



## Over 800 OFWs attend seminar on mushroom production in Hong Kong

**M**ore than 800 Overseas Filipino Workers (OFWs), most of them working for more than 10 years in Hong Kong, attended the two-day seminar on mushroom production on 24-25 June 2017 at the Philippine Overseas Labor Office (POLO) in Hong Kong. The seminar was organized by POLO, Consulate General of the Philippines, and Overseas Workers Welfare Authority (OWWA), in partnership with the Philippine Department of Agriculture (DA) through the Bureau of Agricultural Research (BAR).

Atty. Jalilo dela Torre, Philippine labor attaché to Hong Kong, mentioned that, they organized the seminar to help the OFWs find alternative sources of income from agriculture that can easily go into business after their employment. They specifically identified mushroom production as one of the agri-ventures because it does not require big space of agricultural land, and it will need simple technology and small capital, generating additional income for aging OFWs and their families. The seminar was also in line with President Rodrigo Duterte's vision of encouraging

OFWs to return and be reunited with their families and participate in the development process of nation building.

Dr. Emily A. Soriano, senior science research specialist from the Department of Agriculture-Regional Field Office (DA-RFO) 3-Central Luzon Integrated Agricultural Research Center (CLIARC), served as the resource person for the five sessions on mushroom production. Dr. Soriano, a mushroom production expert and an awardee of the Gawad Saka for Outstanding Agricultural Researcher in 2014, emphasized the economic benefits and business opportunities in mushroom production. She also presented the various products and by-products developed from mushroom.

In her presentation, she expressed her appreciation and gratitude to DA, through BAR, for providing the financial support, not only for the research and development (R&D) of mushroom, but also for establishing the Mushroom Technology and Development Center (MTDC), which since its establishment in 2014, continues to

cater to the public when it comes to mushroom-related needs. MTDC has been serving its purpose to cater to the development of the technology in mushroom culturing, provide technical and laboratory services to facilitate enterprise development, and showcase mushroom-based technologies from production to processing. They also provide a full training on mushroom production for free.

After each presentation, participants were active in raising

*turn to page 3*

### IN THIS ISSUE...

Over 800 OFWs attend seminar .....	1
BAR, UPLB lead groundbreaking .....	2
Eleazar guests in PTV 4's .....	3
BAR leads review and workshop .....	4
BAR meets with CABI .....	5
RM meeting calls for urgent .....	6
IDG projects in Bicol .....	6
Nipa salad dressing is now .....	7
Search for 2017 Gawad Saka .....	8
Seaweeds and value-added products .....	9
Renewed interest in soybeans .....	10
13 BAR scholars from UPLB .....	11
17 NTCP projects .....	11
Organic agri R&D projects .....	12
BAR joins launching of FITS Center .....	12
IPM strategy to control eggplant's .....	13
Farmer profits from shifting to adlay .....	15
PAGASA weather specialist lectures .....	16

**T**he Bureau of Agricultural Research (BAR) joined the University of the Philippines Los Baños (UPLB) in a groundbreaking ceremony of its Technology Hub on 9 June 2017 in Los Baños, Laguna.

Leading the ceremony was Dr. Rex B. Demafelis, UPLB vice chancellor for research and extension; and Dr. Nicomedes P. Eleazar, BAR director. They were joined in by Ms. Digna L. Sandoval, head of the BAR-Institutional Development Division (IDD); and Dr. Casiano S. Abrigo Jr., executive director of UPLB Foundation, Inc.

“The hub will bring together young researchers and seasoned experts for the inception, development, and nurturing of fresh concepts, innovations, inventions, and program,” said Dr. Demafelis as he referred at the Technology Hub as a formal venue for “meetings and clashes of minds.”

With the establishment of the facility that is a key to fostering a healthy dialogue between agricultural stakeholders, Dr. Demafelis expressed his excitement in seeing how it can further involve the university’s neighboring farming communities. UPLB has long established itself as not only a place for academic excellence but of equal importance, an institution that links government research initiatives to the farmers in the countryside with focus on energy self-sufficiency, food security,



Leading UPLB’s Technology Hub groundbreaking ceremony are (L-R): UPLBFI Director Casiano Abrigo, Jr., BAR Director Nicomedes Eleazar, UPLB Vice Chancellor for Research and Extension Rex Demafelis, and BAR-IDD Head Digna Sandoval. PHOTO: UPLB-OVCRE

## BAR, UPLB lead groundbreaking ceremony of Technology Hub

economic development, environmental sustainability, and poverty alleviation.

The hub will also showcase UPLB’s products and research-generated tools and technologies. This is so that the university can strengthen its partnerships with potential industry partners, government agencies, local government units, and state universities and colleges.

UPLB’s Office of the Vice

Chancellor for Research and Extension and UPLB Foundation, Inc. partnered with BAR to receive the funding needed to establish the Technology Hub which will be located right next to the Baker Hall, along Mondonedo Avenue inside the UPLB campus. ### (Ephraim John J. Gestupa)



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# Eleazar guests in PTV 4's BIYAHENG BUKID

**B**ureau of Agricultural Research (BAR) Director Nicomedes P. Eleazar made a television appearance in an episode of *Biyaheng Bukid* of Agriculture Secretary Emmanuel Piñol aired on 17 June 2017. The episode was hosted by Ms. Diane Querrer and Mr. Alan Allanigue.

In his interview, the bureau chief talked about the role that BAR plays as the research and development arm of the Department of Agriculture, as well as its contribution to the core goal of attaining food security and sufficiency in the country.

Director Eleazar extensively expounded on the bureau's two banner programs, the Community-based Participatory Action Research (CPAR) and the National Technology Commercialization Program (NTCP), which have been the bases in prioritizing funded researches. CPAR, which the director described, is the last stage of technology development where farmers or fisherfolk in the community conduct the field trials of generated technologies for adoption, while the NTCP is where mature agri-fishery R&D technologies are upscaled for commercialization and agribusiness endeavors.

On the accomplishments of these programs, Director Eleazar cited three CPAR projects: 1) Rice-based Farming System in Pangasinan; 2) Arrowroot Production

in Catanaun, Quezon; and 3) Corn-based Farming System in Northern Mindanao.

