Philippines was approved for planting. The biotech crop products of Syngenta Philippines are marketed under the Agrisure trade name. For the approved Bt 11, its commercial variety is sold as NK 5447Bt.

Also in 2005, Corn NK 603 was approved for commercial use. It introduced the EPSPS gene into the chromosome of the corn plant. Designed as a weed control option, this corn type which is developed by Monsanto Phils. is known as RR corn or Roundup Ready Corn. It is sold as DK818RRC2.

The approval of stacked-trait corn-Bt corn Mon810/NK 603 makes it the fourth event to be given the go signal by the Philippine government. The commercial technology demonstration of the corn hybrid varieties bearing the dual traits will start in the 2005 dry season planting.

Since commercial planting of Bt corn in 2003, the industry insiders estimate that an aggregate area of 70,000 hectares has been planted to insect-protected corn.

With more choices of biotech corn in the market to suit specific farming systems, it is expected that there will be significant expansion of corn areas. Records at the Bureau of Agricultural Statistics show that volume of corn production has increased from 4.62 million metric tons in 2003 to 5.41 million metric tons in 2004.

However, adoption of these new biotech corn varieties will depend on affordability of seeds and favorable farm gate price of corn during harvest. The focus of farm support by the Department of Agriculture toward strengthening postharvest facilities will surely boost confidence among progressive farmers to adopt new technologies that would help them improve farm productivity. *(BIC Press Release)*

Mindanao vegetable stakeholders discuss global competitive advantage

In their fervent hope to strengthen Mindanao's bid as the emerging vegetable capital of the country, industry leaders, farmers, government and non-government officials and organizations gathered for the 2nd Mindanao Vegetable Congress on 18-19 August 2005 at the Grand Men Seng Hotel, Davao City. The activity sought to discuss issues and challenges faced by the vegetable industry and to come up with recommendations for viable government interventions and private sector participation.

Focusing on the theme, "Mindanao Vegetable Industry Stakeholders' Collaboration: A Stronger Linkage to Markets", the stakeholders in the two-day congress shared their best practices in vegetable industry development that ultimately provided the farmers and producers with the best market opportunities outside Mindanao and further developed their agri-entrepreneurship skills. By enhancing the already existing linkages among stakeholders, the industry hoped to achieve global competitive advantage both in terms of meeting production demand and producing quality vegetables.

Participants visiting the DA-BAR booth during the 2nd Mindanao Vegetable Congress in Davao City.

The Vegetable Industry Council of Southern Mindanao (VICSMin) organized this annual event in cooperation with the Northern Mindanao Vegetables Producers Association, Inc. (NorminVeggies). The Bureau of Agricultural Research (BAR) was one of the cooperators/ sponsors of the activity along with the Department of Agriculture-Regional Field Unit XI (DA-RFU XI), University of the Philippines Mindanao, University of Southeastern Philippines, Western Mindanao Vegetable Industry Development Council, Inc., Caraga Federation of Vegetable Industry Organization, Catholic Relief Services (CRS), and the United States Agency for International Development (USAID).

Highlighted in the activity were series of lectures and exhibits and product displays related to vegetables. Included in the series of lectures are topics on the current state of the Mindanao vegetable industry, updates on government interventions and initiatives, farmers' experiences in vegetable production and marketing, pre-marketing needs, and market linkage.

BAR's participation in the two-day exhibit was facilitated by key staff members, namely: Dr. Rolando Kintana of the Research Coordination Division (RCD) and Ms. Julia Lapitan of the Management Information System Division (MISD). Presented in BAR's exhibit were recent technologies from researches funded by BAR such as the dragonfruit or *pitaya* and potato production in modified hydroponics, which are being implemented by DA-RFU XI-Southern Mindanao Integrated Agricultural Research Center (SMIARC).

The opening ceremony was attended by VICSMin President Roger G. Gualberto, NorminVeggies President Marcelino E. Remotigue, and Hon. Leonardo R. Avila III, councilor of the 1st district of Davao City, who also served as the master of ceremony for the activity. *(Rita T. dela Cruz)*

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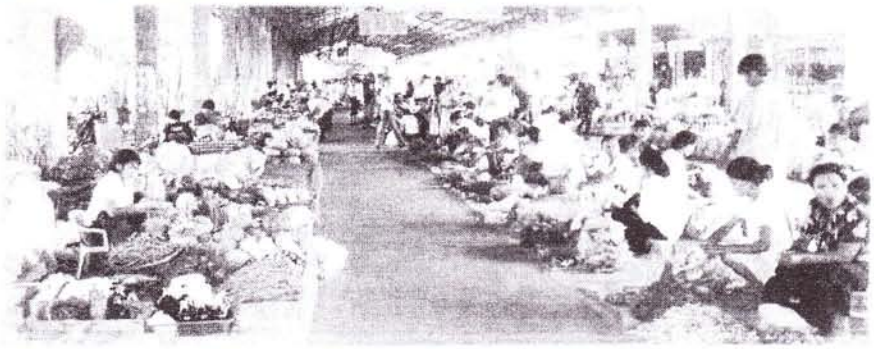
price and price trends, list of buyers and processors, sellers, R&D, investment opportunities, marketing systems, market information, sources of planting materials, seeds and inputs, postharvest facilities, storage, packaging, and transport and handling.

