

PHilMech

Official Newsletter of the Philippine Center for Postharvest Development and Mechanization



- ISG: Adopting new trends in farming
- Mechanization with a heart

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CONTENTS

NEWS

- 3** PHiMech researches top AFMA R&D awards
- 4** PHiMech joins the 4-in-1 int'l conference on agricultural mechanization
- 5** PHiMech trains technical staff on rice crop establishment
- 6** Luzon, Visayas and Mindanao farmers attend *MakinaSaka* 2015
- 7** PHiMech partners with Agrilink to promote new machines
- 16** Local coffee showcased at 1st Coffee Expo
- 17** Farm machines take the stage in 11th corn congress
- 18** CLAARRDEC conducts 26th R&D symposium
- 19** Bukidnon farmers complete SOA on Corn Postharvest System

- 21** PHiMech launches monthly technical symposium
- 22** PHiMech holds 1st Achievers' Night

FEATURES

- 12** Mechanization with a heart
- 14** ISG: Adopting new trends in farming

REGULARS

- 8** TREATS: All About Rice
- 10** Development Plan: Pangasinan
- 11** Research: Development of Fluidized Bed Dryer for Complete Drying of High Moisture Paddy
- 23** Info-ad: Rice Mix

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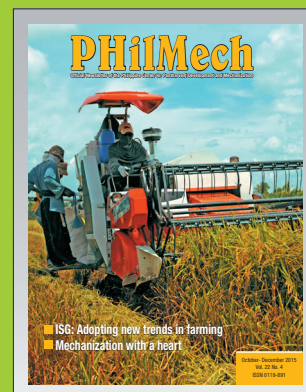
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COVER



The province of Isabela has one of the highest mechanization level with 9.52 hp/ha (2011). Recently, the use of combine harvesters in Isabela has become popular.



Mr. Hernaiz G. Malanon (4-L) receives the award from DA-BAR Director Dr. Nicomedes P. Eleazar (2-L), Agriculture Secretary Proceso J. Alcala, (3-L) and DA USec. Segfredo R. Serrano. Photo by DA-BAR

PHilMech researches top AFMA R&D awards

Five researches of the Philippine Center for Postharvest Development and Mechanization were awarded Agriculture and Fisheries Modernization Act (AFMA) best R&D papers and poster during the 27th National Research Symposium held in October 15 at The Sulo Riviera Hotel, Diliman, Quezon City.

The papers of Hernaiz G. Malanon and Dr. Renita SM. Dela Cruz entitled “Assessment of the Mechanization Level and Requirement of Corn Farms in the Philippines” and “Evaluating the Effects of Combine Harvester on Rice Production, Farm Income and Rural Employment “ won the Gold and Bronze awards, respectively, under the Socio-economics Research category.

Another gold award was given to the paper “Fluidized Bed Drying System for Complete Drying of

Paddy (Phase II) - Development of Fully-Automated Pilot-Scale System” of Reagan J. Pontawe, Nestor T. Asuncion, Roselyn B. Villacorte, Dr. Romualdo C. Martinez, and Director Rex L. Bingabing under the Applied Research TG/IG-- Agriculture category.

The silver award under the same category was given to the paper “Toxicogenic Potential of Fungal Species from Coffee Beans in the Philippines” of Dr. Dionisio G. Alvindia, Monica F. De Guzman, and Miriam A. Acda.

The research project “Assessment of Non-Refrigerated Storage Systems for Smallholder Onion Farmers” of Rodelio G. Idago, Dr. Renita SM. Dela Cruz, and Domingo R. Miranda was adjudged best R&D paper bronze awardee under the Applied Research TA/TV-Agriculture category and best R&D

poster silver awardee.

According to the Bureau of Agricultural Research (DA-BAR), 22 research papers and posters were recognized this year from which 5 gold, 9 silver and 8 bronze were awarded.

Department of Agriculture Secretary Proceso J. Alcala handed over the plaque of recognitions and cash prizes to the winners during the closing ceremony.

The National Research Symposium is an annual undertaking of the DA-BAR to gather Filipino scientists and researchers from the DA units and agencies, state universities and colleges, and other institutions that conduct R&D work in agriculture and fisheries. This year’s theme is “Climate-resilient R&D towards a globally competent and competitive agriculture and fisheries.” *VBCaliguiran*

PHilMech joins the 4-in-1 int'l conference on agricultural mechanization

PHilMech participated in the recently held four-in-one international conference on agricultural mechanization organized by the Center for Sustainable Agricultural Mechanization (CSAM) of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP); Board of Agricultural Engineering, Professional Regulation Commission; University of the Philippines- Los Baños; Philippine Council for Agriculture and Fisheries(PCAF) and the Philippine Society of Agricultural Engineers(PSAE).