Dir. Eleazar discussed the two strategies that BAR employs prior to the implementation of projects in the community. He said, "*bago namin simulan ang pag-implementa ng CPAR, nagsasagawa muna kami ng tinatawag na Participatory Rural Appraisal (PRA). Napaka-importante nito in the implementation of development programs.*" Done in partnership with DA-Regional Field Offices (RFOs) and the local government units (LGUs), the PRA results are used as one of the bases in the implementation of the project. Community Organizing, which the bureau started early 2016, was described as a vital mechanism in gauging the commitment of the farmers, fisherfolk, and the community to the project.

Other R&D-oriented programs that Dir. Eleazar mentioned were the BAR Undergraduate Scholarship Program and Institutional Development Grant Program, involvement of students to BAR-funded, SUC-led projects; and conduct of BAR regular seminar series featuring technologies generated from supported researches.

*Biyaheng Bukid* is shown every Saturday and Sunday at 5 o'clock in the morning at PTV 4. ###  
(Mara Shyn M. Valdeabella)

## Over 800 OFWs...from page 1

questions on different issues including sources of contamination for spawn, provision of actual seminar in their respective regions, sources of inputs, initial capital requirements, and market opportunities. Participants were likewise excited in giving their insights and sharing their personal experiences as OFWs in Hong Kong.

One of them was Ms. Rose Perido, a farmer-OFW and a FAITH volunteer handling the training component in agriculture at POLO. She mentioned that she helped POLO by providing free lectures/seminars on agriculture during her free time. She came from a farming family in Cavite and got her learnings in agriculture through her own experience and assistance from other agencies of the DA. She wanted to help other OFWs who will retire and are interested in venturing into agricultural businesses. She mentioned that agriculture has a great potential in helping retired OFWs. "The business plan presented by Dr. Soriano gave us the opportunities to think and plan for the future," she said.

Another participant, Mr. Richard Joyce Alfonso, exclaimed, "No farmer, no future!" highlighting on the importance of the farmers in the development of the agriculture sector.

To supplement their information need, BAR, in cooperation with the Asian Food and Agriculture Cooperation Initiative (AFACI), handed out information materials including DVDs on mushroom and production manuals to POLO and OFW participants, who in response, were thankful for the knowledge learned from the seminar.

This initiative is part of DA's effort, through the leadership of Secretary Emmanuel Piñol, to provide opportunities for Filipino overseas workers who are returning to the country and wanted to invest in agricultural ventures. It is part of the Secretary's vision that "soon, the OFWs will no longer just be ordinary overseas workers. They will become big time investors and marketing agents for the produce of the Filipino farmers and fisherfolk." ### (Julia A. Lapitan)



BAR Director Nicomedes P. Eleazar (left) shares to the hosts, Ms. Diane Querrer (middle) and Mr. Alan Allanigue (right), the major functions of the bureau and its supported initiatives for the R&D sector. PHOTO: MVALDEABELLA

# BAR leads review and workshop plan for plantation crops

**E**mphasizing on the importance of plantation crops and its major contribution in the agricultural sector, the Bureau of Agricultural Research, in coordination with the High Value Crops Development Program (HVCDP) of the Department of Agriculture (DA), held a national review and planning workshop for all its funded research projects on plantation crops, specifically on

BAR in overseeing that all R&D initiatives conducted in the country are not being duplicated, focusing only on researches with high impact results. “The Department of Budget and Management is happy that BAR is overseeing the implementation of HVCDP,” she stressed.

In affirmation, BAR Director

updates, and accomplishments for each of the plantation crops were also reported by BAR focals to provide the participants a holistic view and updates of each industry.

During the planning workshop, the participants were grouped into parallel/break-out sessions according to the five



Participants of the national review and planning workshop for plantation crops PHOTO: RDELACRUZ

cacao, coffee, rubber, abaca, and coconut on 13-16 June 2017 in Tagaytay City.

The objective of the activity was to bring about strategic courses of actions to further enhance and improve project implementation towards the attainment of HVCDP goals in line with the sectoral plan of the DA.

Asst. Director Jennifer Remoquillo of the Bureau of Plant Industry, representing Agriculture Undersecretary Evelyn Laviña, emphasized the huge role that R&D plays in the sector particularly, in increasing the productivity of plantation crops. “Reiterating Secretary Piñol’s pronouncements, we are on the expansion of these plantation crops, but we must not focus on just expanding them, we must also ensure the quality side of it. And this is where R&D becomes very important,” she said. She also mentioned how R&D allocations are being justified given the fund support that DA is giving to a certain commodity and was thankful for

Nicomedes Eleazar emphasized the importance of high-value plantation crops in the country saying that “the significant role that R&D played in the agriculture sector over the years led to the development of various technologies for these plantation crops.” He furthered that, “but as new challenges emerge, we at the R&D sector must persist on developing new technologies toward sustaining and continuously improving these industries.”

One of the highlights of the activity was the presentation of industry roadmaps of the five crops to provide a clear agenda and a unified program, particularly in addressing R&D gaps. Among the industry roadmaps presented were: 1) cacao (Josephine Ramos of Options Inc.), 2) coconut (Roel Rosales of the Philippine Coconut Authority), 3) coffee (David Santos of *Ka Tribu*), 4) abaca (Engr. Petronilo Jabay of the Philippine Fiber Industry Development Authority), and 5) rubber (Gabriel Igot of the Philippine Rubber Industries Association, Inc.). The R&D status,

commodities to consult, discuss, and finalize the R&D gaps, including the identification of specific projects, objects, implementing agency, and timeline. Each group presented their outputs for comments and suggestions. Engr. Roger Bagaforo of DA-Regional Field Office (RFO) 9 presented for rubber, while Dr. Edna Aguilar of the University of the Philippines (UPLB) reported for coconut. Mr. Dario Divino of DA-RFO 11, Dr. Miriam Baltazar of Cavite State University, and Engr. Petronilo Jabay of PhilFIDA presented the outputs for cacao, coffee, and abaca, respectively.

