



## 11<sup>th</sup> NTF concluded; Dir. Eleazar underscores importance of global competence



(L-R) Leading the ribbon-cutting ceremony are BAR-Technology Commercialization Division Head Anthony B. Obligado, International Rice Research Institute Deputy Director-General for Communication and Partnerships V. Bruce J. Tolentino, BAR Director Nicomedes P. Eleazar, Chairperson of the Committee on Agriculture and Food Senator Cynthia A. Villar, Agriculture Secretary Proceso J. Alcala; InangLupa Movement, Inc. President William D. Dar, and BAR Assistant Director Teodoro S. Solsoloy.

PHOTO: RDELACRUZ

Highlighting the important role of global competence in putting the Philippine products in an advantage in the world market, the Bureau of Agricultural Research (BAR) concluded the 11th Agriculture and Fisheries Technology Forum and

Product Exhibition (NTF) on 7-9 August 2015 at SM Megatrade Hall 2, Mandaluyong City. The event carried the theme, *"Teknolohiyang Pangsakahan at Pangisdaan: Tulay sa Mas Maunlad na Pilipinas Patungo sa Pandaigdigang Kakayanan."*

It kicked off with the opening and viewing of the exhibit. Leading the ribbon-cutting ceremony were Senator Cynthia A. Villar, chairperson of the Committee on Agriculture and Food, Agriculture Secretary Proceso

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## Villar urges agri sector to pioneer more technologies from R&D



PHOTO: RDELACRUZ

Believing that technological innovation can propel the agriculture and fisheries sector to greater heights, Senator Cynthia Villar, urged the researchers to develop more pioneering technologies and innovations that will greatly help fast track the growth and development of the agriculture sector. She added that "at the end of the day, the Filipino farmers will be the main beneficiaries as it will bring about a more inclusive growth." The

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# Alcala underscores increasing budget for R&D



Agriculture Secretary Proceso J. Alcala enjoins the research community to focus on identifying specific areas where the results of researches will benefit the farmers and fishers.

PHOTO: ACONSTANTINO

“There is a need to match agricultural research output with the actual needs of the sector, especially our farmers and fisherfolk,” thus the challenge and appeal of Agriculture Secretary Proceso J. Alcala who served as the guest of honor, during the opening ceremony of the 11<sup>th</sup> Agriculture and Fisheries Technology Forum and Product Exhibition held on 7 August 2015 at SM Megatrade Hall, SM Megamall, Mandaluyong City.

Secretary Alcala mentioned the need to intensify the results of research since there

are new programs and products being promoted. Speeding up the commercialization process of agri-fishery products and technologies will create local and international markets that will serve as springboard for farmers’ and fishers empowerment. “We need to identify specific areas where the results of researches will be actually used for the betterment of the lives of our farmers and fishers. We do not want these to remain in research journals and gather dust in libraries,” Alcala reiterated.

The DA chief also

articulated the need to anticipate potential buyers while doing research. He likewise congratulated the Bureau of Agricultural Research (BAR) for spearheading the event and for providing the public an access to government-supported initiatives in the agriculture and fisheries sector.

Alcala noted that the government support to agricultural research is reflective of BAR’s funding which has been increasing since 2010, when it was a given a budget of P281 million to P1.12

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# Dar pushes for agribusiness incubation program for globally-competitive R&D products

With the theme, “Teknolohiyang Pangisdaan: Tulay sa Mas Maunlad na Pilipinas Patungo sa Pandaigdigang Kakayanan,” the 11<sup>th</sup> Agriculture and Fisheries Technology Forum and Product Exhibition held on 7-9 August 2015 at SM Megamall, Mandaluyong City gave light on the global competence of products generated from research and development (R&D) initiatives.

Serving as one of the guests of honor was Dr. William D. Dar, president of the InangLupa Movement, Inc., a non-governmental organization that advocates for an inclusive, modern, science-based, climate change-resilient, and market-oriented Philippine agriculture. In his message, Dr. Dar noted on the growth of the agriculture sector for the last 28 years, averaging only at 2.4 percent. “With 60 to 70 percent of the country’s population being dependent on agriculture, we should contribute in further developing the sector as this can help in addressing the problems on poverty, hunger, malnutrition, and underemployment, among others,” he said.

In achieving this feat, Dr. Dar recommended a systematic approach of bringing the agribusinesses to the next level of development and upscaling value-added products towards global competitiveness. “An agribusiness incubation program is now needed to make it possible to nurture these value-added products that the DA research institutions, state universities and colleges, and farmer cooperatives have created. There is a need to establish such program so that there will be handholding and nurturing of new technologies; and that there will be



InangLupa Movement, Inc. President William D. Dar sees that global competitiveness can only be achieved if there is a systematic approach of bringing the agribusiness to the next level of development and upscaling of value added products. PHOTO: ACONSTANTINO

linking to credits and markets. All these things, if properly done, can lead us to be globally competitive,” Dr. Dar elaborated.

He mentioned that the National Technology Commercialization Program, one of the flagship programs of the Bureau of Agricultural Research (BAR), is a very good starting point, being an innovation system that can be further nurtured. Small and medium enterprises that have been consistently participating in the yearly technology forum and product exhibition have already developed potential technologies over time and have exhibited a variety of value-added products.

One of the international R&D partners of BAR is the India-based International Crops Research Institute for the Semi-Arid Tropics which launched its Agribusiness Incubation Program in 2003. The program focuses on promoting agribusiness ventures through technology development and commercialization that will benefit the farmers and facilitate business among entrepreneurs and technology developers. This is done through the creation of competitive agribusiness enterprises that includes incubation services in seed, biofuels, farm, agricultural biotechnology, and innovative ventures. ### (Anne Camille B. Brion)

## Alcala underscores...from page 2

billion in 2015.

The secretary urged the sector to do its share in strengthening the R&D in the country. He likewise pleaded to whoever his next predecessor would be to continue the strong support to BAR since the agency reinforces agri-fishery growth.