Four simultaneous co-located conferences included the 3rd regional forum on sustainable agricultural mechanization, 3rd ASEAN conference on agricultural and bio-systems engineering, 11th session of the governing council and technical committee of the Center for Sustainable Agricultural Mechanization, UNESCAP and 12th engineering research and development for technology conference.

Twenty PHilMech staff composed primarily of agricultural engineers attended the fora particularly the ASEAN conference on agricultural and bio-systems engineering. Also, PHilMech participated in the exhibits of R&D agencies and agricultural manufacturers and dealers simultaneously occurring



Foreign visitors inspect the newly-developed onion seeder

during the said 4-in-1 co-located conference. About 50 participants came from ASEAN member countries and from Asia-Pacific Regions.

The said forum revolved around the topic of “human resource development for sustainable agricultural mechanization.” Mr. Zhao Bing, head of the CSAM-UNESCAP also said, “this is in support to the United Nations Sustainable Development Goals (SGDs) in the global move towards sustainable development, in particular, to end hunger and promote sustainable agriculture.”

Three keynote speakers namely; Sen. Cynthia A. Villar, Chairperson

on Agriculture and Food, Senate of the Philippines; Mr. Mark Proksch, Chief, Business and Development Section, Trade and Investment Division, UNESCAP and Mr. Jose Luis Fernandez, Food and Agriculture Organization of the United Nations (FAO-UN) graced the opening ceremony.

A study tour at the Science City of Muñoz was conducted on the third day of the conference, to include the R&D agencies on mechanization like PhilRice, PhilScat and PHilMech. PHilMech hosted a luncheon program for the foreign and local participants. *RPEstigoy*

PHilMech trains technical staff on rice crop establishment

"Ituring natin ang mekanisasyon na solusyon rather than problem or hindrance sa pagsulong (Let us treat mechanization as solution rather than problem or hindrance in development)," PHilMech Director Rex L. Bingabing said on his message during the conduct of "Specialized Training Course on the Mechanization of Rice Crop Establishment."

On his message, Director Bingabing explained that unlike the neighboring countries, labor cost in the Philippines is higher than mechanization, resulting to high production cost. The adoption of mechanization in the country is slow.

He further explained that some equipment such as tranplanter is not easily adopted due to lack of dissemination on the requirements needed for the equipment such as proper seedling preparation.

Thus, it is important to share these knowledge to the farmers so that they could appreciate and adopt the technologies, he added.

This was the challenge of Director Bingabing to the 30 participants from Visayas, Mindanao, and PHilMech who attended the training last November 9-13, 2015.

The training aimed to strengthen the technical capability of the technical staff on rice

mechanization and postharvest technologies to complement the manpower needs of agricultural sector in providing technical assistance in the agriculture industry.

During the training, subject matter specialists Engr. Niño Bengosta, Ms. May Ville Castro and Deputy Director Raul R. Paz discussed land preparation, seedling preparation, and transplanting, respectively. Also, financial analysis and trouble shooting of the agricultural machines were tackled.

Another highlight of the training was the hands-on operation of the machines and proper seedling preparation using trays and *dapog* system. Participants were able to operate the four-wheel tractor,

hand tractor and walk-behind transplanter.

Engr. Wilmer Pilla, one of the participants said that as an Agricultural Extension Workers (AEWs), they should be equipped with the technical knowledge and skills on the operation of the machines to provide the needed technical assistance to the farmers. Another participant commented that the training is timely considering that modern technologies are much needed in the country's agriculture.

Deputy Director Paz expressed his appreciation to the participants saying that more partners of PHilMech were added to pursue the mission of spreading knowledge on mechanization. *SBBanglig*



Hands-on training on the *dapog* system seedling preparation

Luzon, Visayas and Mindanao farmers attend *MakinaSaka* 2015

Farmers from different parts of the country attended the 4th year of *MakinaSaka* that promises to showcase the latest agricultural machinery and equipment in the country.

"If we will not implement farm mechanization, then we won't be able to compete with the international market. We want to show our farmers that we have the latest machineries for them," DA Sec. Proceso Alcala said.

The first leg of the *MakinaSaka* was held at Ouan's Farm Resort, Kanlurang Mayao, Lucena City, Quezon last November 17 to 19, 2015 while the second leg was held at the Philippine International Convention Center last December 1 to 3 of the same year.

The delegates of *MakinaSaka* are members of farmers organizations, irrigators associations, small water impounding systems associations, agricultural and fishery councils, local farmer technicians, farm service providers, millers association and local government units.