Mr. Joell Lales, chief of PDD, capped the event highlighting on the role of the private sector particularly in channelling all R&D efforts. “The government cannot do everything alone, so we recognize the role of the private sector.” He also mentioned that this is not the end, “after this, there will be consolidation of all documents to systemize everything which will serve as the basis for prioritizing R&D on commercial crops,” he concluded.  
### (Rita T. dela Cruz)

**R**epresentatives from the Centre for Agriculture and Biosciences International (CABI) met with officials from the Bureau of Agricultural Research (BAR) on 13 June 2017 to discuss the Philippines' membership to the international non-profit organization. CABI's visit was instrumental in strengthening partnerships between the two institutions. Much of what was talked about during the meeting distinguished avenues for CABI to funnel in significant assistance to the country's agricultural sector via its partnership with BAR.

CABI was represented by its director for memberships, Dr. Qiaoqiao Zhang and its Southeast Asia regional director, Dr. Sivapragasam Annamalai. They were met by BAR director, Dr. Nicomedes P. Eleazar; assistant director, Dr. Teodoro S. Solsoloy; Institutional Development Division (IDD) head, Ms. Digna L. Sandoval; with selected technical staff from IDD.

Dr. Sivapragasam pointed out that BAR is instrumental for CABI to make its presence more visible in the country. Ms. Sandoval and Dr. Solsoloy shared to the representatives the possible entry points in agricultural research for collaborations with CABI. These include research initiatives addressing the current armyworm infestations affecting vegetable farms in Luzon, priority thrusts on the country's cacao industry, and Institutional Development Grants aimed at enrolling staff of the Department of Agriculture (DA) in capacity-building activities.



BAR's key officials and staff meet with CABI's Director for Memberships Qiaoqiao Zhang (5<sup>th</sup> from left) and Southeast Asia Regional Director Sivapragasam Annamalai (3<sup>rd</sup> from left). PHOTO: EGESTUPA

## BAR meets with CABI for potential partnerships

CABI acts as a bridging organization. It facilitates the transfer of technology between its member-states, ensuring that research results are not only utilized in one specific area but are also adopted in other countries facing similar problems.

CABI wants to build on what they have already accomplished in the Philippines. Dr. Zhang mentioned that the University of the Philippines Los Baños is actively utilizing their granted access to a plethora of CABI's scientific literature publications. "This is very much our goal," added Dr. Zhang, "to place up-to-date technology into people's hands."

Much of CABI's work here in the Philippines involves

the dissemination of results from agricultural research done through a global network of centers.

Plantwise, one of CABI's banner programs, offers another opportunity for collaboration with BAR. According to Dr. Sivapragasam, Plantwise aims to reduce the world's gross crop loss experienced by smallscale farmers in different countries. CABI does so by working hand in hand with national experts in developing knowledge bank that highlights plant health information, including diagnostic resources, best-practice pest management advice, and plant clinic data analysis for targeted crop protection.

According to Dr. Zhang, CABI's partnerships with its member-countries is characterized by close interaction. Member-countries take on an active role in the drafting of proposals on how CABI can transfer aid to a nation's farmers. Dr. Zhang reiterated that CABI would like to intensify their communication with agencies like BAR so that the organization can efficiently engage with the country in resolving problems in agriculture. ###  
(Ephraim John J. Gestupa)



PHOTO: EGESTUPA



PHOTO: ABRION

## RM meeting calls for urgent R&D product development

**“W**e don’t just leave our research outputs in the shelf. They must be applied and used by our clientele, especially our farmers, on the field.”

This is what the Bureau of Agricultural Research (BAR) Director, Dr. Nicomedes P. Eleazar, emphasized during the 2<sup>nd</sup> Quarter Research Managers’ (RM) Meeting held on 7 June 2017 at the BAR Conference Hall, Diliman, Quezon City.

Focusing on intensifying technologies generated from research and development (R&D), BAR, with its partners from the Department of Agriculture-Regional Field Offices (DA-RFOs) and Bureau of Fisheries and Aquatic Resources (BFAR), probed on strategies that will enhance the promotion of R&D products and technologies.

Looking into the current state of agri-fishery R&D in terms of outputs and impact, BAR is continuously gaining momentum

in delivering results based from its supported projects. With advances in various commodities such as *adlay*, soybean, corn, rice, mushroom, and other high-value crops among others, the bureau now takes on expediting the promotion and transfer of these technologies from table to farm.

To attain this, Dr. Eleazar specifically instructed that all proposals under BAR’s National Technology Commercialization Program (NTCP) must constitute project collaboration with the private sector to ensure its sustainability after implementation.

Also, BAR targets to embark on the Agribusiness Demonstration Project (ADP), which will serve as a venue to showcase new or advanced technologies that will enhance profitability of farming and fishing enterprises. Ms. Salvacion Ritual, chief of the Program Monitoring and Evaluation Division (PMED) of BAR, explained that one of the features of the ADP is that it will be

operated like a true enterprise where its goal is primarily for profit. In this regard, the project should pay for itself, and its income should be plowed back to improve the overall project profitability.

Taking on the instruction of DA Undersecretary for Agribusiness and Marketing, and Regional Engagement Bernadette Romulo-Puyat, the bureau encouraged the regions to each put up a technology commercialization/innovation center, with which BAR will be providing support.

The meeting also discussed other agenda including the conduct of this year’s National Technology Forum, National Research Symposium, and CPAR Congress; national mentorship project for information officers in collaboration with the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA); and other planning concerns. ###  
(Daryl Lou A. Battad)

## IDG projects in Bicol monitored

**T**he Bureau of Agricultural Research (BAR), led by Director Nicomedes P. Eleazar and Institutional Development Division (IDD) Head Digna L. Sandoval visited the Bicol region to monitor and evaluate BAR-supported projects under its Institutional Development Grants (IDG) on 19-23 June 2017.

The group visited the Central Bicol Experiment Station (CBEST) of the Department of Agriculture-Regional Field Office 5 in Pili, Camarines Sur. Among the projects monitored at CBEST included the Plant Genetic Resources Center, Tissue Culture Laboratory, Regional Technology Commercialization Complex, and Organic Agriculture

R&D Center which were visited for site assessments and validations.

The team also went to the existing Veterinary Medical Hospital and Animal Diagnostic Laboratory and Training Center of the Central Bicol State University of Agriculture (CBSUA) which, according to Vice President for Research, Extension,

turn to page 8



## Nipa salad dressing is now in supermarkets

products from it.