The cost and return analysis page helps future agri-entrepreneurs examine the economic prospects of their product. Visitors of the BAR website and the **Agritech Online** web page can also chat with one another to inquire or exchange information at the on-line forum page.

(Ma. Lizbeth J. Baroña)

A first of a kind of farmers' market in the North



A farmers' market in Batac, Ilocos Norte.

"At the farmers' market, the corn is juicy and the tomatoes are sweet as peaches," says a famous advertisement in America, promoting fresh agricultural products directly from the farmers who planted them. Farmers' market is a public market where farmers can sell their produce directly to the consumers and since there is no middleman involved, the products are sold at a cheaper price.

At the heart of the Batac, Ilocos Norte a public market lies a stretch of fresh, locally-grown agricultural products being sold by farmers. The farmers' section is a major come-on among consumers because the products are not only cheaper but also complete. Everything one needs is already there, from the basic necessities down to the very least ingredients needed to cook a decent meal.

The farmers' market is made possible through the major effort of the municipal mayor of Batac, Atty. Jesus Nalupta, Sr. or simply "Mayor J" as his constituents fondly refer to him. Staff from the Applied Communication Section had a brief discussion with him on 14 July 2005 during a visit to Batac market and he was kind enough to be the tour guide around the marketplace.

According to Mayor Nalupta, the farmers' section alone is already generating a lot of money for Batac. He mentioned that, on the average, the market earns around one million pesos a month. A cooperative handles the standard pricing of products being sold in the farmers' market.

Mayor Nalupta's effort to further improve the economic condition of Batac is slowly paying off as he is often mentioned by former Department of Agriculture (DA) Secretary Luis Lorenzo in his speeches as an example of how to empower farmers, increase income, and minimize perishable surplus. *(Rita T. dela Cruz)*

Philippines...

pooled its human and material resources. Selected officials of the DA and its bureaus and attached agencies were trained by the Department of Foreign Affair's Protocol Office on the basics of Philippine Protocol Practices.

Forging regional cooperation in agriculture

The ASEAN has been in existence since 1967 with the signing of the ASEAN Declaration in Bangkok, Thailand. What started out as a political organization during the cold war era, with five member countries, namely: Indonesia, Malaysia, Philippines, Singapore, and Thailand, has expanded into a regional community that encompasses political, economic and functional (i.e., trade, investment, industry, services, etc.), and external relations among members and neighboring countries. Membership in the ASEAN now also includes Brunei Darussalam, Cambodia, Lao PDR, Myanmar, and Vietnam.

In 1968, regional cooperation among Southeast Asian countries started in the agriculture sector, specifically in food production and supply. Nine years later, the scope was expanded to include other areas of agriculture and the addition of the forestry sector. Currently, ASEAN cooperation in these sectors operates on the following areas, namely: food security and handling; crops; livestock; fisheries; agricultural training and extension; agricultural cooperatives; forestry; and biotechnology.

This was further strengthened with the signing of the Ministerial Understanding on ASEAN Cooperation in Food, Agriculture and Forestry on 28 October 1993 in Brunei Darussalam.

Agriculture and forestry ministers

The ASEAN Ministers on Agriculture and Forestry is the body that meets annually to consider, review, and approve policies, strategies, and action programs of the Cooperation in Food, Agriculture and Forestry. It is supported by the SOM-AMAF (Senior Officials Meeting-AMAF) that meets at least twice a year.

The chairmanship of both bodies is rotated annually following the ASEAN rule on succession (alphabetical order based on the names of the member countries). The last AMAF meeting was held in Yangon, Myanmar (October 2004) and was chaired by Myanmar Minister for Agriculture and Irrigation Major General Htay Oo with former Agriculture Secretary Arthur C. Yap as vice-chair. The next meeting in Tagaytay will be chaired by DA Secretary Domingo F. Panganiban.

Undersecretary Segfredo R. Serrano is the SOM country leader of the Philippines. *(Rudyard R. Roxas)*

Growing potato without soil

by RITA T. DELA CRUZ

Soil plays a crucial part in farm production but it now becomes ineffectual with the advent of soilless farming or simply *hydroponics*. This technique in farming has become so indispensable that it even adapts to modern-day setting allowing farmers to grow potato even with limited space and without considering the 'in- and off-season' farming allowing uninterrupted production.

This technique in farming works well with potato. Since growing potato does not need soil, this means no soil-borne pests and detrimental disease such as bacterial wilt.

