

Rice harvest for the first half of 2009 up by 3.65%

Rice harvests for the first half of this year inched up by 3.65 percent to reach 7.38 million metric tons representing an incremental rise of 255,477 metric tons of *palay* over harvests in the same period last year.

This was announced by Agriculture Secretary Arthur Yap following a first semester report submitted by GMA Rice Program Director, Dr. Frisco Malabanan who told the farm officials that the healthy rise in rice production in the country for the first semester indicated that the 17.48 million metric tons target for this year remains attainable.

Undersecretary for Operations Jesus Emmanuel M. Paras welcomed the good news citing that the best performer among the rice producing regions in the country for the first half of this year was the Bicol Region which registered a double-digit rise in harvests at 17.30 percent, followed by Ilocos Region including Pangasinan at 13.08 percent growth.

“Central Luzon came in close third with yield ticking up by 9.23 percent followed by the CALABARZON or Southern Tagalog Region that hauled in 7.44 percent of yield hike. Rounding up the five top performing regions was the Zamboanga Peninsula that harvested 4.95 percent more than harvests in the same period last year,” Paras said.

Paras attributed the production rise to stable irrigation water during the supposedly dry months with rains coming even during the second quarter of the year, a notable doubling in the use by

farmers of certified seeds plus stable farmgate prices which encouraged more farmers to increase the area they planted with the staple grain.

He said that based on the Bureau of Agricultural Statistics (BAS) final estimate, the 7,373,196 total harvest came from 1.95 million hectares planted to rice during the dry season planting. The increase area planted was 68,461 hectares.

For his part, Malabanan said that the BAS estimated that the area planted for harvest this rainy season due for harvest from September to December this year totaled 2.66 million hectares which was projected to yield another 10.07 million tons more of raw *palay*.

This will be right on target for the rice program as it was projected when launched last year to make the Philippines self-sufficient by 2013.

The GMA Rice Self-Sufficiency Program was launched in 2008 when the country was forced to import 2.4 million tons due to short local supply from other East Asian countries and the United States, in what Secretary Yap said as a way for the country to control its own destiny in terms of its needs.

Tight supply in the Philippines made it the top rice importer in the world and had pushed retail prices in Metro Manila to an all-time high of P50 per kilo for commercial rice and also pushing international rice prices to a global high of \$1,000 per ton in 2008. (DA-GMA Rice Program)

DA Sec. Yap... from page 1

In line with this, he ordered the National Food Authority (NFA) to start exporting corn by mid-September. This must be done, according to Yap, “to salvage the aquaculture, municipal fisheries, hog, chicken, and chicken egg industries which are all corn-dependent.”

Meanwhile, Yap also explained why climate change is the other big threat. “The droughts are getting longer, the storms are increasing in severity. Water is lacking. And this is prevalent all over the world.”

Yap is advocating for people to go into processing, and adopting value-adding measures to ensure the sustainability of agricultural products. He likewise urged the state universities and colleges and other technical people to “study the market and do a thorough market research program.”

“Bring in more foreign investors and business people who will explore what can be done with our agricultural products. Then you will now have the private sector to help you invest. *Hindi kasi natin kaya lahat. Pero kapag maraming negosyante*, they can see what can be done with all these agricultural products. They will come and help you in processing, value adding. *May katulong tayo.*”

Another guest of honor, Dr. William D. Dar, director general of the International Crops Research Institute for Semi-Arid tropics (ICRISAT) which is based in India, was not able to grace the opening due to an equally-important event. However, he extended his greetings, message of support and congratulations through a speech delivered on his behalf by Dr. Santiago R. Obien, BAR's technical consultant. (Don P. Lejano)

DA Sec. Yap underlines importance of business sector in tech transfer

Let the businessmen do what they do best.” This was the core message of Department of Agriculture (DA) Secretary Arthur C. Yap referring to the business sector's capability to penetrate the market during the opening ceremonies of the 5th National Agriculture and Fisheries Technology Forum and Product Exhibition held on 27 August 2009 at the SM Megatrade Hall 3, SM Megamall in Mandaluyong City.

Sec. Yap, who was the guest of honor for the event, has long been championing technology commercialization projects, thus the urging for the Bureau of Agricultural Research (BAR) to conduct technology fairs so that the researchers and their products will be easily linked to entrepreneurs and potential investors.

According to Sec. Yap, “there is a big gap with the country's technology transfer program.” He then raised the question as to which is the proper venue for technology commercialization. He

said that the television could be the best medium for this endeavor. “We have not been able to harness information communication technology and media to disseminate technology transfer to our people”.

He even cited the case of Brazil wherein two cable channels are allotted for agricultural technology commercialization. One cable channel devotes its programming into a 24-hour nonstop information dissemination of the recent technology breakthroughs and the other one does TV auction of hogs, cattle, horses, and other agricultural products.

The Secretary also made mention of two threats that the agriculture sector is facing today – the liberalized trading order and climate change. “In order to address the liberalized trading order, we have to start exporting to support the program for aggressive buying and aggressive importing,” said Yap.

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DA Sec. Arthur C. Yap delivers his keynote address at the opening of the 5th Agri & Fishery Techno Forum and Product Exhibit at SM Megamall.

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BAR's A/F Tech Forum & Exhibit successfully concluded; draws more than 7,000 visitors

True to its desire to provide awareness to the public on the commercial potentials of technologies and products generated from research and development (R&D), the 5th Agriculture and Fisheries Technology Forum and Product Exhibit, organized by the Bureau of Agricultural Research (BAR), was successfully concluded attracting more than 7,000 visitors during its four-day duration. Seventy-

eight percent of the attendees this year were walk-ins with the rest coming from the private/business sector, the regions, and state universities and colleges (SUCs).