“Nipa flower clusters are tapped before it blooms to yield a sweet, edible sap collected to produce the local alcoholic beverage called *tuba*, which, then stored in *tapayan* for several weeks, converts to vinegar popularly known as *sukang paombong*. When distilled, *tuba* becomes a more spirited local wine called *lambanog*,” said Ms. Luz Marcelino, research manager of BIARC.

Funded by the Bureau of Agricultural Research (BAR) under its National Technology Commercialization

Program (NTCP), the project titled, “Product Development and Promotion of Nipa By-Products in Bicol Region,” aimed to promote the usage of Nipa to provide livelihood opportunity, and increase and sustain productivity through additional knowledge, profitability, and income in women of Canaman, Camarines Sur.

The Product Development Section of BIARC headed by Ms. Arlene de Asis developed the technology. Compared to the commonly known Balsamic vinegar, the Nipa salad dressing has no after taste and is considered to be generally healthy because it has no additives and preservatives and is claimed to be pure Nipa palm syrup only.

BIARC has a close partnership with the Rural Improvement Club-Canaman Chapter where Mrs. Luz Severo-Despabiladeras serves as one of the members and farmer-cooperators of the project. Mrs. Despabiladeras also shares her expertise in product development and also handles the

promotion side of the product. She is the woman behind the successful debut of the products in the supermarkets in 2016.

The group now regularly supplies 30 bottles each of 1L, 500mL, and 375mL of Nipa salad dressing sold at J-Emmanuel store at SM Naga. The group started supplying 120-150 bottles of 1L, 500mL, and 375mL of Nipa salad dressing at SM Savemore (Bicol) in 2016 and processing the renewal of permit this 2017, which the project aims to accomplish as soon as possible. Nipa salad dressing was also featured during International Food Exhibit (IFEX) 2013, which was held at SMX Convention Center, Metro Manila, Philippines in May 2013.

The project covers the refinement of the technology, purchasing of the equipment and improving production area to cope with the high demand of the product and to make it locally and globally competitive. “There are now groups of farmers who regularly supply raw materials. So, in that case, it is not only producing a product out of Nipa but also promoting job generation to farmers,” Ms. Marcelino said.

The project team fully acknowledged the support and opportunity given by BAR and the regional management to explore the potential of various plant species in Bicol to be able to come up with various products and by-products.

The Nipa Salad Dressing won third place as the “Most Innovative Product” during the 12<sup>th</sup> Agriculture and Fisheries Technology Forum held in August 2016 at SM Megamall in Mandaluyong City. It also bagged the third place award during the Farmers and Fisherfolks’ Congress held in September 2016 in Pili, Camarines Sur. ### (Ma. Eloisa H. Aquino)

**L**ikened to the popular Balsamic vinegar, but cheaper and affordable, Nipa palm salad dressing is now a common eye catcher at SM Naga, specifically in J-Emmanuel store.

Developed by the Department of Agriculture-Regional Field Office 5-Bicol Integrated Agricultural Research Center (DA-RFO 5-BIARC), Nipa syrup-based salad dressing was developed as part of promoting and expanding the underutilized Nipa sap of the research center.

Holding the record as the third largest area of Nipa palm plantations in Asia, Philippines has an abundant Nipa palm plantation particularly along the sealine ecosystem of Camarines Sur.

Considered to be a widely neglected indigenous palm species, Nipa palm is commonly used as roofing materials. Seeing the potential and opportunity for the commodity, Nipa palm sap was extracted in order to develop

# Search for 2017 Gawad Saka outstanding agri researcher, scientist kicks off



Members of the National Technical Committee for the 2017 Gawad Saka Outstanding Agricultural Researcher and Scientist convene for the desk evaluation of this year's nominees. PHOTO: ABRION

The search for the 2017 *Gawad Saka* Outstanding Agricultural Researcher (OAR) and Scientist (OAS) started with the conduct of the desk evaluation held on 27-28 June 2017 in Tagaytay City. As an annual activity of the Department of Agriculture (DA), the *Gawad Saka* Search for OAR and OAS recognizes the outstanding works of researchers and scientists that contribute to the development of the agriculture and fisheries sector.

In the evaluation, relevant documents and requirements submitted by the nominees, initially screened by the Institutional Development Division (IDD) of the Bureau of Agricultural Research (BAR), were carefully evaluated by the members of the National Technical Committee (NTC). These documents were assessed according to the quality of work and productivity of the nominated researchers and scientists. After the evaluation, the works of the shortlisted nominees will be subjected to a series of field validation to verify the accuracy of information presented in the nominees' submitted documents.

BAR Director Nicomedes

Eleazar serves as this year's NTC chairperson for both OAR and OAS categories, while Assistant Director Teodoro Solsoloy serves as vice chairperson.

The NTC members for the OAR are composed of Dr. Enrico Supangco (University of the Philippines Los Baños), Dr. Jose Hernandez (UPLB), Dr. Elda Esguerra (UPLB), and Dr. Mudjekeewis Santos (National Fisheries Research and Development Institute), while Dr. Roberto Rañola, Jr. (UPLB), Dr. Edralina Serrano (UPLB), and Dr. Jonar Yago (Nueva Vizcaya State University) for the OAS. Joining them is BAR's IDD Head Digna Sandoval, member for both categories; together with BAR staff members who serve as the coordinator and secretariat.

The nominees for OAR were recommended by DA regional executive directors and BFAR regional directors; whereas heads such as presidents, chancellors, and agency directors of government research institutions and state universities and colleges recommend the nominees for OAS. ### (Anne Camille B. Brion)

IDG projects...from page 6



The funded facilities will help the Bicol region to strengthen its R&D initiatives for its champion commodities. PHOTOS: JGAYOD

Production and Entrepreneurial Development Josephine Cruz, is the only existing veterinary hospital in the region.

Director Eleazar commended CBSUA for having this kind of facility and urged them to submit a proposal for the establishment of a service laboratory that will be able to cater to clinical- and research-related needs of agriculture clients, not only in Pili but in other nearby municipalities as well.

Other sites monitored were CBSUA's Plant Genetic Resources Research Laboratory and Training Center, and Technology Commercialization Center in the university.