Also, walk-in participants such as Agriculture and Agricultural Engineering students and professors, private sectors and other individual farmers visited the event to see the latest agri-machinery, equipment and technologies in the country. *MakinaSaka* is an event of the Department of Agriculture National Rice Program in collaboration with the Philippine Center for Postharvest Development and

Mechanization (PHilMech). The program aims to showcase the most modern and technologically advanced farming tools today; serve as a venue to touch-base with farmer end-users, alongside their local government leaders; inform the farmers on the new technologies and modern equipment that fit their needs and educate them on proper utilization of such equipment; and demonstrate the operation and maintenance of the equipment.

As a research and development agency, PHilMech continuously develop machineries that are suited to our local farmers. One of our studies showed that with the use of technologies, such as

continued on page 19...



Agriculture Secretary Proceso J. Alcala led the farmers in the viewing of the exhibits during the *MakinaSaka* 2015 held in Lucena City, Quezon province and at the PICC, Pasay City.



The new compact impeller rice mill and compact corn mill are among the crowd-drawers at the PHilMech booth during the Agrilink 2015.

PHilMech partners with Agrilink to promote new machines

The Philippine Center for Postharvest Development and Mechanization (PHilMech) joined the more than 300 local and international agri-fishery companies in the 22nd International Agribusiness Exhibition and Seminars. The event was in conjunction with the 11th National Fisheries Exhibition and Seminars and the 6th International Food Processing, Packaging and Products Exhibition or simply AgriLink, AquaLink and FoodLink 2015.

For the third time, PHilMech became one of the major sponsors of the event dubbed as “the country’s most prestigious international agribusiness and food show”. It was held on October 15 to 17, 2015 at the

World Trade Center. The event theme was “Regional Agribusiness Development: Cornerstone of Inclusive Growth”. This reflected the desire of prioritizing economic hegemony called for by ASEAN Region.

Alongside with the theme, PHilMech showcased its generated technologies on postharvest technologies featuring a new model of a corn mill, a brown-rice mill and coffee-processing machines.

Considered to be the highlight of the event was the public viewing of a documentary film about PHilMech and the different technologies its engineers designed, developed and farmed-out to deserving manufacturers for commercialization.

PHilMech’s participation was kick-started by a seminar on the first day of the event entitled “Community-Based Processing Center for Coffee” by Dr. Renita SM. Dela Cruz, chief of PHilMech- Socio-economics and Policy Research Division. This free seminar was attended by 120 walk-in visitors.

Apart from the displayed machines and lecture series, PHilMech also invited successful technology-adopters to showcase their quality products using PHilMech technologies. Alion Sea-K is a women’s organization based at Mariveles, Bataan that processes cashew nuts for local markets and Mr. Mer Layson is a soya processor

continued on page 21...



Tips

To maximize the shelf life of cooked rice, refrigerate in covered airtight containers as soon as possible or after four hours. Refrigeration would not kill the bacteria but it will slow down the growth.

Source: allrecipes.com

Recipe

Mushroom Rice

Ingredients:

- 2 teaspoons butter
- 6 mushrooms,
coarsely chopped
- 1 clove garlic, minced
- 1 green onion, finely chopped
- 2 cups chicken broth
- 1 cup uncooked white rice
- ½ teaspoon
chopped fresh parsley
- Salt and pepper to taste

Directions:

Melt butter in sauce pan over medium heat. Cook mushroom, garlic and green onion until mushroom are cooked and liquid has evaporated. Stir in chicken broth and rice. Season with parsley, salt and pepper. Reduce heat. Cover and simmer for 20 minutes.

Source: allrecipes.com

Equipment

Brown Rice Huller

PHilMech has developed a brown rice huller. It is an impeller type huller with a capacity of 150 kg/hr. Easy to operate, brown rice consumers can mill their own requirement of one to four weeks to avoid quality deterioration.



TREATS

ALL ABOUT RICE

Rice is the country's staple food. It is a complex carbohydrate. It has no fat, no cholesterol and very low in sodium. Between brown and white rice, brown rice is the healthier alternative.

Advisory

National Rice Awareness Month

Pursuant to Presidential Proclamation No. 524, s. 2004, November has been declared as national rice awareness month (NRAM). Different agencies take part in this celebration. For its part, PHilMech joins the Be RICEponsible campaign of the Department of Agriculture by disseminating rice information, serving brown rice at the canteen every Friday and reciting the *Panatang Makapalay* during flag ceremony every Monday.