“The SM Megatrade Hall has been our home since last year and we are proud and happy to be back in this venue which I honestly believe is strategically located and is easily accessible from all points of the metropolis providing us maximum

exposure and broad captive market,” said BAR Director Nicomedes P. Eleazar during the opening ceremony.

According to Ms. Digna L. Sandoval of the Technology Commercialization Unit (TCU), BAR's arm for the activity, much of the success of this year's event is due to the intensified promotion through multi-media exposures in television, print, and radio and an increase in invited exhibitors. “This year's

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BAR,UPLB partnership pushes tech com



BAR Director Nicomedes P. Eleazar (left) discusses with UPLB Chancellor Luis Rey I. Velasco (right) during his visit at the UPLB/UPLBFI booth.

The UPLB/UPLBFI booth during the 5th Agri & Fishery Tech Forum and Product Exhibit held at the Megatrade Hall 3, SM Megamall.

The Department of Agriculture-Bureau of Agricultural Research (DA-BAR) and the University of the Philippines Los Baños (UPLB) continued their partnership to disseminate technologies generated by the University.

According to Vice-Chancellor for Research and Extension Enrico P. Supangco, BAR has been assisting the university in its technology promotion efforts. A number of projects aimed at improving the packaging of UPLB products are being funded by BAR through its National Technology Commercialization Program (NTCP).

"Another important aspect of BAR's assistance is its sponsorship of events where our products are further introduced to the market", he added.

These activities, according to

BAR Director Nicomedes P. Eleazar, "are aimed to strengthen the partnership between research organizations, such as UPLB, and the private sector towards a more progressive agricultural development."

On 27-30 August 2009, UPLB participated in BAR's 5th Agriculture and Fisheries Technology Commercialization Forum and Exhibit at the SM Megamall in Mandaluyong City.

Earlier, UPLB participated in two other exhibits sponsored by the DA and BAR. UPLB's food and food processing products were featured in the First Food Industry Summit at the Dusit Thani Hotel in Makati City on 28-29 July 2009.

On July 10, about 40 technologies developed (e.g. crop

varieties, food and dairy products, alternative energy, farm mechanization and crop protection technologies) by UPLB units were exhibited at the Philippine Food Processors and Exporters, Inc., the Philippine Chamber of Commerce and Industry, and the Philippine Chamber of Food Manufacturers, Inc. at the Bureau of Soils and Water Management (BSWM) Convention Hall, Quezon City.

During these events, Agriculture Secretary Arthur C. Yap, who has been urging the mainstreaming of UPLB technologies, expressed optimism that the business sector would take these activities as opportunities to shop for technologies to adopt and commercialize. (Florante A. Cruz, UPLB)



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Best booths announced during 5th A/F TechForum closing rites



Chum Fernandez (left) and Bing Corpus (right) of DA-SMIARC receiving the plaque for this year's Best Booth Award.

The 5th National Agriculture and Fisheries Technology Forum and 22nd BAR Anniversary Celebration came to a successful conclusion with a simple awarding ceremony held on 30 August 2009 at the SM Megatrade Hall 3, SM Megamall in Mandaluyong City.

The event was attended by the Bureau's top executives, Director Nicomedes P. Eleazar and Asst. Dir. Teodoro S. Solsoloy.

"This 5th National Agriculture and Fisheries Technology Forum is yet another milestone for the Bureau of Agricultural Research because of its huge success. We are very happy with the number of guests and visitors who diligently inquired about the various technologies that we have developed through research in all parts of the Philippines," said Dir. Eleazar in his speech.

The highlight of the closing program was the giving of awards and prizes to the event participants.

The awarding of Best Booths followed right after Dir. Eleazar delivered his speech. The booth of the Coco Value Chain of the Philippines and

the DA Regional Field Unit (RFU) 3 bagged the first and second prize, respectively, while the DA RFU 11 was declared the grand winner.

The recipients of the Best Booth awards were given the opportunity to give their reactions about the event. They were one in saying that indeed this activity helped them a lot because they were given an avenue to

showcase their products and technologies to the market and potential investors.

In the meantime, a special recognition was given to Ms. Vivian Zolina, a beneficiary of the Libacao, Aklan – based Satre Foundation, Inc.

because of the various handwoven abaca products that she personally made. Her products were among those which were frequently visited during the product exhibition. Ms. Zolina received a plaque of recognition and prize money.

Before the ceremony finally ended, plaques of appreciation were also distributed to each of the sponsors and exhibitors. Dir. Eleazar and Asst. Dir. Solsoloy were assisted by Ms. Gelli Victor of RX Monster radio, who served as host for the event, in handing out the plaques.

Asst. Dir. Solsoloy said in his closing speech that "all this would not have been possible if not for the Lord so let us bring back all the glory to Him." The four-day event was formally closed with a fellowship among BAR staff and officials along with the participants from the regions, sponsors and exhibitors. (Don P. Lejano)



(L-R) Nenen Telebangco, Chum Fernandez and SMIARC Manager Alfredo Cayabyab (right) pose with BAR Director Nicomedes Eleazar (2nd from right). Behind them is the DA-RFU 11 booth, grand winner of the 2009 Best Booth.

Bangon San Matias Cooperative recovers with BAR agri support



The Bagsakan Center Project of the Bangon San Matias Multi-purpose Cooperative (BSMMPC) in Region 3

PHOTO: MAQUINO

Reaping the gains of community participation and active involvement of local farmers are the signs that success has been achieved by the Bangon San Matias Multi-purpose Cooperative (BSMMPC) farmer-members. This was revealed during the recent visit of the Bureau of Agricultural Research (BAR) organic agriculture focal team for Luzon composed of Jude Ray Laguna and Rene Cris Rivera to the Central Luzon Cooperative on 17 August 2009.