The implementation of another IDG-funded project, Technology Commercialization and Product Development Center in Cabid-an, Sorsogon, was also monitored by the team. ### (France Gayzel F. Caceres)

# SEaweeds AND VALUE-ADDED PRODUCTS FEATURED IN BAR SEMINAR



PHOTOS: RDELACRUZ

Considered as the largest aquaculture industry in the Philippines, seaweed farming has exhibited substantial growth in the international market given its increased volume and value of seaweed export. Recognizing its importance in the sector and its growing demand as an industry over the past years, the Bureau of Agricultural Research (BAR), through its Applied Communication Division, conducted a seminar on seaweeds on 22 June 2017.

Dr. Marco Nemesio E. Montaña of the University of the Philippines-Marine Science Institute (UP-MSI) served as the resource speaker for the seminar. He started with the industry situationer of seaweeds and its uses as bioactive component in pharmaceutical and cosmeceutical products.

In his presentation, he stated that the seaweed industry is creating employment for over 400,000 families along coastlines areas, and about 100,000 families for deep-sea farming providing the biggest revenues for seaweed farmers.

The *Gelidium acerosa*, one of the species of seaweeds, was found to have a large amount of valuable phytochemicals which

are known for medical uses; while the *Halymenia durvillaei* was found to have an important application in food and cosmetics. "These seaweed applications in non-food products will transport a global industry growth as high as 56 percent by 2030 in the manufacturing industry of biofuel, fertilizer, paper, and textile among others," he said.

Another topic discussed was the value-added food products from seaweeds which was presented by Ms. Gemma Cedro and Ms. Ana Isabel Echaluze of the Bureau of Fisheries and Aquatic Resources (BFAR)-Regional Office 5.

The two speakers introduced some of Bicol's seaweed products which BFAR 5 was able to develop. These include seaweed morcon, noodles, jam, marmalade, *nata*, tart, and pickles. They taught the participants the proper procedures in preparing these food products.

Likewise, they shared the health benefits of seaweeds such as helping in boosting immunity, and building and sustaining nutritional balance of vitamins and minerals. Seaweed is rich in iodine, protein, and fiber content.

One participant of the seminar was Ms. Cynthia P. Corona, a



biology teacher at the Ismael Mathay Senior High School in Quezon City. She mentioned that she attended the BAR seminar with her students to gain additional knowledge on the biological component of seaweeds which they need for their upcoming school research project.

BAR also took the event as an opportunity to disseminate information materials to the seminar attendees. The production of these materials was funded by the Asian Food and Agriculture Cooperative Initiative (AFACI), a Korea-based inter-governmental and multilateral cooperation body that aims to promote sustainable agriculture through knowledge and information sharing on agricultural technology. ###  
(Leoveliza C. Fontanil)

# Renewed interest in soybeans heightened



Participating in the workshop are regional soybean focal persons and project implementers who shared updates and experiences in their respective soybean project implementation. PHOTO: MEAQUINO

The Bureau of Agricultural Research (BAR), in partnership with the High Value Crops Development Program (HVCDP) of the Department of Agriculture (DA), held the “National Review and Planning Workshop on Soybean R&D Projects” on 27-29 June 2017 in Los Baños, Laguna.

The activity was part of a continuing effort of the bureau to promote the production, processing, utilization, and marketing of soybean in the country. In attendance were BAR Director Nicomedes P. Eleazar, Technology Commercialization Division Head Anthony B. Obligado, Chairperson of the Soybean Technical Working Group (TWG) Rose Mary Aquino, Vice Chairperson of the Soybean TWG Elmer Enicola, regional soybean focal persons, and project implementers from state universities and colleges (SUCs), and peoples’ organizations.

Since its institutionalization in 2011, the concerted efforts of R&D agencies have intensified the implementation of the DA’s Soybean Program. This paved way for valuable results as manifested in the increase in yield and production areas. Soybean has been given importance not only for its nutritional and health benefits but more so, for the creation of job opportunities and economic profit to farmers resulting to a growing number of farmer-

beneficiaries and adopters.

In his message, Director Eleazar encouraged project implementers to further intensify expansion of soybean production areas using identified quality planting materials. He also instructed to ensure that the generated technologies/products must have private partners to commercialize and ensure sustainability of the developed products. He reminded the proponents to improve on the packaging and labeling to make the products competitive in the mainstream market, and to consider intellectual property registration for the protection of developed products.

Ms. Aquino presented the accomplishments of the program in the past six years since it was launched. “When we started the program, there was unfamiliarity, and a lot of people weren’t aware of the importance of soybean. Through the program, it has been gradually reduced, resulting to an increased awareness on the utilization of soybean as food, more than the traditional knowledge of soybean as feed ingredients. People became aware of the potential of soybean and the market demand for it. These can be credited to the interventions that were introduced by the program on product development and processing,” Ms. Aquino explained. She also stressed the increase in number of project implementers mentioning that from 5 implementing regions,

it grew to 17 regions, 4 SUCs, and 3 attached agencies and staff bureaus. She acknowledged that the accomplishments were because of the dedication and commitment of partner institutions.

The renewed interest in soybeans resulted to numerous groups coming from the government agencies, academe, private sector, and stakeholders in the food and feed business aspects of soybean, and even individuals demonstrated overwhelming response and commitment to the development of the soybean industry.

Based on the presentations of the project implementers across the regions, farming communities and peoples’ organizations were noted to have clearly benefitted from the technologies introduced by the program.

There was an increase in production areas among farmer-cooperators in Region 2, CARAGA, and other regions. The shift of farmers and entrepreneurs from using genetically-modified and imported seeds to locally-grown seeds, specifically identified quality seeds produced through research, was also highly noted during the workshop. There are now developed products available in supermarkets, *pasalubong* centers, and even private individuals who are bringing the products abroad. ### (Ma. Eloisa H. Aquino)

PHOTO COURTESY OF UPLB



## 13 BAR SCHOLARS FROM UPLB GRADUATED

**M**ore than two thousand students from the University of the Philippines Los Baños (UPLB) graduated on 24 June 2017, of which 13 were recipients of the Bureau of Agricultural Research's Undergraduate Scholarship Grant. The grant included free tuition fee and financial assistance needed for books, academic trips, thesis, and graduation expenses.