With the wide uses of potato and a low consumption of it, the country must find ways to fully optimize its use especially with the popularity of French fries among fastfoods and restaurants making potato a highly demanded rootcrop. It is, therefore, important that farmers find appropriate means to continuously produce more potatoes year-round.

Potato production has high income potential for farmers, especially those in Northern Luzon and Southern Mindanao where the bulk of the potato produced comes from. However, owing to various constraints such as limited supply of quality planting materials, low quality of potatoes in terms of content and size, lack of technical know-how among our farmers, and postharvest handling, local production could not meet the market demand.

Modified hydroponics

In Southern Mindanao, farmers found an effective way to produce *granola* and *atlantic* potatoes (two of the most common varieties grown in the country) through modified hydroponics. The technology was tried for field testing by a team from the Department of Agriculture-Southern Mindanao Integrated Agricultural Research Center (DA-SMIARC).

The technology is called 'modified' hydroponics because potatoes were grown using inert medium, sand and coco coir dust, instead of the usual soil. The use of this sterile medium proves a more practical modified hydroponics system because there are no reserve nutrients. This ensures that every plant gets the precise amount of nutrients and water it needs.

Aside from being a no-soil-used and space-friendly method, the developed technology produces better tubers with a much longer shelf life than those potatoes grown in the soil, given that the farm has been managed properly. Labor involved in tending the plants is also markedly reduced. One cycle of planting potatoes needs only 30 man-days.

The how-tos of modified hydroponics

In this technology developed by SMIARC, the inputs/ materials include:10 bags of fertlizer (12-11-18), 1 liter insecticide, 1.5 kg fungicides, 85 kg seed tubers, 1000 pc polyethylene bag (24x24x.006), 20 cu m coarse river sand, 150 bags of coir dust, and 5 gallons of disinfectant. These inputs/ materials are for a 200-sq-m area.

Cultural management practices are important to effectively manage and ensure optimum production of potato. Some of these are, securing quality seed tubers, disinfecting the medium with 0.5% sodium hypochlorite solution, hilling-up of the medium during the suggested weeks after planting, dehaulming (cutting all foliage and stem when leaves start turning yellow), hand digging during harvest, and collecting produce using plastic crates.

The total cost for the three cycles amounts to Pph65,865 with a gross income of Pph85,050. This totals to a net income amounting to Pph19, 185 for the 200-sq-m area planted. The return of investment (ROI) is 29.13%.

For more information and copies of their information kit, please contact the Knowledge Management/FITS Center, Bago Oshiro, Tugbok District, Davao City or through telefax: (082) 293-0109 or 293-0136 or email them at: smiarc@yahoo.com or louiepacaana@hotmail.com

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BAR director, staff visit private demo farm

Director Nicomedes Eleazar, several BAR staff members, and partners from the regions visited a privately owned farm that exhibits the use of drip irrigation for vegetable production. This is located in Barrio Bucal, Silang, Cavite. The visitors were given lectures and demonstrations on the uses of irrigation equipment and drip systems by experts of NETAFIM, an Israeli-owned company.

NETAFIM is a business entity that provides innovative solutions to increase crop yield and preserve scarce water resources. It offers cutting edge core-drip irrigation technology and agronomic expertise for irrigation landscaping, turnkey greenhouse projects, wastewater recycling for environmental irrigation, and advanced crop management and monitoring systems.

The website of the company, which boasts of branches in 26 countries, including the Philippines, says it is the hope of the company "to share our decades of experience, unparalleled expertise, and innovative research and development - that have resulted in proven and lasting irrigation solutions for arid conditions - with our customers in all corners of the globe. Our familiarity with diverse local growing cultures and methods, together with the deep roots we have established in many different countries, create the ideal foundation for future growth. We aim to bring our wealth of knowledge and profound expertise to the service of each local grower and landscape gardener."

NETAFIM's headquarters is in Tel Aviv, Israel. *(Ma. Lizbeth J. Baroña)*

PCA celebrates 19th Coco Week

The Philippine Coconut Authority (PCA), BAR's national partner for the coconut RDE network, celebrated its 19th National Coconut Week, August 24 – 28. The celebration highlighted the coconut tree's potentials as a source of livelihood, and of health and beauty products.

The celebration's focal point was a coconut festival held at the Mega-Trade Hall in SM Megamall. Government and private entities exhibited vast arrays of products derived from the tree. The public was treated to presentation of these products from coconut candies, the virgin coconut oil, and accessories and bags. Among those exhibited was the Philippine coconut geotextile, also called coconet, which was an entry to the BBC World Challenge. This is a contest jointly sponsored by the BBC World and Newsweek, in association with Shell, aimed at finding groups or individuals who have shown innovative entrepreneurship at the grassroots level. *(Ma. Lizbeth J. Baroña)*

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