After three years of continuous assistance extended by BAR through its National Technology Commercialization Program (NTCP), the Central Luzon Integrated Agricultural Research Center (CLIARC) in San Fernando, Pampanga and the provincial government of Pampanga, the BSMMPC finally reached this turning point for which the proponents shared their heartfelt gratitude to the visiting BAR team.

As a consequence of this support, there was a ripple effect that led one good thing to another in the commercialization of organically grown vegetables in the area.

BAR got involved in the Cooperative during its establishment in July 2006 through capability building activities, particularly community mobilization and organization activities, as well as providing initial support funds to implement the whole program of organic agriculture production management.

In the aftermath of the Mt. Pinatubo eruption in 1991 and the unfavorable climatic condition over the years, the Cooperative desired to organize and direct sustainable operation and its members identified organic vegetable production as the solution.

Through continuous support coming from the national and local agencies, the Cooperative received basic infrastructure such as a village-level drying facility and container vans for production and transportation as well as other postharvest handling and marketing of the produce, the latest technologies in support to their practice, additional financial support and even partnership with market institutions.

Without the strong support of BAR and their own participation and partnerships, the members would not be reaping the fruits of their labor.

To date, the cooperative members are part of an agreement with the SM Harvest Marketing at Clark and San Fernando that supplies quality vegetables that pass strict certification standards which can only come from good agricultural practices. Part of the agreement include the supply of lowland vegetables under the *Pinakbet* group, such as tomato, eggplant, okra, *ampalaya*, and string beans, and chili and when in season, sometimes watermelon and rock melon.

Through innovative and appropriate agricultural support, the Bangon San Matias MPC members guarantee to do their part in providing fresh and quality produce for families and households in the local markets of Central Luzon, nearby provinces and urban areas. (Marlowe U. Aquino, PhD).

US Ambassador Kenney visits BAR's A/F Tech Forum and Product Exhibit



US Ambassador Kristie Kenney (left) shakes hands with BAR Director Nicomedes P. Eleazar (right).



Opening of the Coco Value Chain of the Philippines booth, a multi-sectoral efforts of CocoaPhil, ACIDI/VOCA, WCF, Mars Inc., SUCCESS Alliance, and DA-HVCC.



Nicholas Richards (right), ACIDI/VOCA Chief of Party, shows various cocoa products to Ambassador Kenney.

PHOTOS: NDELROSARIO III

United States Ambassador Kristie Kenney paid a visit to the 5th Agriculture and Fisheries Technology Forum and Product Exhibition held at the SM Megatrade Hall 3, SM Megamall in Mandaluyong City on the second day of the event.

Specifically, she visited the huge exhibit area of the Cocoa Foundation of the Philippines (CocoaPhil) and the SUCCESS Alliance which comprises of the United States Department of Agriculture (USDA), World Cocoa Foundation (WCF), Mars, Inc., and the Agricultural Cooperative Development International and Volunteers in Overseas Cooperative Assistance (ACDI/VOCA), which are also co-sponsors of the Bureau of Agricultural Research (BAR) in organizing the technology forum and

product exhibit. The booth of the CocoaPhil featured a description of the cocoa value chain in the Philippines from seed production to product packaging and marketing.

The visit of Ambassador Kenney at the BAR's agri and fishery product exhibit served to kickoff the 2009 Philippine Cacao Summit which discussed ways of strengthening the industry and meeting global demands as well as identifying strategies and plans for the cocoa sector growth.

In her keynote address during the opening ceremony, Ambassador Kenney commended the effort of the sector in slowly reviving the cocoa industry and that, given the double effort coming from the government and partner-institutions, it will not take a long time before she sees "Philippine

cocoa" at par with the leading Ecuadorian cocoa in the world market.

In a press statement given by ACIDI/VOCA Chief of Party, Nicholas Richards, he said that cocoa is highly-suited for intercropping and mixed farming systems in the Philippines, and is now an attractive crop as its price has doubled over the last 18 months. He added that the Philippines is in the position to be a "future supplier of quality cocoa beans for local, regional and international trade markets given that some 100,000 hectares of cocoa will be producing 100,000 tons of cocoa by 2015 valued at \$300 million can be attained, thus making it possible for cacao to become one of the country's top three agricultural products. (Rita T. dela Cruz)



(L-R) USDA Agricultural Counselor Emiko Purdy, DA-HVCC Program Director Rene Rafael Espino, US Ambassador Kristie Kenney, ACIDI/VOCA Chief of Party Nicholas Richards, President of Figaro Coffee Pacita Juan, CocoaPhil Field Operations Manager Josephine Ramos, DA-BAR Director Nicomedes Eleazar, CocoaPhil President Eduard David, and MARS Inc. President Charito Puentespina.

PHOTO: NDELROSARIO III

The Philippines is in the position to be a "future supplier of quality cocoa beans for local, regional and international trade markets.

BAR marks 22nd anniversary; R&D TechCom Center launched

The Bureau of Agricultural Research (BAR), the national coordinator for agriculture and fisheries research and development (R&D) of the Department of Agriculture (DA), celebrated its 22nd Anniversary last 7 August 2009.

With the theme, “Enhancing Entrepreneurship in Agriculture and Fisheries through Technology Commercialization,” BAR addresses emerging challenges on food security and people empowerment through the generation of significant technologies that would boost the entrepreneurial skills of Filipinos and create new market opportunities for them.

As part of the anniversary celebration and its continuing effort to efficiently manage R&D in agriculture and fisheries and provide timely and relevant technologies generated from research, BAR launched the “Research and Development Technology Commercialization Center (R&D TechCom Center).”

Situated at the lobby of the BAR building, the TechCom Center serves as a venue to showcase and disseminate R&D-generated technologies and breakthroughs supported by DA through BAR specifically through its two flagship programs, the Community-based Participatory Action Research (CPAR) and the National Technology Commercialization Program (NTCP). The Center also serves as the base for a viable network for business clients or interested individuals to link with the suppliers and technology generators.