The UPLB Office of the Vice Chancellor for Academic Affairs hosted a recognition program on 16 June 2017 for all of UPLB's scholarship beneficiaries. The 13 scholars, including BAR, were recognized, along with the other university scholarship donors. They were awarded with a plaque for continuously supporting competent yet financially-challenged students. Present during the activity were Dr. Nicomedes P. Eleazar, BAR director; and Ms. Digna L. Sandoval, head of the BAR-Institutional Development Division (IDD).

They were also present during the recognition ceremony of all graduates from UPLB's College of Agriculture and Food Science (CAFS) held on 24 June 2017. Together with CAFS Dean, Dr. Enrico P. Supangco, and Vice-Chancellor for Academic Affairs, Dr. Portia G. Lapitan, BAR awarded medals to the three Bachelor of Science in Agriculture (BSA) students graduating with honors, namely: Ms. Nadine B. Coronado (BSA-Agronomy, *magna cum laude*), Ms. Zyla N. Capiz (BSABT- Crop Biotech, *cum laude*), and Mr. Heway Christian A. Serra (BSA-Agronomy,

*cum laude*).

With both of her parents losing their jobs upon her enrolling to UPLB, Ms. Nadine Coronado badly needed a scholarship for her to continue on. According to the BSA Agronomy graduate, "[The scholarship] definitely motivated me to work hard and well because I was being supported by the people's money in multiple ways which includes those resources being channeled through DA-BAR." Her time at UPLB also opened up opportunities for Ms. Coronado to do study trips both locally and abroad in countries including Thailand and Japan.

As for Ms. Zyla Capiz, her BAR scholarship helped her stay focused and motivated in making sure to finish her studies on time. Having been granted with the financial assistance, Ms. Capiz needed not to have been studying and working at the same time to pay for her tuition fee.

In a letter she sent to the Director Eleazar, Ms. Coronado expressed her gratitude to BAR and what it has set out to do in empowering today's youth. "You contributed much to widening my perspective towards agriculture. I am ecstatic to be in a field of study that I am really passionate about and to be surrounded with people who willingly share their resources and knowledge to novices like me. You aimed and remained to stay true to the vocation and heed the call of helping and serving. I hope to do the same," she wrote. ### (*Ephraim John J. Gestupa*)

## 17 NTCP PROJECTS REVIEWED

**S**eventeen projects under the National Technology Commercialization Program (NTCP) of the Bureau of Agricultural Research (BAR) were reviewed and assessed on 20-23 June 2017 in Tagaytay City. From the 17 projects, 5 were on livestock and poultry, 9 were on crops, and 3 were on special interests (i.e. Technology Commercialization on Wheels (TCoW), saccharine feedstocks for high-value products, and climate change).

Leading the review was BAR's Technology Commercialization Division (TCD), led by its head, Mr. Anthony B. Obligado. In his opening remarks, he enjoined the project proponents to put more emphasis on the economic importance of the projects and ensure the active involvement of farmers and fishers during project implementation. He also encouraged them to highlight the projects by providing billboards or signages in their respective sites.

Serving as evaluators were Dr. Remedios Acasio of the Bureau of Animal Industry, Ms. Virginia Agcopra of the Food and Agriculture Organization's (FAO) Project Management and Coordination Office, Dr. Elda Esguerra of the University of the Philippines Los Baños (UPLB), and Dr. Andrea Agillon of BAR-TCD.

UPLB Vice Chancellor for Research and Extension, Dr. Rex B. Demafelis, also took part in the deliberations by providing insights on project and product development. Some of the products promoted from the NTCP projects were *lipote* juice and jelly, *bignay* juice and jelly, *macopa* marmalade, raspberry jam, and *kamias* candy, among others. ### (*Patrick Raymund A. Lesaca*)

# Organic agri R&D projects assessed



BAR's pool of experts assess a total of 11 organic agriculture-related projects. PHOTO: PLESACA

**F**our Organic Agriculture (OA) Research and Development (R&D) project proposals were evaluated during an en banc project review on 31 May 2017, while seven on-going organic agriculture projects funded by the Bureau of Agricultural Research (BAR) were reviewed and assessed on 1 June 2017 at BAR.

The activity was conducted to ensure that OA R&D proposals adhere to the thrusts and directions of the National Organic Agriculture Program (NOAP) and on-going projects are within the prescribed timelines and frameworks during the project cycles.

The assessments and recommendations of the project evaluators provided additional perspectives in the implementation of the projects. This ensures the harmonization of organic agriculture projects in relation to the program thrusts of the NOAP of the Department of Agriculture (DA).

Serving as project evaluators were Dr. Luis Rey Velasco of the University of the Philippines Los Baños (UPLB); Dr. Lorna Herradura of the Bureau of Plant Industry (BPI)–Davao National Crop Research, Development and Production Support Center; Dr. Nelson Lopez of the Bureau of Fisheries and Aquatic Resources; Ms. Fe Bien Garcia of the Bureau of Animal Industry; and

Dr. Rodolfo Ilao of the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development.

The project proponents from the DA-Regional Field Office 1; Central Philippine University; Central Luzon State University; DA-Nueva Vizcaya Experimental Station; UPLB; Mariano Marcos State University; and BPI research stations in Luzon, Visayas, and Mindanao presented the status of their projects and aired some concerns regarding their experiences during the implementation period. At the end of each presentation, the evaluators gave suggestions for corrective measures.

Most of the proposed and existing OA projects centered on the evaluation of microbials and botanicals, utilization of biological control agents, and management of pests and diseases in support to organic agriculture. Six projects from state universities and colleges, and five from BPI were assessed.

The comments and recommendations of the panel will be consolidated by BAR and will be forwarded to the project proponents for refinements. The in-house review was spearheaded by BAR's Program Development Division, and Program Monitoring and Evaluation Division. ### (Patrick Raymund A. Lesaca)



Ms. Julia Lapitan, head of BAR's Applied Communication Division, (right) attended the activity.

## BAR JOINS L OF FITS CENT

**A**s part of its collaboration with the Agricultural Training Institute (ATI) and the Office of the Provincial Agriculturist-Cavite in promoting and disseminating agriculture- and fisheries-related information, the Bureau of Agricultural Research (BAR) joined the launching of the Alfonso Farmers' Information and Technology Services (FITS) Center on 5 June 2017 in Alfonso, Cavite.