Also gracing the event was Senator Cynthia Villar, chairperson of the Senate Committee on Agriculture and Food and former DA Secretary and former Secretary-General of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) Dr. William Dar. ### (Patrick Raymund A. Lesaca)

11th NTF concluded...from page 1



In his message, BAR Director Nicomedes P. Eleazar highlights the need for the bureau to level up the competence of the agriculture and fisheries R&D in lieu of the ASEAN integration.

PHOTO: ACONSTANTINO

J. Alcala; InangLupa Movement, Inc. President William D. Dar. They were joined in by International Rice Research Institute Deputy Director-General for Communication and Partnerships V. Bruce J. Tolentino, BAR Director Nicomedes P. Eleazar, BAR Assistant Director Teodoro S. Solsoloy, and BAR-Technology Commercialization Division Head Anthony B. Obligado.

In line with the emerging concerns on the ASEAN integration, Dir. Eleazar, in his opening message, underscored the Department's role particularly the bureau's heightened interest to level up the competence of the agriculture and fisheries R&D as the country now vies for a single market and one system of production in the ASEAN market. "Since the ASEAN integration has come to light, the Department of Agriculture (DA) has been working double time to make the necessary preparations and the anticipated courses of action to better equip our stakeholders,

especially our Filipino farmers and fishers, on what to expect and what to do once this ASEAN integration is fully implemented," he said.

He added that there are at least three factors that will affect global competency and they have big roles to play in unlocking the full potential of the sector: 1) low production cost, 2) supply efficiency, and 3) funding support.

"Low price doesn't always mean low quality, but it could mean a challenge to high-end products. We can always produce the best quality products and be able to sell them at a much higher cost, given a low cost of production. Supply efficiency should never be a problem for a country that is rich in resources, such as the Philippines. We have the good technology at hand — we just need to equip our people on how to make the best out of it," he stressed.

As for the funding support, the bureau, as the R&D fund arm of DA, must see to it that it provides not only adequate, but

effective support to researches that can redound to the lives of Filipinos, those that will not only make them productive, but more importantly, be globally competent.

Senator Villar served as the keynote speaker. Secretary Alcala and Dr. Dar shared the stage as they deliver inspirational messages for the occasion.

This year's central display setting featured the Department's R&D program being coordinated by the bureau and the supported technologies that have yielded positive economic results.

The 2015 BAR Primer, a 12-minute video presentation that tells the story of the bureau as the country's national coordinating agency for agriculture and fisheries R&D, was launched along with three new books funded under the Scientific Publication Grant of the bureau.

Other highlights of the three-day event were seminar series featuring relevant topics and practical technology demonstrations,



soybean cooking contest dubbed as *It's Soytime!*, second season of the *Regions' Got Talent*, and the awarding of the Best Innovative Products and Best Booth, and awarding of IPR certificates.

Other VIPs who graced the event and visited the booths were: Mrs. Felicidad Sy, wife of SM Supermalls owner Henry Sy, Sr.; Hon. Evelina G. Escudero, representative of the First District of Sorsogon; Ms. Cecilia O. Honrado, country manager of Australian Centre for International Agricultural Research in the Philippines; Dr. Maripaz L. Perez, regional director for Asia and country director for the Philippines of WorldFish; Dr. Fernando C. Sanchez, Jr., chancellor of UPLB; Mr. Antonio Roces, president of the Foundation for Resource Linkage and Development; Dr. Bessie Burgos, officer-in-charge of the Research and Development Department of the Southeast Asian Regional Center for Graduate Study and

Research in Agriculture; and Mrs. Lorna Daffon, president of PTV 4's *Mag-Agri Tayo* Program.

The three-day event was organized by BAR, through the Technology Commercialization Division. The NTF serves as one of BAR's major activities conducted annually. The event is part of the bureau's technology promotion activities wherein generated technologies are disseminated and promoted to communities that need them the most.

"We want to showcase the best of Filipino products from all over the country both from BAR-supported R&D and those that were developed independently by our R&D partner-institutions. These initiatives are geared towards helping local manufacturers and processors in the belief that a competent R&D sector holds the key to economic advancement," said Dr. Eleazar. ### (Ma. Eloisa H. Aquino)

#### Villar urges...from page 1

senator was the guest of honor and keynote speaker during the opening of the 11<sup>th</sup> National Agriculture and Fisheries Technology Forum and Product Exhibition held on 7 August 2015 at SM Megatrade Hall 2, SM Megamall, Mandaluyong City.

Senator Villar mentioned that the lack of mechanization is one of the challenges that continues to hinder the competitiveness of our farmers and fisherfolk. However, she is optimistic that with the passing of the new Agriculture and Fisheries Mechanization (AFMECH) law, the innovative technologies will complement the mechanization efforts of the Department of Agriculture. She reiterated that "AFMECH aims to promote the development and adoption of modern, appropriate, cost-effective and environmentally safe agricultural and fisheries machinery and equipment. This will enhance farm productivity and efficiency to achieve food security and increase farmers' income."

Aside from agricultural mechanization, Senator Villar, who is also the current chair of the Senate Committee on Agriculture and Food, stressed the importance of research and development (R&D) in developing agriculture in the country. She said that "agriculture, after all, is science. And new and advanced technology will boost production and income potential of farmers and fisherfolk. It will also maximize both our competitive advantage as well as opportunities, especially with the upcoming ASEAN economic integration under the ASEAN Economic Community." She urged the sector to focus on seizing and maximizing the opportunities in order to keep up with tight completion. "I am confident that we will be able to compete well in the ASEAN market," she concluded. ### (Rita T. dela Cruz)

# QSU students win *It's Soytime!* cooking challenge

Students from the Quirino State University (QSU) beamed with joy after victoriously bagging the top prize in the first-ever soybean cooking contest dubbed as “It’s Soy Time!”. The recipe entry, “Soya Nuggets con Salsa” prepared by QSU agriculture students, Mylene U. Vagay and Reynante D. Olog topped other six finalists during the competition. The final round of competition and the announcement was held during the 11<sup>th</sup> Agriculture and Fisheries Technology Forum and Product Exhibition on 8 August 2015 at SM Megamall, Mandaluyong City.