Gracing the BAR Anniversary opening program and leading the launching of the newly-established Center was DA Assistant Secretary Clayton Olalia together with BAR Director Nicomedes P. Eleazar and Asst. Dir. Teodoro S. Solsoloy.

In a speech delivered by Asec Olalia, he commended BAR for its excellent effort of continuously providing the instrument and the effective means to help researchers and technology generators to showcase the important products of their researches that would



Facade of the R&D TechCom Center located at the lobby of the DA-BAR Building.

benefit the intended clients. “By having a venue such as the TechCom Center, BAR provides a direct link to the business sector by giving them a chance to shop for the best and profitable technologies to commercialize,” he stressed.

Asec Olalia further said that the launching of the TechCom Center would play a crucial role in the DA's effort to generate yield-improving technologies. He said that generating better technologies and expanding them into high-value commodities is the key to meeting the need for opportunities for job creation and income growth among our farmers, fishers, and the entire rural sector. “And I think that BAR is in the best position to do this, Olalia emphasized.

The R&D TechCom Center was established out of the need to showcase innovative technologies and products from the results of R&D undertaken by BAR's partners. According to Dir. Eleazar, the TechCom Center will not be limited to BAR-supported projects but will also be extended to those high-impact technologies from research funded by other sources that will boost entrepreneurship in the agriculture sector.

“This endeavor would not have been possible without the initiatives of Secretary Arthur C. Yap who always stressed the importance of 'bringing the technologies where they are needed the most,'” concluded Eleazar. (Rita T. dela Cruz)



DA Asst. Sec. Clayton Olalia (center) with BAR Dir. Nicomedes Eleazar (left) and Asst. Dir. Teodoro S. Solsoloy (right) inside the R&D TechCom Center.

Arrowroot gets new boost in production management



Marantha arundinacea plant.

Arrowroot (*Marantha arundinacea*) locally known as “uraro” is a low perennial herbaceous plant with large leaves, thick, fleshy, creeping roots, and long white fibers. Considered as an introduced crop in the Philippines coming from tropical Latin Americas, the crop is grown specifically for its rhizomes for flour production. From its rhizomes, digestible starch is extracted and sold in markets.

Given its potential as an effective substitute for corn in broiler ration, and its value as an excellent roughage and silage for animal feed, the Department of Agriculture-Regional Field Unit IVA (DA-RFU IVA) through the Southern Tagalog Integrated Agricultural Research Center (STIARC) for CALABARZON, developed and implemented a RDE project that incorporated good agricultural practices (GAP) and explore other product possibilities of the commodity.

Initially implemented under a coconut-based farming system in Catnauan, Quezon through the Community-based Participatory Action

Research (CPAR) program of DA-BAR, the DA-STIARC has since intensified its study into one dealing with arrowroot production management system. It is envisioned that, with project success, the arrowroot flour produced will be a main ingredient in the fast-paced local delicacy of Catnauan municipality and other nearby communities.

To date, local processors from Laguna, Bulacan, and Marinduque obtain their raw materials from Catnauan and this alone serves as the motivation of the local farmers to diversify and intensify operation under coconut-based farming system. Also, local farmers are now into organizing into a unified cluster farming which makes commodity production efficient and sustainable for the increasing demand of arrowroot-based product processing industry.

In addition, the crop was identified and elevated as the One-Town-One Product (OTOP) by the local government of Catnauan, to make it competitive in terms of production, processing, promotion and marketing.

The technical support extended by DA-STIARC to the producers of the crop until its final processing will make the commodity more competitive and eventually be diversified into more arrowroot-based products.

With the operationalization and expansion to other areas of the CPAR project on arrowroot, STIARC will ensure that all technical requirements will be addressed and support services provided, especially on the agribusiness side by the regional Department of Trade and Industry (DTI) and the Department of Science and Technology (DOST) which already signified their support intentions to DA-STIARC and the local government of Catnauan, Quezon.

As the project progresses, the BAR through its National Technology Commercialization Program (NTCP) will ensure that support activities will be continuously provided from technology assessment, promotion and marketing, not to mention capability building activities such as seminars and training on arrowroot processing including packaging and labeling of finished products and marketing. All of these activities will be in time for the next product exhibition where new outputs of research and development activities will be showcased to help local farmers and producers to be productive and competitive and their production profitable and sustainable. (Marlowe U. Aquino, PhD)



Arrowroot

PHOTO: <http://edibleplantproject.org>

BAR highlights promising UPLB-Limno technology to save endangered fish species



Limno researcher revives the newly-injected ayungin with hormone for induced spawning.

As part of the overall agenda of the Department of Agriculture (DA) to produce the harvest in agriculture and fisheries and to conserve resources in the natural environment from where farms and fishery enterprises depend on the Bureau of Agricultural Research (BAR), in partnership with NBN Channel 4's *Mag-Agri Tayo*, documented a promising technology in fisheries research, specifically, the production of endangered *Leiopotherapon plumbeus* locally known as "ayungin". Found in Laguna de Bay, "ayungin" is a freshwater fish is considered as the tastiest fish among all the edible native fresh water fishes in the Philippines but is under threat due to excessive fishing.

The Limnological Research Station of the University of the Philippines Los Baños (UPLB-Limno) which is based in Mayondon, Los Banos, developed a technology to save the declining population of "ayungin" through induced spawning. This method can be used in aquaculture to save the diminishing population of certain fish species.

According to Dr. Pablo P. Ocampo, manager of UPLB-Limno, the collected *ayungin* from Laguna de Bay responded very well in the experiment that they conducted. In fact, *ayungin* broodstocks have already spawned

through the use of chemical hormones, the material used to induce spawning.