Ms. Julia Lapitan, head of BAR's Applied Communication Division, attended the activity. "This collaboration serves as an initial step in our efforts towards the complementation and implementation of research and development, and extension modalities, especially between that of BAR and ATI through its FITS Centers to provide agri-fishery information to our farmers and fishers," Ms. Lapitan said.

In particular, BAR's support was the provision of information, education, and communication (IEC) materials on research-generated initiatives supported by the bureau. These include books, manuals, technology flyers, brochures, crop calendars, CDs, and technology digest



PHOTO: RBERNARDO

ad of BAR's Applied Communication  
ds the launching of the FITS center in Cavite.

## AUNCHING ER IN CAVITE

on different agri-fishery commodities.

According to Ms. Vilma Constante, assistant provincial agriculturist, such information materials will indeed be a big help to farmers and fishers in the community as information related to agri-fishery technologies are now within their reach, accessible, and made available especially to the 13 existing FITS Centers in the province of Cavite.

FITS Centers can be found in the different municipalities across the country. These facilities, which are being managed by ATI, provide services in the form of technology information in various formats, access to global information through the internet, various reference and IEC materials, technology clinics and trainings, technical advisory and consultancy, and linkages to agricultural experts, among others.

Part of the IEC materials distributed by BAR in Alfonso's FITS Center, particularly the 10 crop calendars, were produced through the bureau's partnership with the Asian Food and Agriculture Cooperation Initiative (AFACI). ### (Anne Camille B. Brion)

# IPM strategy

## to control eggplant's major pest

by Patrick Raymund A. Lesaca PHOTO COURTESY OF JAVIER/UPLB



**E**ggplant (*Solanum melongena*) is one of the most important vegetable crops in the Philippines. In fact, its value is one of the highest among vegetables at Php1.9 billion, according to the Philippine Statistics Authority. Production from January to March 2017 also showed level of increase at 78.76 thousand metric tons compared to last year's 76.36 thousand metric tons.

Production could still go up, if not for the deadly threat known as Eggplant Fruit and Shoot Borer (EFSB), scientifically called, *Leucinodes orbonalis*. The shoot borer has been one of the most lethal insect pests, attacking flowers, buds, young shoot tips, stems, and fruits. Losses attributed to shoot borer ranged from 50 to 75 percent.

Farmers' first defense against the pest infestation is immediate application of synthetic insecticides, which are being sprayed almost three times a week with an average application of 58 times per cropping season, and applying about 41 liters of pesticides. The frequent application of synthetic insecticides is costly. The average pesticide cost to the total material inputs was estimated at 55 percent, which is much higher compared with other vegetable crops. Further, the use of synthetic insecticides is strictly prohibited in the organic crop production system, hence only non-chemical control methods are allowed to be used.

Using a science-based approach, research professor, Dr. Pio A. Javier and research associate, Evangeline G. Punzalan both from the College of Agriculture and Food Science, University of the Philippines Los Baños (UPLB) undertook a study to evaluate the efficacy of several biological control agents and botanical insecticides to control EFSB and other insect pests. This research initiative is funded and supported by the Bureau of Agricultural Research (BAR).

The project, "Management of Eggplant Fruit and Shoot Borer and Other Major Insect Pests of Organically-Grown Eggplant with Emphasis on Biological Control Agents and Botanical Insecticides in Quezon, Laguna and Batangas (2015-2017)," aimed to evaluate the effectiveness of different control methods that were reported to be effective against EFSB and device means to enhance the effectiveness of each control method. The project also looked into selecting at least three best control methods that were found effective and combine these control methods at UPLB and in San Pablo City, Laguna and verifying the effectiveness of the combined management strategies developed in organic farms in Laguna (San Pablo City and Sta. Cruz) and Tiaong, Quezon.

According to Dr. Javier, several non-chemical control methods were found to contribute in the reduction of EFSB population.

turn to next page



Borer

Among these methods include the releasing of *Trichogramma*, mulching with rice straw and releasing of earwig (*Euborellia annulata*), intercropping with lemon grass, spraying of botanical insecticides, sanitation, and use of sex pheromone. Although these methods were found to reduce the population of shoot borer, the level of control is still quite low resulting in relatively high percentage of damaged fruits.

Hence, there was a need to integrate two or three control methods. The project used nine treatments for evaluation: Treatment 1 (T1) Earwig plus rice straw mulch; (T2) *Langkauas* + oregano; (T3) Lemon grass repellent; (T4) Sanitation; (T5) *Methomyl* (applied with organic fertilizer); (T6) *Methomyl* (applied with inorganic fertilizer); (T7) Earwig + *Trichogramma* + rice straw mulch; (T8) *Trichogramma* + rice straw mulch; and (T9) Control.

The experiments were conducted at the Central Experiment Station of UPLB and San Pablo City from February 2015 to October 2016.

### Results and recommendations

Researchers have concluded that the different non-chemical control methods such as release of earwigs, spraying of *langkauas* + oregano crude water extracts, and sanitation were as effective as the spraying of *methomyl*, the conventional method of controlling EFSB.

Each of the component control method was found effective against EFSB in Year 1, and was integrated and evaluated in two experiments in organic farms in Brgy. Bautista, San Pablo. Verification trials on the effectiveness of the combination earwig releases, spraying of *langkauas* + neem crude water extracts, and sanitation were verified in organic farms in San Pablo City and Sta. Cruz in Laguna, and Tiaong in Quezon.

Recently, however, based on the laboratory results and preliminary evaluation in ratooned eggplant in San Pablo City, the spraying of neem crude leaf extracts was found highly effective against EFSB. The spraying of neem leaf and *langkauas* rhizome water extracts reduced the EFSB fruit damage to about 20 percent compared to the previous 50 percent EFSB infestation.

Therefore, the researchers

replaced oregano with the neem crude water extract. Neem also reduced eggplant phomopsis infection.

It is envisioned that the release of earwigs will be further evaluated in combination with other biological control agents like *Trichogramma* and *Trathala flavoorbitalis*, which is an all female larval parasitoid which is the dominant parasitoid in the field.