“Nuggets are very popular among Filipinos, so this solely became our edge among other contending recipes. Our soya nugget, without concealing the taste of soybeans as the main ingredient, is very nutritious and unique that it suits the taste of our target consumers, the Filipino people, especially the children,” said Ms. Vagay.

“It is made of local ingredients that are always available in any market or supermarket, and can be afforded by everyone. Furthermore, it is very easy and enjoyable to do so that makes healthy cooking fun. It can be eaten or served in any meal, but very good for cocktails. The commercialized nuggets with its very good packaging can be very attractive and comparable with other commercialized nugget products,” Mr. Olog added.

Prior to the final round, the Bureau of Agricultural Research (BAR) hold a preliminary cooking challenge on 23 July 2015. Out of the seven competing schools, three moved to the final round.

BAR hosted the soybean cooking contest primarily to promote locally-produced, organic soybean as food source. This



QSU students, Reynante D. Olog and Isabel F. Salvador with their coach, Mylene U. Vagay holding their winning dish, Soya Nuggets con Salsa.

PHOTOS: RDELACRUZ

activity was designed to develop new recipes from soybean that are original, affordable, and delicious. It highlighted the culinary competencies of the participating state universities and colleges (SUCs) while further promoting the use and consumption of soybean through the creative food preparations.

QSU served as one of the proponents of various soybean projects, thus, the university has been an active partner in the promotion, utilization, development and commercialization of soybean products in Quirino and nearby provinces.

“We have developed new recipes and even promoted not only in the university but the whole country as well. In the final round, we maintained the quality of our nuggets and improved our sauce by using our developed powdered soya milk. Some of our secrets in preparing our products were criteria-based and quality control,” revealed Ms. Isabel F. Salvador, coach of QSU students.

Central Luzon State University’s Soybean Enchiladas and Nueva Vizcaya State University’s Highland Veggie Soya Roll with Squarot Creamy Sauce won the second and third place, respectively.

Judges during the final round

were Chef Tristan Encarnacion, instructor at the Center for Culinary Arts Manila Center for Culinary Arts; Ms. Jennifer Remoquillo, assistant director of the Bureau of Plant Industry; and Ms. Rose Mary G. Aquino, chairperson of the Soybean Technical Working Group.

“Once you talk about soybean, ang unang papasok sa isip natin ay as a condiment or the more popular tofu, but the soybean itself pala ay puwede nating gamitin sa ibang klaseng cuisine na may product na puwedeng ibenta. Iyong kaalaman natin sa produkto na hindi natin alam ay puwede palang gamitin sa ibang putahe,” Chef Encarnacion said.

The soybean recipes will be part of the second edition of the Soybean Recipe Book wherein all food entries are to be developed and prepared by students from various SUCs in the country.

“Coming up with a publication and proliferating of the soya recipes in tri-media will be of great help. The commercialization of the newly-developed products can be of greater value to the public to include food tasting in malls and supermarkets wherein the commercialized products may be available as suggested in the packaging of the nuggets,” Ms. Salvador concluded. ### (Ma. Eloisa H. Aquino)

# 3 BAR-supported books launched



The Bureau of Agricultural Research (BAR) launched three of its supported books during the opening ceremonies of its 11<sup>th</sup> Agriculture and Fisheries Technology Forum and Product Exhibition on 7 August 2015 at the Megatrade Hall 2, SM Megamall. The books were: 1) *The Philippine Biofuels Industry: Defining the Strategic Directions*, 2) *Mineral Profile of Forages and its Influence on Goat Nutrition*, and 3) *Pests and Diseases of Economically Important Crops in the Philippines*.

Renewable energy sources are explored in the book, “*The Philippine Biofuels Industry: Defining the Strategic Directions*”. University of the Philippines Los Baños (UPLB) professors and authors, namely: Roberto Rañola, Jovita Movillon, and Rex Demafelis pointed out the growing need for alternative energy source in the country due to the worsening implications of burning fossil fuels. The book looked into the current state of the biofuels industry, its important contributions to the country’s energy supply, the availability of local feedstock sources where biofuels are derived from, and the technologies used to process such raw materials. The later part of the book was an assessment of the biofuels market in the Philippines and on possible investment options for the industry. The authors also wrote about the biofuel industry’s current constraints and future challenges on economic, environmental, and socio-

economic aspects. The book concluded by pointing out strategic approaches through government policymaking in order to resolve issues and create a more sustainable biofuels industry. The book can be of good use for farmers in equipping themselves with information that can help expand their agricultural systems to producing raw materials used to make biofuels. The book also serves as good resource material for policymakers.

BAR’s partnership with professors from the Central Luzon State University (CLSU), on the other hand, has resulted in the publishing of a book that aims to strengthen Luzon’s goat-raising industry. According to authors, Edgar A. Orden, Emilio M. Cruz, Maria Excelsis M. Orden, and Tsutomu Fujihara, while the industry is still on the rise, goat-production continues to be an efficient and manageable socio-economic system as it requires very little capital and produces a wide array of yield for long periods of time. Despite this, certain factors found in the way goats are fed has led to mineral imbalances and deficiencies among the small ruminants, which in turn lowers productivity. The book titled, “*Mineral Profile of Forages and its Influence on Goat Nutrition*” is a culmination of 25 years of research on how scholars have employed different feeding interventions that aim to satisfy the mineral requirement of goats with the right feed sources. The first part of the

book discussed the present situation of goat production within the country’s different regions. Scientific methods on how researchers were able to measure mineral levels among goats are then reviewed as well as the results of tests that measure the mineral content of selected forages. Feeding options to improve the mineral status of goats were discussed in the later part of the book. This proved to be helpful in increasing the productivity of goats which can lead to smalltime business owners in gaining more yields in the field of goat raising.

The third book that was launched was titled “*Pests and Diseases of Economically Important Crops in the Philippines*”. Authors from the Pest Management Council of the Philippines (PMCP), namely: Cecilia B. Pascual, Fe M. Dela Cueva, Cristina M. Bajet, and Teresita U. Dalisay, organized a compilation of Philippine crop diseases and pests which they then wrote into a handbook. Crops that were discussed in the book included banana, beans, corn, squash, and eggplant to name a few.