Dr. Ocampo said that the technology is still being refined but it should be available soon for commercial application.

The UPLB Limno is the leading research station for and biology of aquatic organisms in the Philippines. The station houses three research laboratories: Laboratory for Ornamental Fishes, Captive Breeding Laboratory, and Biology Laboratory. It also maintains fish hatcheries and grow-out ponds.



A bountiful harvest of ornamental fishes as evidence of good technology endeavors of the UPLB-Limno.

In line with its vision to become a sanctuary for the conservation of endangered endemic freshwater species and serve as a hub for the dissemination of aquatic-related technologies, the station spearheaded the crafting of the "Fish Ark Philippines: Direction for the Conservation of Native and Endemic Philippine Freshwater Fishes" that provides the directions for the conservation of native and endemic Philippine freshwater fishes.

The UPLB Limno facility, through the leadership of Dr. Ocampo, has the following goals: 1) develop optimum utilization and sustained production of aquatic resources; 2) conduct limnological studies; 3) conduct training and extension activities on different aspects of aquarium fish production; 4) develop culture techniques for live feeds; 5) develop new aquarium varieties from indigenous fish species; and, 6) conduct captive breeding on some selected endemic/endangered freshwater fish species. (Edmon B. Agron)

PHOTO: EAGRON

2009 Outstanding BAR employees awarded

Eight employees of the Bureau of Agricultural Research (BAR) were announced as recipients of the 2009 Outstanding BAR Employees Award on 7 August 2009 during the 22nd Anniversary of the Bureau.

The Outstanding Employee Awards is an annual tradition at the BAR wherein the Secretary of the Department of Agriculture (DA) recognizes the employees who have shown highest degree of professionalism and commitment to work excellence in the performance of their duties and responsibilities at the Bureau.

This year, Sec. Arthur C. Yap gave the award to the following: 1) Mark M. dela Serna of the Office of the Assistant Director (OAD) for Outstanding Non-Technical Project-Based Staff Award, 2) Ferdinand Dax C. Lorena of the Planning Unit (PU) for Outstanding Technical Project Based Staff Award, 3) Francisco J. Grettchin of the Office of the Director (OD) for Outstanding Support Service Award, 4)

Nicanor B. del Rosario III of the Applied Communication Division (ACD) for Outstanding Non-Technical Non-Supervisory Award, 5) Judith A. Maghanoy of the Finance Unit for Outstanding Non-Technical Supervisory Award, 6) Mariko M. Ramos of the Program Development Division (PDD) for Outstanding Technical Non-Supervisory Award, 7) Julia A. Lapitan of ACD for Outstanding Technical Supervisory Award, and 8) Dr. Marlowe U. Aquino also from ACD for Outstanding Division/Unit Head Award.

These employees have demonstrated consistency in achieving service above and beyond the call of duty with unrelenting observance to work ethics worthy of emulation.

Formal awarding rites were held during the opening day of the 5th National Agriculture and Fisheries Technology Forum and Product Exhibition on 27 August 2009 where the awardees were handed plaques of recognition by Sec. Yap himself. (Don P. Lejano)



PHOTOS: ACONSTANTINO and EAGRON

In-demand products for livelihood featured in 5th BAR Tech Forum & Product Exhibit



(Clockwise, starting from left): Marilyn Edrosolan and Zenaída Vinculado of BAI show how to cook skinless longganisa, siomai, and burger.

Dr. Elena delos Santos of BIARC explains the wonder health benefits from Moringa powder.

Dr. Edwin Macaballug of ISU demonstrates how to cook delicious sweet sorghum cookies.

Attendees of the seminar take a bite of the products during the taste tests.



PHOTOS: EAGRON

As part of the 22nd Anniversary celebration of the Bureau of Agricultural Research (BAR), the bureau conducted its 5th Agriculture and Fisheries Technology Forum and Product Exhibition at SM Megamall to showcase viable and commercially technologies developed by state universities and colleges (SUCs) and various national and regional offices of the Department of Agriculture (DA).

With the theme “Enhancing Entrepreneurship in Agriculture and Fisheries through Technology Commercialization”, the event featured different seminars and cooking demonstrations on practical food items and in-demand livelihood opportunities including sweet sorghum and pigeon pea food products, malunggay-based foods and easy to prepare meat products.

Sweet sorghum and pigeon pea derived products was presented by the Isabela State University (ISU) headed by Dr. Edwin F. Macaballug and Mr. Raul F. Palaje.

Easy-to-bake chocolate cookies, muffin cake, banana cake, pineapple upside down made from sweet sorghum are among their specialties. The group also presented sweet sorghum syrup for “binalay” - proudly the Ybanag's indigenous dessert, made from steamed milled glutinous rice wrapped with

banana leaf, now with sweet sorghum as syrup. Another unique product is pigeon pea brewed beverage like coffee—which the audience appreciated during the taste tests.

Moringa-based products were also featured in the seminar as developed by the Bicol Integrated Agricultural Research Center (BIARC) of the Department of Agriculture-Regional Field Unit (DA-RFU) V presented by Dr. Elena B. delos Santos.

Malunggay (Moringa oleifera) trees are generally grown in backyards. Its leaves are popular as a vegetable ingredient in soup, fish, and chicken dishes. However, this lowly vegetable is not just a simple vegetable as it is rich in nutrients that are good for human health.

The leaves of *malunggay* are loaded with nutrients. It contains twice the protein in milk, three times the potassium in bananas and four times the vitamin A in carrots. Health nutritionists also claim that an ounce of *malunggay* has the same Vitamin C content as seven oranges. Having Vitamin C, which is an antioxidant, provides the capability to detoxify our body from food poisons. It also helps relax and promotes good sleep, promotes healthy digestion and body's

immune system, promotes good circulation and controls blood pressure.