Earwigs are ground insects and are considered as general predator of garden insect pests like aphids, mites, pupae of pests, among others. Like earwigs, *Trichogramma* are minute wasps that are endoparasitoids of insect eggs, and is also an efficient killer of many lepidopteran pests. On the other hand, *langkauas* is a tall, leafy, perennial herb, and aside from its health benefits, it is also being used as botanical insecticide while neem is widely used in India since the plant exhibited antifeedant and insect growth regulatory effects against several insect pests. ###

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# Farmer profits from shifting to ADLAY farming

Story and photo by Rita T. dela Cruz

Every progress requires risk. And only those who risk going far are able to know how far they can possibly go.

This saying works well for Ms. Conchita A. Banguiyao, 48, corn farmer from Maddela, Quirino, when she decided to go into *adlay* farming even with the limited knowledge on the crop. “I never heard of *adlay* before. All I know is that it is synonymous to rice in terms of taste and uses,” Ms. Banguiyao said.

She used to plant hybrid yellow corn but did not succeed and promised not to go through it again. She wasn’t aware of *adlay* until a team of researchers, led by Ms. Rose Mary Aquino of the Cagayan Valley Research Center (CVRC), Department of Agriculture-Regional Field Office (DA-RFO) 2, visited the Mataga-ay Sustainable Resources Development and Conservation Association in Jose Ancheta, Maddela in June 2015. Ms. Banguiyao is an officer and a member of the Association.

“They were actually here for a technology demonstration on soybean but since most of us are into upland farming, they also introduced *adlay*. It was from them that I first heard of *adlay*,” Ms. Banguiyao recalled.

During the technology demonstration, the group from CVRC brought an *adlay* milling machine to show how the *adlay* grains are processed into adlay grits. “They cooked the *adlay* grits for food tasting. It was then that I first tasted the rice-like *adlay*,” she said.

Impressed by what she saw and learned, Ms. Banguiyao expressed her enthusiasm and interest in planting *adlay*. She has zero knowledge in planting *adlay* but she got interested in the crop because there was a ready market for it. “My main reason is the fact that, there is a ready buyer for my harvest!” exclaimed Ms. Banguiyao.

Mr. Diosdado Estocapio, president of the Association, explained that CVRC buys all the

*adlay* harvest from their members.

“The association serves as an assembler of all the *adlay* harvest and CVRC buys them directly from the farmers for the processing of Gourmix,” he said. Mr. Estocapio also reported that the association has 62 members and more than 15 of them are now into *adlay* farming, convinced of its potential as a food crop.

Four months after Ms. Banguiyao heard of *adlay*, the group from CVRC came back and brought 15 kilos of *adlay* seeds for the farmers who expressed their interest in trying the crop. Ms. Banguiyao got seven kilos which she planted in October 2015 in her one-fourth hectare land. Two more farmers shared the remaining seeds, four kilo for each of them.

According to the established cultural management, the best time to plant *adlay* is August-October and will be harvested after six months, around February-April.

Ms. Banguiyao harvested 170 kilos in April 2016 and sold it for Php 40 a kilo providing her an earning of Php 6,800. She kept some of the seeds for the next planting season.

She planted the remaining four kilos of seeds in September 2016 and another three kilos in Nov 2016, which she got from her previous harvest. In March 2017, she harvested 270 kilos from her 0.5 hectare of land, sold it for Php 45 a kilo giving her an earning of Php 12,150.

“What is good about planting *adlay* is that, it’s not a high-maintenance crop. No need for fertilizer. After you plant, you can just leave it. You will just see



each other again six months after, during the harvest season,” said Ms. Banguiyao. She also mentioned that unlike corn or other crops, *adlay* is not easily attacked by harmful pests and diseases.

When asked how to further promote *adlay*, Ms. Banguiyao said, “I think more farmers will plant *adlay* if we have the milling machine here in the area. Then, we can also promote it just like rice.” This was affirmed by the president of the Association saying, “I see that need as well. Since it is not possible that every farmer has the milling machine, at least if we have one in the Association, we can manage that and be an income generating project for us”.

Without the milling machine, the farmer does it manually through “*bayo*” (pounding) which has a low percentage recovery.

Ms. Banguiyao is spreading her wings, currently she now has a hectare of land planted with *adlay*. When asked about her previous reservation about planting *adlay*, she said, “it was a risk worth taking!” ###



Mr. Joseph Q. Basconcillo, a weather specialist from PAGASA, discusses the importance of having an understanding of climate-related concepts to deliver better services to the agri-fishery R&D community. PHOTO: ABRION

# PAGASA weather specialist lectures on climate information and services

In a continuous effort to mainstream climate change, the Bureau of Agricultural Research (BAR) organized a lecture on climate information and services for its officials and staff on 19 June 2017 at BAR.

Serving as the resource speaker was Mr. Joseph Q. Basconcillo, a weather specialist from the Philippine Atmospheric Geophysical and Astronomical Services Administration (PAGASA). According to him, “In your line of work, you have to understand the climate change concepts and dynamics as these can help you in

the evaluation of R&D proposals, especially those which are related to climate change.”

The first of his three-part presentation tackled the basic concepts in meteorology wherein he discussed the difference between weather and climate. “Weather refers to the mix of events that happen each day in our atmosphere including temperature, rainfall, and humidity; whereas climate pertains to the average and variations of weather over a long period of time,” he said. Mr. Basconcillo also explained that “when the balance of the climate system gets disrupted due to the

abnormal amount of greenhouse gases in the atmosphere caused by human activities, thus climate change.”

Highlight of his presentation was PAGASA’s climate information and services (CIS). “At PAGASA, our climate services, anchored on the Global Framework for Climate Services (GFCSS), pertain to the provision of climate information in a way that assists the decision making of individuals and organizations. If we have good CIS, we can help improve the decision making of our end-users,” he added. The resource speaker cited the different climatological and meteorological products that PAGASA produces such as the monthly weather situation and outlook, seasonal climate outlook, climate projections and scenarios, and El Niño/drought/La Niña advisories, among many others.

Likewise, he discussed about their initiatives involving CIS for agriculture. These include the development of a portal containing aquaculture information, drought and crop assessment and forecasting, and other related IEC materials.

A short exercise involving tropical cyclone tracking was also done after the presentation.

The lecture served as a follow-through activity of the orientation seminar on climate change scenarios and their relations to Philippine agriculture and fisheries held on 19 April 2017, with PAGASA Deputy Administrator for Research and Development, Dr. Flaviana D. Hilario, as resource speaker. ###  
(Anne Camille B. Brion)



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