Each chapter of the book looks into a particular crop and discusses it in terms of the diseases it can acquire, the common insect pests that infest the crop, and the weeds that can affect the crop’s development. Part of the publication was also a discussion on effective management strategies on how to use pesticides without developing resistance to the chemicals and at the same time decreasing the amount of the pesticide’s residue on the crops.

The three books were published through the bureau’s Scientific Publication Grant (SPG), one of the services given by BAR to an organization/institution or scientific/professional societies to cover the cost of publications of scientific proceedings/symposia, refereed scientific journals, manuals on research methodologies, and books that can be availed of by members of the National Research and Development System of Agriculture and Fisheries.###  
(Ephraim John J. Gestupa)



Chevon demo



Heirloom rice demo



Nipa sap demo

PHOTOS: DDELEON &amp; PLESACA

Yearly, the Bureau of Agricultural Research (BAR) conducts the Agriculture and Fisheries Technology Forum and Product Exhibition (NTF) to showcase relevant technologies from its supported research and development (R&D) initiatives. These technologies can be in the form of information, knowledge, tools and strategies, and/or products. To further disseminate and promote these significant technologies to the public, BAR conducts a series of seminars as part of the NTF activities.

This year, eight seminar topics were lined up highlighting

## Product demos highlight NTF seminar series

on topics that are not only innovative but relevant particularly to the business venture seeking public. One of the topics presented was the result of a collaborative project on heirloom (traditional) rice which was implemented by the Department of Agriculture (DA) and International Rice Research Institute (IRRI). Dr. Digna Manzanilla, social scientist from IRRI and coordinator of the Consortium for Unfavorable Rice Environments (CURE) in Asia, discussed the extent of the activities done by the two collaborating institutions to increase the productivity and to promote heirloom rice varieties such as *Minaangan*, *Jekot*, *Ominio*, *Ingudpur*, and *Tinawon*

in the country. As heirloom rice is not yet that popular in the market, Dr. Manzanilla shared that they do intensive promotional activities including inviting restaurateurs, chefs, food magazines staff, celebrities to try and use heirloom rice varieties in their food preparation. To create awareness on the palatability of heirloom rice, Dr. Manzanilla invited chefs from Green Pastures restaurant for a cooking demonstration using the heirloom rice varieties. The chefs prepared a risotto using the *Tinawon* rice of Ifugao, and a salad using the *Lasbakan* rice from Benguet.

Another topic came from a BAR-supported project titled,

“Adoption and Utilization of Nipa Palm Sugar Processing Technology (NPSPT) in the Municipality of Lanuza, Surigao del Sur” which was presented by Mr. Fritz Escudero of FREEDOM Inc., and Mr. John Largo, planning officer of LGU-Lanuza, Surigao del Sur. The project was born out of the growing market demand for natural sweeteners such as coco sugar which makes it relevant to intensify the utilization and commercialization of Nipa palm sugar. The two resource speakers demonstrated the steps on processing raw Nipa palm sap into powdered sugar. According to them it takes four hours to process the raw sap into syrup and hours again to turn it into its powdered form.

The last product demonstration was on goat which was given by Ms. Marilyn Lilagan, agricultural technologist from LGU-Balungao, Pangasinan. Before the cooking demo, she shared a brief background about Balungao, Pangasinan and how the municipality became known for its goat raising, and its commercialization which was supported by BAR. After the presentation, a cooking demonstration using chevon was done. Two viands were prepared: chevon *kaldereta* and chevon *sisig*.

Other seminar topics that were featured included: 1) economic analysis of climate change adaptation strategies in selected coastal areas in the Philippines, 2) biomass technologies, 3) apitherapy, a therapeutic application of formulated bee products as antimicrobial and wound healing enhancing agent, 4) market linkages with supermarkets and retail chains, and 5) extending storage life of horticultural crops. ### (Diana Rose A. de Leon)

# Most innovative products announced

With 66 product entries vying for the “Most Innovative Product” award, three emerged as this year’s winners. The Nipa Palm Sugar bagged the title while the Coffee Body Scrub, and the Batuan Powder/Concentrate garnered the second and third prize, respectively. The awards were announced during the closing ceremony of the 11<sup>th</sup> Agriculture and Fisheries Technology Forum and Product Exhibition (NTF) on 9 August 2015 at SM Megamall, Mandaluyong City.

All entries were evaluated based on the following criteria: 1) creativity and uniqueness; 2) relevance to food security; 3) health and wellness; 4) good product attributes; 5) packaging and labeling; and 5) market potential and competitiveness.

mangrove forests in some coastal areas. People residing within mangrove areas are often called the ‘marginalized’ and with this project, it was able to provide them livelihood and a respectable source of income.

Although Nipa palm sugar has similar properties to coconut sugar when it comes production, the extraction process for Nipa palm is much faster, and maintenance is very minimal, thus translating to cost production savings.

The Foundation of Rural Enterprises and Ecology Development in Mindanao (FREEDOM), Inc., a non-government organization that brings together rural communities and rural enterprises in becoming economically self-reliant through education and empowerment, came up with a project on the adoption and utilization of Nipa palm sugar which aims to sustain the livelihood of coastal communities through the production of nipa palm sugar.

## Coffee body scrub

Coffee can be the most important beverage in the world today. With its good antioxidant properties which do wonders in our skin and body, it doesn’t come as a surprise that the world

loves coffee.

In the agricultural context, coffee is considered one of the high value crops especially in the Philippine setting. Programs to intensify and advance the production of coffee in the country were jumpstarted to keep the local coffee industry at par with the world economy. But for local smallscale farmers in the Philippines, varying and unstable market and prices can affect their production, and sometimes lead them discouraged in producing coffee.