According to Dr. delos Santos, malunggay is also a good source of iron and high-density lipoprotein or good cholesterol. It has high calcium content (four times the calcium in milk), that is why lactating mothers in the Philippines are often advised to eat dishes with malunggay leaves to produce more milk for their babies.

With malunggay's amazing properties, BIARC has developed a number of commercially malunggay products. Among the products developed are; moringa powder that can be added to soup and sauces, breads, biscuits, burgers, hotdogs, instant noodles and drinks like moringa tea. Moringa polvoron, moringa cookies and the moringa surprise are among their other products that BIARC continuously improves thru research and development.

Meanwhile, the Bureau of Animal Industry (BAI) presented basic procedures on how to process meat and meat products applicable to small scale and big scale businesses. Some of their demonstrations are the “how-tos” of making siomai, hamburger and skinless *langonisa*.

The BAI resource person explained the details and functions of different non-meat ingredients, the functional properties of fresh meat and the different factors affecting the quality of fresh meats - because this basic knowledge could make a big difference especially in the taste and quality of the processed meat and meat products intended for business or for family consumption. (Edmon B. Agron)

Indigenous vegetables in Cagayan boost DA regional nutri program

After the successful implementation of the Department of Agriculture's (DA) Philippine Indigenous Vegetables (IVs) pilot project in selected regions of the country, the Cagayan Valley region institutionalized its own development efforts to address and support on-going nutritional programs for local communities and educational institutions. As part of the nationwide IVs R&D program, the DA-Regional Field Unit (RFU) 2 through the Cagayan Valley Integrated Agricultural Research Center (CVIARC) established its demonstration farm in San Felipe, Ilagan, Isabela provided free sample seeds of indigenous vegetables to farmers, households, local government units, schools and children.

The provision of services under this local effort aims to supply initial seeds for propagation of nutritious indigenous vegetables in farmers' fields and households to augment the regular vegetables in meeting the nutritional requirement and consumption of families and, at the same time, maintain steady supply of indigenous vegetables in local markets. Additionally, under DA-CVIARC's partnership with public elementary and high schools, students are encouraged to be aware of our indigenous vegetables which are in danger of being forgotten since they are not part of regular meals and nutritional programs.

With this initiative, noted Philippine indigenous vegetables were given a boost through the assistance from The World Vegetable Center-AVRDC in Taiwan in cooperation with Bureau Agricultural Research (BAR) which started in late 2006. The vegetables include *ampalaya* (bitter melon), *patola* (lufa), *upo* (bottle gourd), *okra* (ladies finger), native tomatoes, *alugbati*, eggplant, *siling labuyo* (hot chili), *saluyot* (jute plant), and *malunggay*.

Through the project, planting materials of existing IVs in the region were given to schools and local government units, particularly in the



PHOTO: MAQUINO

provinces of Isabela and Cagayan, to set up their own mini demonstration farms as teaching and learning laboratories which at the same time serve as vehicles for increased awareness on the nutritional importance of these commodities in the daily lives of families in the two provinces.

In a related story, the DA-CVIARC inked a partnership with the regional Department of Social Welfare and Development (DSWD) through their *Bayan Ani*han of *Gawad Kalinga* (GK) villages to set up GK IV farms all over the region. GK IV farm establishment was successfully noted in Aglipay, Quirino involving indigenous peoples as key players in the operation and maintenance of the farms.

Other similar IVs were introduced by the World Vegetable

Center as part of the adaptability trials of indigenous vegetables which eventually became part of the demonstration farms of the research stations and centers of the pilot regions in Regions 8, 10, and 4. This fits in very well to the overall program of the DA, through the GMA High Value Commercial Crops (*Gulayan Para Sa Masa at sa Eskwelahan*), on food security and the creation of alternative livelihood for local farmers and families. These activities are designed to increased production and profit, continuous and steady supply of indigenous vegetables in local markets that, at the same time, ensure good health and nutrition of our people and communities. Other DA regional units, through their RIARCs have since followed suit in promoting indigenous vegetables in their respective areas. (Marlowe U. Aquino, PhD)

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GAP is the way to go

To help bring Philippine agricultural products at par with international agriculture standards, the Bureau of Agriculture and Fisheries Product Standards (BAFPS) of the Department of Agriculture (DA) is promoting the “Good Agricultural Practices” or GAP Program.

This is one of the seminars of the recently concluded 5th Agriculture and Fisheries Technology Forum and Product Exhibition Fair organized by the Bureau of Agricultural Research (BAR) on 27-30 August 2009 at the SM Megatrade Hall 3, SM Megamall, Mandaluyong City.

Dr. Clarence Agustin, representative from BAFPS, conducted the seminar on the second day of the four-day activity. Farmers, students, researchers and other participants listened intently as they were made aware of the importance of GAP.

According to Dr. Agustin, food safety issues were experienced in Taiwan, South Korea, and the Philippines in 2005 and in Turkey and India in 2006. Food contamination is preventable if people, especially farmers and other stakeholders are made aware of good agricultural practices from the farm to the consumer's table,” Dr. Agustin said.

Since most of our food comes from the farm, BAFPS is promoting the GAP program at the farm level to catch contamination of crops in the field and encourages farmers or farm owners to seek accreditation. Currently, the bureau is adopting the ASEAN GAP Module that focuses on food safety, produce quality, environmental management, and worker health, safety and welfare.

Inspections are done on-farm for those wishing to be accredited. A technical team evaluates the farm based on their location, structure, environment, maintenance, and overall management. Currently, only two farms in the country have been accredited by BAFPS. Initial inspection costs are shouldered by the bureau. Once accredited, the farmer or farm owner must renew their certificate every year at their own expense.



PHOTO: RDELACRUZ

Dr. Agustin cited the following objectives of GAP certification:

- increase market access of horticultural products both in the local and foreign markets;
- empower farmers to respond to the demands of consumers that specific criteria needed to be met to achieve food safety and quality be met;
- facilitate farmer adoption of sustainable agricultural practices;
- uplift GAP-FV farmers profile as members of the nationally recognized list of vegetable farmers who are setting the benchmark for the production of safe and quality fruits and vegetables; and
- enable consumers to exercise the option of buying quality fruits and vegetables from traceable and certified sources.

Also, BAFPS is collaborating with GLOBALGAP in Asia to streamline the Philippine GAP standards. “This is part of the agriculture and fisheries modernization program of the

government,” informed Dr. Agustin.

BAFPS believes that Philippine agriculture will eventually achieve competitiveness and that one way to accomplish this is by adopting GAP. (Johanna B. Benavente)



Dr. Clarence Agustin of DA-BAFPS discusses the importance of GAP during the second day of the 5th National Tech Forum and Product Exhibit at SM Megamall.

PHOTO: BENAVENTE

Impacts of CLIMATE CHANGE on agriculture highlighted

The potential impacts of climate change on Philippine agriculture were presented in a seminar by Dr. Ma. Victoria Espaldon of the UP Los Baños School of Environmental Science during the 5th Agriculture and Fisheries Technology Commercialization Forum and Exhibit on 27-30 August 2009. The activity was spearheaded by the Bureau of Agricultural Research (BAR).

Dr. Espaldon noted that there has been a steady increase in global surface temperature brought about by the greenhouse effect. The increase in temperature of the planet is causing the polar ice caps to melt causing sea levels to rise and the habitat of arctic animals like walrus to disappear.

In the local context, the Philippines is also experiencing increase in temperature, sea level rise, extreme events like heavy rains during summer and stronger typhoons. Agriculture is the most affected by climate change. Heat stress, excessive rainfall, soil erosion and water shortage have decreased crop harvests as well as livestock production. New patterns of diseases have also emerged.



Recent flooding and heavy precipitation have caused great damage to crop production. If the frequency of these weather extremes were to increase in the near future, the cost of crop losses in the coming decades could rise dramatically.

PHOTO: RDELACRUZ

On the other hand, climate change is also a challenge. Different sectors are finding ways to adapt and mitigate its effects. Dr. Espaldon cited that rice scientists are now developing rice varieties that are resistant to drought, salinity, submergence and heat waves. Further, stress resistance in other crops and livestock are also being developed.

In terms of nature and extent, she further cited that the potential impacts of climate change are yet to be understood. “An integrated approach to the issue must be in place to optimize the resources that we have in order to deal with the challenges of climate change,” Dr. Espaldon concluded. (Johanna B. Benavente)

BAR's A/F... from page 1

attendance is 42 percent higher compared to last year's. In fact, according to our summary report, we have averaged 1,225 visitors everyday and there were still unaccounted visitors,” explained Sandoval.

Sandoval remarked that most of the booths especially those coming from SUCs highlighted issues addressing world challenges i.e., climate change, food security, people empowerment, and global competitiveness—inviting more visitors both from the academe and potential investors. It also made the exhibit more relevant to the current

trends of the agriculture and fisheries sector.

The activity, which carried the theme, “Enhancing Entrepreneurship in Agriculture and Fisheries through Technology Commercialization” is particularly timely, given that the Department of Agriculture (DA) is taking on the challenges of addressing food security and people empowerment. By harnessing the full potential of commercial technologies generated from research, the agriculture and fisheries entrepreneurial skills of Filipinos are heightened creating new market opportunities for them.

The Agriculture and Fisheries

Technology Forum and Product Exhibit is an annual activity of BAR in line with the intensified promotion of the National Technology Commercialization Program (NTCP) giving emphasis to R&D breakthroughs and mature technologies generated and developed by research institutions.

It serves as a vital ingredient for the development of enterprises and the improvement of agriculture and fisheries-related industries through appropriate activities that include technology transfer, promotion, adoption, utilization and commercialization. (Rita T. dela Cruz)

4 BAR-supported publications launched during 22nd BAR Anniversary

The Bureau of Agricultural Research (BAR) launched four books funded under its Scientific Publication Grant (SPG) during its 22nd Anniversary celebration and the 5th Agriculture and Fisheries Technology Forum on 27 August 2009 at the SM Megamall.

SPG is one of the services provided by BAR to cover the cost of publications including proceedings/symposia, journals, manuals, and books that can be availed of by members of the National Research and Development System of Agriculture and Fisheries (NaRDSAF).

The four books launched include a compendium on sweet sorghum, children's book on brown rice, a guide on the financial viability of agricultural commodities, and recipe book on vegetables.

Sweet Sorghum Food Products: A Compendium

Estrella C. Zabala, Zosimo M. Battad, and Norman G. de Jesus (authors)
Published by: BAR and Pampanga Agricultural College (PAC)

A promising source of 4Fs - food, fuel, feed, and fertilizer -- sweet sorghum takes the spotlight in this first of a kind compendium on sweet sorghum which has only been recently introduced in the country.

The book contains food products made from the sweet sorghum grains and stalks of which 24 come from grains and one from the stalk. It also includes valuable information such as guide to the planting of sweet sorghum, forms of utilization, nutritional content, and suggested menus on sweet sorghum.

Sweet sorghum is a promising cereal crop that could address problems on malnutrition and dwindling supply and increasing cost of wheat flour. Its grain is higher in protein and lower in fat than corn.