This is why the Green Rescue Organic, a non-government organization initiated on a project that added value on the use of coffee from being a daily drink to a beauty regimen implement. The product won second place as the most innovative product, it also captured the hearts of the judges because the product provided a good option for coffee farmers in terms of marketability, especially on cases when prices of coffee are low. According to the judges, “Tuloy-tuloy lang ang production nila ng kape kahit mababa ang presyo ng bentahan, kasi sure sila na may market pa rin, at equally-competitive prices kahit papano.”

## Batuan powder/concentrate

An underutilized fruit for now, *Batuan* is an indigenous fruit that has been quite popular in the Visayas and some parts of Luzon. The locals particularly in the Visayas region have been using it as a souring agent, but the fruit can also be eaten raw and can be grown in home gardens.

Awarded as the third most innovative product, the *Batuan* powder and concentrate launched the indigenous fruit in the hopes of slowly taking the front seat along with other more popular fruits such as tamarind and *kalamansi*.

The Department of Agriculture Regional Field Office (DA-RFO) 5 initiated a project on the biodiversity research, conservation, and propagation of *Batuan*, then came up with a value-added product, the *Batuan* powder/concentrate.

For the judges, it is a good

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## Nipa palm sugar

Nipa sugar is considered a natural product of the Nipa palm crop, which differs from the regular table sugar when it comes to taste and aroma. It is known to have no aftertaste and produces a distinctive smell when blended.

Aside from its uniqueness and health properties, this product bagged the first place because of its significant impact in the environment. The uses of Nipa palm is diverse that range from food, shelter, to medicine and bioethanol production, and is also highly regarded as an aid in the rehabilitation and protection of



PHOTOS: RDELACRUZ

# NTF caps off with awarding of IPR certificates and Regions Got Talent winners



The Luzon cluster bags the first prize for the season 2 of Regions Got Talent.

PHOTO: DDELEON

The Bureau of Agricultural Research (BAR) officially capped off the 11<sup>th</sup> Agriculture and Fisheries Technology Forum and Product Exhibition on 9 August 2015 at SM Megatrade Hall 2, SM Megamall, Mandaluyong City with the awarding ceremony of Intellectual Property Rights (IPR) certificates and announcing the winners of Regions Got Talent Season 2.

IPR Certificates were awarded to R&D partners and other private entities that requested for IP assistance at BAR through its Intellectual Property Office. Trademark application was awarded to Mr. Michael Melendres for “Earthman” and “Organic Options”, University of the Philippines Los Baños (UPLB) for “Edible Landscaping”, Dr. Edie Chua from La Trinidad, Benguet for “Edie Chua, M.D.,

Diabetes Specialist”, and Dr. Bonifacio Comandante Jr. for IGLAP Logo and Device.

Established in 2004 the BAR-IPO hopes to ensure that research works, innovations and generated technologies especially within the realm of agriculture and fisheries research and development (R&D) are given due protection and recognition. This office is headed by Dr. Andrea B. Agillon, a Patent Agent Qualifying Exam (PAQE) passer, who takes charge of all IPR applications.

Another highlight was the announcement of the Regions Got Talent Season 2 winners. The Luzon Cluster bagged the first place, while the Mindanao and Visayas Clusters went home with second and third prizes, respectively. The Regions Got Talent is a presentation of talents and creativity showcasing the stunning performances of regional directors, managers, researches and staff from the DA regional offices.

For the valuable time and efforts rendered by the BAR employees who have participated in this year’s NTF, BAR Director Eleazar, together with Assistant Director Teodoro Solsoloy, Technology Commercialization Division Head Mr. Anthony Obligado, and BAR Technical Adviser Ms. Virginia Agcopra handed over plaques of appreciation to the members of the Working Committees.

In closing, BAR Assistant Director Solsoloy emphasized the importance of NTF in showcasing the products, services, and technologies generated by the bureau’s R&D partner institutions. “We believe that the missing link between research and end-users is technology commercialization which will unleash the full potential of our R&D undertakings. It is one way of BAR to fulfill its commitment to the research partners as a funding agency.” He then congratulated all the organizers, partner, agencies, supporters and winners of the competitions for their active participation in this year’s event. ### (Liza Angelica D. Barral)

## Most innovative...from page 9



PHOTO: RDELACRUZ

initiative of the DA-RFO 5 in line with the DA’s call in promoting and maximizing the less known indigenous fruits in the country. This win hopes to create impact in the campaign on strengthening fruits and crops which are unique but holds equally important use.

Also awarded during the closing ceremony were the winners in the Best Booth category, participated in by DA-RFOs and BFAR offices. There were 28 entries for the

category. Emerging as winners were the Department of Agriculture and Fisheries-Autonomous Region of Muslim Mindanao (DAF-ARMM), DA-RFO 4B, and DA-RFO 4A taking home the first, second, and third place, respectively. All winners for both categories received cash prizes from the DA-BAR.

For over a few years now, BAR through its annually-held NTF has been staging recognition for newly-developed technologies generated from its supported R&D. Part of the promotional activities of BAR, through its National Technology Commercialization Program (NTCP), is the launching products to attract a wider, more diverse market. This year’s NTF once again honored various products and technologies generated and developed by our local researchers and scientists from government and non-government organizations alike. ### (Daryl Lou A. Battad)

# Final leg of OA Consultation Workshop held



REGION 9



REGION 10



REGION 11



REGION 12



CARAGA



ARMM

Participants of Mindanao stakeholder's consultation workshop for Organic Agriculture.

PHOTOS: ABARRAL & PLESACA

**D**ubbed as the tuna capital of the Philippines, General Santos City is the venue for the "Mindanao Stakeholders'

Consultation Workshop on Crafting Organic Agriculture Research, Development and Extension (RDE) Agenda" held on 17-20 August 2015 at the Bay Leaf Hotel, Manila.

Dr. Lorna P. Vilbar, DA RFO 12 research division chief and OA focal person welcomed the participants and guests. Bureau of Agricultural Research (BAR) Assistant Director Teodoro S. Solsoloy delivered his opening message by thanking the National Organic Agriculture Board (NOAB) members and the pool of experts for their continuous support to the activity and giving their valuable contributions and suggestions for crafting the regional OA RDE Agenda. Aside from providing an overview of the two-day workshop, Dr. Solsoloy emphasized the huge potential of Mindanao regions in producing various commodities. "Mindanao is tagged as the country's food basket and serves as an economic corridor in East Asia considering its bountiful harvests of exotic fruits like durian, marang, mangosteen, bananas, among others. You have tuna and other high-value fish in General Santos. North and South Cotabato are also producing staple foods such as rice and corn, to name a few. Let us capitalize on the economic potential of the region by anchoring our regional priorities," Dr. Solsoloy said.