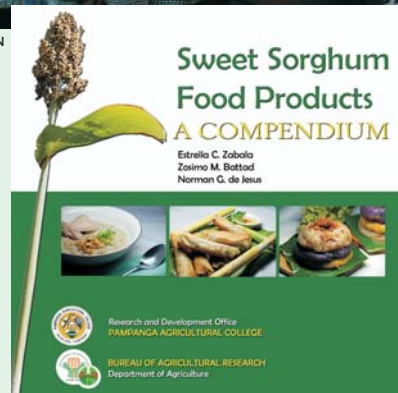
Sorghum grains can be processed into flour and may be used as a substitute or is the main material of the products either as whole grain, sprout, or in ground form.

Among the food products developed are soups and porridge, native delicacies, meals, and appetizers.

PAC has been conducting its own R&D activities related to sweet sorghum since 2004. These include varietal testing, fertilizer trials, development of sweet sorghum-based food products and animal feed, and ethanol production.



PHOTO: EAGRON



O! May Gulay Recipe Book 2

Published by BAR

Eating vegetables is healthy. However coming up with unique and delicious "gulay" recipes specifically for young people is a challenge with their low preference for vegetables.

This publication features the winning recipes from students of public high school in the National Capital

Region (NCR) who joined the 2nd O! May Gulay Cooking Contest held and exhibited during the 2008 Agrilink/Aqualink/Foodlink in October at the World Trade Center, Pasay City. The activity was designed to develop vegetable recipes that are easy to prepare,

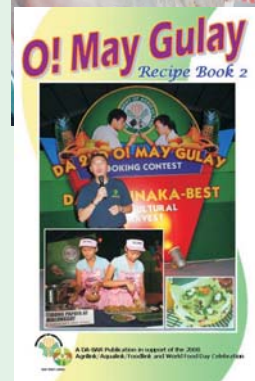
affordable, and delicious and supports the DA's efforts in promoting local agriculture products.

Aside from the NCR entries, recipes from Bohol and Davao were also included as an offshoot of the O! May Gulay Cooking Contest held in the Visayas and Mindanao zones. The book contains step-by-step instructions and pictures of vegetable-based recipes featuring the creativeness and ingenuity of high school students.

This book is part of BAR's support to DA in promoting vegetables as part of a healthy eating lifestyle.



PHOTO: ACONSTANTINO



Financial Viability of Agricultural Commodities

Published BAR and Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)

The book was prepared as an offshoot of a series of training on "Enhancing the Capability of the Bureau of Agricultural Research in Supporting Sustainable Management of Technologies for Development: Financial Viability Assessment" funded by DA-BAR and implemented by the Consulting Services Department of SEAMEO-SEARCA. The training was designed for researchers to equip them with the needed financial tools to be able to determine the profitability of technologies being generated in their institutions.

It serves as a guide not only for agricultural researchers and scientists but also for farmer-entrepreneurs and potential investors who are interested in processing technologies and those interested in engaging in micro and small enterprises.

The book contains technology profile and financial viability scenarios of various agricultural crop productions and processing technologies supported under the National Technology Commercialization Program (NTCP) of BAR. Among the

agricultural commodities featured in the book are: mango (tart), fruit wine, strawberry (jam and wine), oregano (wine, juice, vinegar, and tea), purple yam (powder), cacao, garlic, citrus, sweet tamarind, organic vegetables, squash hybrid seed, and lettuce.

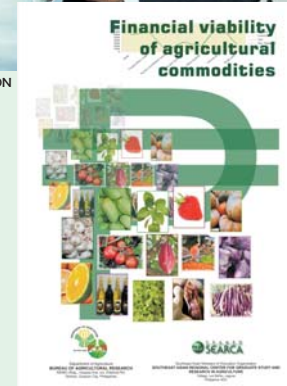
Each agricultural commodity included a technology profile, technology source, proponent(s), funding, location, intended users, objectives, production/processing technology description, and financial analysis.

The results of the financial analyses for both production and processing technologies of agricultural commodities as highlighted in this book are helpful.

Through this publication, readers are given a complete perspective of various agricultural commodities that not only have the potential for commercialization but also



PHOTO: EAGRON



help in establishing new enterprises and agribusinesses. Likewise, this book serves as a vital tool for decision-making as financial viability and profitability is one of the measures considered in investment.

Popong Eats Brown Rice

Chat Garrido-Ocampo (author) and Grace C. Dy (illustrator)
Published by BAR and International Rice Research Institute (IRRI)

In the first edition of the book titled, "Popong Eats His Rice", we met Popong—a boy who doesn't want to eat rice served by his mother. Until one day, the Rice Prince appears before him and lets him experience the journey of a rice grain from the field to the table.

For the second time, author Chat Ocampo of the International Rice Research Institute, and illustrator Grace Dy brought their talents together to bring relevant information in an interesting way, this time the book takes on the importance of eating brown rice. Readers, young and old alike, will be entertained by the story and color-filled pages of this book.

The adventure of Popong and the

Rice Prince continues in "Popong Eats Brown Rice" where Popong is once again taken into the world of rice. He realizes the health benefits of brown rice and promises to eat this nutritious grain.

Author Chat Ocampo explains that she wrote this story to support the information campaign of the Brown Rice Advocates (BRAD) on the benefits of eating brown rice and dedicates the book to her two sons.

BRADS is a coalition of NGOs, farmers' groups, business, academe and research institutions, Local Government Units (LGUs) and government agencies which advocate better nutrition by promoting the health benefits of eating brown rice for the more deprived and vulnerable sector, particularly the poor and the children (Rita T. dela Cruz)

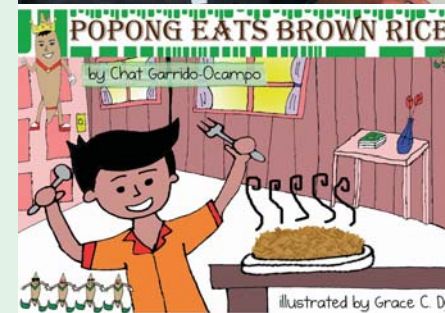


PHOTO: ACONSTANTINO