Planning and Project Development Head Joell H. Lales presented the milestones of the OA RDE Planning workshops and the OA RDE Agenda, an integrated and unified plan which serves a guide in research and development efforts of the agency in connection with implementation of National Organic Agriculture Program (NOAP).

Representatives from each region presented their status

reports in the implementation of Organic Agriculture Program as well as their initial outputs for the OA RDE Agenda. Serving as evaluators were: Dr. Blessilda Calub of the University of the Philippines Los Baños; Dr. Fe Porcuincola of the Central Luzon State University; Dr. Julieta Roa of the Philippine Root Crop Research and Training Center, Visayas State University; Dr. Cayetano Pomares of the University of Southern Mindanao; Mr. Rene Ledesma of the National Fisheries Research and Development Institute-Bureau of Fisheries and Aquatic Resources; Ms. Adoracion Armada of the Philippine Council for Agriculture and Natural Resources Research and Development; Mr. Ramon Maraño, NOAB Visayas Small Farmer Representative; and Mr. Jimmy Geronimo, NOAB Mindanao Small Farmer Representative.

After the plenary sessions and open forum, the participants were grouped according to their respective regions to finalize the output of their regional RDE agenda and action plan which they have presented earlier.

Among the champion commodities identified were: cassava, adlay, native chicken, seaweeds, and polyculture for Region 9; organic vegetable (*pinakbet* and *chopsuey*), organic rice, backyard swine and native chicken and tiger prawn for Region 10; cacao, rice, and coconut for Region 11; rice, banana, and coconut for Region 12; goat, rice, cassava, and tilapia for ARMM; and poultry (native chicken), rice, and tilapia for CARAGA.

In his closing message, Mr. Lales reminded the participants to take note of the important points raised by the pool of experts to fully harmonize their RDE agenda with the upcoming activities in response to the implementation of OA programs in their respective regions. ### (Liza Angelica D. Barral)



# Responding to farmers' needs through effective collaboration

Story and photos by Anne Camille B. Brion

In the Bicol region, a Community-based Participatory Action Research (CPAR) project exemplifies how collaboration forms an important part in implementing research and development (R&D) undertakings especially at the grassroots level.

The project, "CPAR in Upland Farming Communities in the Province of Albay and Camarines Sur: Promotion of Farm CARE (Capability Advancement and Resource Empowerment)," was implemented by the Department of Agriculture-Regional Field Office (DA-RFO) 5 through the Bicol Integrated Agricultural Research Center (BIARC). Supported by the Bureau of Agricultural Research (BAR), the project aimed to increase farmers' productivity and income in the upland areas through the development of appropriate and location-specific technologies and interventions. It sought to enhance the role of R&D in

production management systems, transfer of technology, and resource management towards agricultural productivity in the region.

Through the Participatory Rural Appraisal, the farmers identified the problems that need to be addressed in achieving productivity. Among these needs identified included: lack of quality upland rice seeds, technical know-how on weed management, high cost of inputs, and diversification to address limited income. "To respond to the needs of the farmers, we knew that we need strong coordination and linkage mechanisms to government and non-government institutions. We, at the local government unit (LGU) alone, cannot provide all the solutions to the problems of our farmers," said Ms. Arlene Dayo, agricultural technician from the LGU of Goa, Camarines Sur.

Playing a major role in carrying out the project was the DA-RFO 5,

through BIARC and BAR. "Ang naging partners talaga namin ay ang BIARC at CPAR," Ms. Dayo shared. Aside from the provision of initial farm inputs in the form of seeds, tools, equipment, and other agricultural supplies, the farmers were also taught on production and weed management systems.

Meanwhile, the need to diversify was addressed through the LGU of Goa. "Itinutulak namin ang sustainable agriculture through the adoption of organic farming. Mahihirapan kami sa commercial dahil smallscale kami. Kailangan lang magkaroon ng sapat na pagkain ang mga magsasaka," Ms. Dayo stated. Teaching the farmers the importance to diversify meant encouraging them to plant rice along with livestock and poultry, fisheries, rootcrops, and even forest/fruit trees that provided them with additional sources of food and income.

In cooperation with the Agricultural Training Institute, the LGU likewise spearheaded the conduct of Farmers' Field Schools on upland farming and Farmers' Field Days. To deal with the high cost of inputs, the farmers were introduced

to alternative low-cost feeds for livestock and poultry. “Halimbawa sa mga baboy, sa halip na dalawang kilo ang ipakain sa kanila, isang kilo na lang kasi papalitan iyong isang kilo ng leguminous or mineral-rich plants,” Ms. Dayo explained. As for the costly fertilizers for vegetables and crops, the farmers were capacitated on liquid organic fertilizer production.

Part of the collaboration was the partnership with a non-government organization for the conduct of varietal adaptability trials for rice. Such endeavor helped the farmers identify the varieties suitable in their respective farms. They implemented the interventions that are most beneficial and are more practical to them.

For product development and market linkages, the project linked with the Department of Trade and Industry through participation in trade fairs and related activities. On the other hand, the Department of Labor and Employment was tapped for the registration of farmers’ organizations to give them legal personality.

Ultimately, the farmers themselves were the key collaborators of the CPAR project. Through holistic capability enhancement approaches, farmers discovered their gifts and appreciated their worth in the community to become more productive and effective partners. “We have realized that making the farmers our partners in these endeavors make them more responsible and thus, become prime movers of sustainable development not just in their respective organizations, but to the community as well,” Ms. Dayo said.

The CPAR FarmCARE project developed a pool of farmer-trainers who became resource persons during training workshops and was able to establish techno-demo farms showcasing the different technologies that the farmers acquired from the project. “Through capability development, we were able to empower our farmers. We did not only teach them, but we harnessed their capacities and potentials,” said Ms. Luz R. Marcelino, BIARC manager.

One of the many farmer-cooperators who benefitted from the

project was Ms. Myrna C. Asor. In Thailand, she was recognized by the Food and Agriculture Organization of the United Nations as a model farmer in the Philippines for her efforts in organic and diversified farming systems.

Ms. Asor recounted her experiences that led to the recognition. “We are practicing diversified farming. Naalala ko ang sinabi noon ng trainer namin na kailangang mayroong ref sa likod ng bahay. Inisip ko paano iyon eh wala nga kaming kuryente? Kinalaunan, natutunan namin na sa diversified farming, lahat-lahat ng iyong pangangailangan sa pang-araw-araw ay doon mo na lang makikita sa iyong bakuran. Kahit wala kang pera sa iyong bulsa, mayroon ka pa ding makakain. Ang sigurado sa aming farm, we are practicing organic farming. Kumakain ka ng nakangiti kasi alam mo na walang bahid ng lason ang iyong kinakain,” Ms. Asor narrated.

Serving as a trainer to her fellow farmers, she highly encouraged them to persevere and take advantage of the trainings and technologies given to them. According to her, collaboration among farmers, government and non-government agencies is essential in bringing about significant changes in their lives.

“Ang mga trainings na ibinibigay sa ating mga farmers, gamitin natin iyon ng tama para makatulong sa atin. Kahit madaming pera ang ibuhos sa

atin ng gobyerno, kung hindi naman tayo makikipagtulungan, wala ring mangyayari sa ating buhay. Kailangang makipagtulungan tayo sa mga different agencies. Marami tayong pwedeng gawin upang makatulong tayo sa ating mga co-farmers at sa mga taong nakapaligid sa atin,” Ms. Asor uttered.

With all the things that she was able to gain from being a farmer-cooperator, Ms. Asor expressed her gratitude to all those who are continuously helping the farmers. “I am very thankful sa lahat ng nakikipagtulungan at sumusuporta sa mga magsasakang tulad naming – sa DA, BAR, ATI, LGU, NGO, at iba pa. Hindi ko sukat akalain na ang isang magsasaka na nagtatanim ng palay at naggagapas sa sakahan ay makakarating doon sa Bangkok, Thailand isang araw,” she discoursed.

In the implementation of any CPAR project, collaboration is a vital component that can never be undermined as it paves for resource generation and empowerment. Responding to the needs of the farmers can be effectively addressed if there is collaboration that enables linkages for better access to resources, learning of new farming technologies, and adoption of innovative practices – eventually leading to farmers’ improved production and productivity. ###



# Recapturing the food value of **KATMON**

Story by Ma. Eloisa H. Aquino, Dr. Amparo M. Wagan, and Michelle Omaña

**E**lephant apple or *Katmon* – an almost unknown fruit to the urban young generation and perhaps to many Filipinos, still abound in backyards, vacant lots, along crop lands, in mountains and mountain slopes or near riverbanks of the municipalities of Real, Infanta and General Nakar, Quezon. In General Nakar, young trees are even planted along roadsides.

It has a variety of traditional yet interesting uses almost exclusively known in that locality. Its broad leaves were then a popular wrap for wet foods and local delicacies or *pambalot*, which today will definitely pass as an environment-friendly food wrap. The water trapped in leaf shoots are used to remove eye redness and irritation therefore is a natural “eye drop”. The fruits fresh or boiled are traditional relief for coughs and colds while the fruit peel and sepal contain an oily substance that when squeezed in water may very well pass for a natural “hair shampoo and

conditioner-in-one” as testified by many women. The bark was said to contain red sap that may serve as a natural dye; and the trunk was observed to produce shiny wood that no longer requires chemical varnish. Dried woods of *Katmon* are locally-rated as excellent firewood.

The flowers are even better-looking than imported ones for they are large (up to 4-inch diameter) and beaming in white color especially at its peak, making the tree ideal for landscape gardening as observed in some local resorts. The fruits are occasionally cooked into jam or jelly by housewives to the delight of their young children.

On top of all these, *Katmon* for the local residents is the “best souring ingredient” to the famous Filipino dish – fish *sinigang*. And who could question them on that - the area is also known for its abundant deep-sea fish catch.

Up to this time though, only bits and pieces of information about *Katmon* is available. For propagation, while it is a local

knowledge that it grows naturally through seeds, an actual germination test may result to a very low germination rate. Consequently, asexual propagation is a popular local practice, for *Katmon* is also a preferred as live fence along homestead.

There is no record of how much fruits a tree of *Katmon* may produce in a year nor is there any information to support or refute local claims that it bears fruit throughout the year or that its fruiting peaks twice a year. While there is a study of its phenotypic characteristics, it is yet to be investigated if what the locals claim to be trees with fruits preferred for cooking jam and jelly is indeed a different variety from the trees that have larger fruits but of lower cooking quality.

Locally these are labeled *Katmon* native and *Katmon Kalabaw* as distinguished by the size of the fruits. There remains a wide range of knowledge gaps about this fruit that needs to be addressed. In the same way, there is a wide range of potentially high-value food products that can be developed from its fruits. If not for the simple domestic uses of the fruits, *Katmon* fruits are just allowed to drop-off from the trees and left wasted.

In a poverty-stricken and calamity-prone farming area where people are in need of additional income and where *Katmon* naturally abounds, transforming this wasted agricultural resource into an economically-valuable product is very appropriate, especially in times of crop failure due to market glut and climate change adversities.

It is thus the hope of the project, initiated by

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PHOTO: AWAGAN

# DUGYAN: The red-fleshed durian

Story and photo by Rita T. dela Cruz

Mention the word “durian” and one would get either two of the most common reactions: a smiling, enthusiastic nod for those who love it or a firm shake with a slight disgust on the face for those who hate it. No other fruit creates such conflicting opinions. Either you love it or you hate it. There is no in between.

Durian (*Durio zibethinus*) is described as a fruit that is “hell on the outside and heaven on the inside.” And if one is able to overcome its ungodly smell, one will be rewarded by its heavenly taste — soft, sweet, creamy, slowly melting in the mouth.

In the book of Dr. Roberto Coronel (2011), “Important and Underutilized Edible Fruits of the Philippines” he cited that the genus *Durio* has about 27 species of small to large trees from Southeast Asia, at least six species produce edible fruits and two of them are found in the Philippines, *Durio zibethinus* and *Durio testudinarum*.

Recently, another genus of *Durio* has been discovered in Palawan, *Durio graveolens* with its distinct lipstick red flesh. Locally known as *dugyan*, the red durian is said to be an entirely different species from the typically-cultivated durian (*Durio zibethinus*) that we see in the market.

One distinct difference is the level of smell of the flesh. *Dugyan* is not as repulsive and nauseating as the typical durian. *Dugyan* has a faint scent which is almost odorless. In terms of taste, it’s creamy but less sweet. Others who have tasted *Dugyan* said that its thick, almost flesh is somewhat likened to the texture of a cheddar cheese minus the flavor. And because the taste is slightly bland compared to the common durian, some would eat the red flesh with a bit of salt and sugar.

In terms of fruit size, *Dugyan* is much smaller compared to the common durian, weighing less than a kilo. It has sharper and longer thorns and yellow thick coat. Just like the common durian, the red durian, when fully ripe, opens while on the tree showing off its bright flesh.

*Dugyan* is an endemic fruit in Palawan. In an effort to conserve this indigenous and underutilized fruit, the Department of Agriculture- Regional Field Unit 4B (MIMAROPA), in coordination with the Western Philippines University (WPU), is implementing a project titled, “Identification and Collection of Indigenous Fruits in Palawan”. This initiative, with funding from the Bureau of Agricultural Research (BAR) under its National Technology Commercialization Program (NTCP), is being led by Marissa R. Luna, Carmen B. Honrade, and Leticia Laylo of DA-RFO MIMAROPA; and Dr. Romeo R. Lerom of WPU.

The project aimed to sustainably conserve *in-situ* the diversity of indigenous tropical fruit species through approaches that involve various stakeholders and the promotion of public awareness and enhanced utilization of these plant genetic resources. The identified fruits are also being looked at for their commercial production and processing properties.

According to Dr. Lerom, *Dugyan* is one of the 14 indigenous tropical fruit species that was initially collected for the study. The other species include *bunog*, *dugyan*, *badak*, *tabo*, *paratungon*, *palau saguit-saguit*, *tambis*, *maraitum*, *marang*, *langka*, *rambutan*, *lanzones*, *kandis*, and *bignay*. Out of these, seven have already been characterized and are being looked into for their economic potentials as food sources including *dugyan*. Other indigenous fruits include: *bunog*, *badak*, *tabo*, *paratungon*, *palau saguit-saguit*, and *maraitum*. The researchers have also raised around 7,745 seedlings at WPU.

To help promote the fruit and products developed through this project, DA-MIMAROPA has been exhibiting them during the recently concluded “11<sup>th</sup> National Technology Forum and Product Exhibition” on 7-9 August 2015 at SM Megamall, Mandaluyong City. ###

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Recapturing the...from page 14



the Agricultural Systems Cluster - University of the Philippines Los Baños (ASC-UPLB), to explore the economic potential and value of underutilized and local trees such *Katmon* for food and livelihood. Funded by the Bureau of Agricultural Research (BAR), the project looks into its conservation and propagation thus be integrated into the land use decisions, after all *Katmon*, bears the name – *philippinensis* – for it was first found in the Philippines.

The UPLB - BAR project titled, “Village-level Processing, Technology Development and Promotion of *Katmon* (*Dillenia philippinensis*): An Underutilized Fruit in Quezon Province” has three components. The first component is the production and postharvest technology development. Locally available and UPLB developed soil ameliorants are being tested for effects on growth of *Katmon* established in Real and General Nakar, Quezon while studies

on practical/low cost technique for lengthening shelf-life of fruits after harvest is currently studied in UPLB and will be demonstrated in the project sites. The second component is the capability enhancement of rural women on processing and product development of *Katmon* fruits. Last and third component is the information

dissemination about *Katmon* and its food value.

Knowledge in recapturing the value for food in an even more economically viable form was done through a series of training on processing food products from *Katmon* to women groups in Quezon.

A variety of products from *Katmon* is made available today through the technology developed by the Food Science Cluster – UPLB. The newest among these is *Katmon* powdered *Sinigang* mix. Others are pickled *Katmon*, *Katmon* dessert in syrup, *Katmon* juice, *Katmon* jelly, and *Katmon*-papaya candy roll.

These were among the “hits” during the display and taste tests of products during the 11<sup>th</sup> Agriculture and Fisheries Technology Forum and Product Exhibition held on 7-9 August 2015 at the Megatrade Hall 2, SM Megamall. This is an indication

of the acceptability of *Katmon* food products to wide range of potential consumers. With at least a hundred who were able to taste *Katmon* juice, jelly, and candy roll during the event, the acceptability rating was encouraging, coupled with comments such as: “excellent product! I hope to see it in the supermarket soon” and “perfect in all aspects!”

Among the women groups the project trained in processing *Katmon* were the Kilos Unlad ng Mamamayang Real (KUMARE), Kalipunan ng Liping Pilipina (KALIPI), Rural Improvement Club (RIC), AMBAG, BAFC, AKKAP, ICDAI, SAGIP-BUHAY, and MSK. At least 75 women participated during the series of lecture discussions and hands-on exercises on processing *Katmon* fruits into a variety of the products mentioned above. The trainings created excitement and hope among these women of new livelihood they could venture on. The project will be eyeing the group who would pursue product development of *Katmon* for further technical support.

To this end, *Katmon* remains a tree of less-value, in the eyes of research and development, and of nature conservation, notwithstanding the variety of food products of economic value that can be derived from the fruits and the potential contribution to agrobiodiversity and environmental enhancement if the trees are properly managed and conserved. ###



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