Trivia

Edible Rice Products

Did you know that there are several products that can be made from rice? Rice flakes, parboiled rice, instant rice, enriched rice, puffed rice, rice flour, rice bran, rice cereal, rice cake, rice noodle, prepared rice mixes, rice milk, rice cheese, rice cream, rice wine, rice vinegar, rice syrup and so many more. This little white/brown thing has many uses indeed.

Source: www.recipetips.com

Selection

Non- edible Rice Products

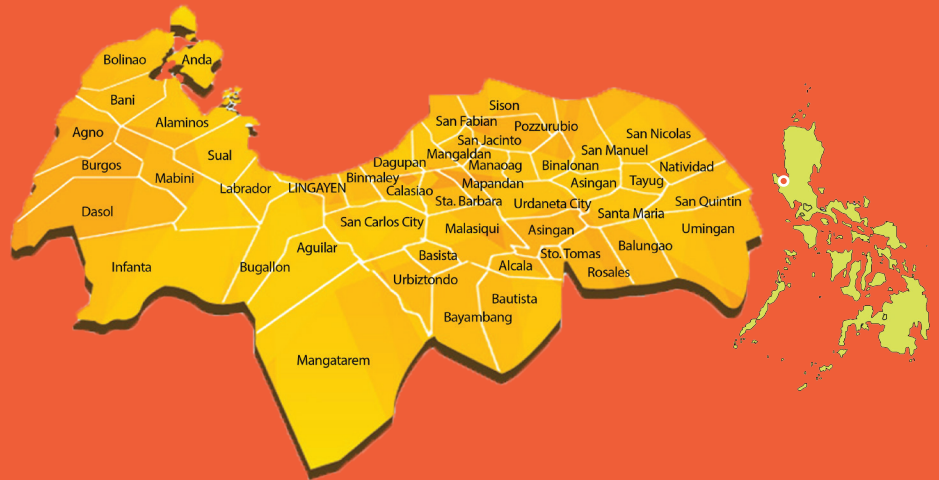
There are non-edible rice products. These include rice straw which can be made into roofing material, fuel, fertilizer and medium for growing mushrooms; rice hull which is used in livestock feeds, concrete blocks, fiber board, ceramics, charcoal briquettes; rice paper, used for writing and art materials. More are in store. Take your pick.

Source: ricepedia.org

PH DEVELOPMENT PLAN

Pangasinan

Pangasinan is the largest province in Region 1. It is comprised of 44 municipalities, 4 cities and 1,364 barangays. Lingayen is the provincial capital.



Agricultural Profile



Agriculture is the major source of income of the people. Aquaculture is another popular livelihood source. Rice, corn, mango and milkfish are among the priority commodities of the province. Of the total agricultural production areas, almost 78 percent are devoted to rice production.

Pangasinan is also a major fish producer and supplier in Northern Luzon.

Postharvest Situationer

In 2003, Pangasinan had more than enough capacities for threshing, shelling and milling operations. However, rice mills must be upgraded to increase milling recovery and produce good quality grains. On the other hand, both drying and storage capacities are insufficient, hence additional units of these facilities should be acquired by the province to compensate the deficit capacities (BPRE, 2005).

Proposed Postharvest Projects

To increase the level of productivity of the agricultural and fisheries sectors, the postharvest development plan of Pangasinan presented interventions for each commodity (rice, corn, mango and milkfish). Said interventions include postharvest facilities and infrastructure, training and extension and support policies and programs.

From the interventions recommended by the different stakeholders participating during the consultative –planning workshop, the projects listed below were drawn. It involves the establishment of the following:

- Integrated postharvest facilities service center,
- Community-based drying center,
- Rice seed processing center,
- Corn mechanization service center,
- Mango agribusiness center,
- Mango packinghouse,
- Ice plants and cold storage (with standby generator)

Source:
Bureau of Postharvest Research and Extension and Provincial Government of Pangasinan. 2005. *Pangasinan Postharvest Development Plan (2005-2015)*. Science City of Muñoz, Nueva Ecija

Development of Fluidized Bed Dryer for Complete Drying of High Moisture Paddy

R.J. Pontawe, N.T. Asuncion, R.B. Villacorte, R.C. Martinez

This research received the Gold Award for AFMA Best R&D Paper during the National Research Symposium held on October 15, 2015



Drying of high moisture paddy was examined using a pilot-scale continuous-flow fluidized bed dryer system with grain flow rate of 500 kg/h. Complete drying of paddy with $\geq 28\%$ (wb) initial moisture content was attained after 2 passes of fluidized drying. This was achieved at 2 min exposure to 70 °C drying temperature and 4.9 m/s superficial air velocity, followed by 60 min tempering period (30 min without air ventilation and 30 min of ambient air ventilation). The total drying time was 2.07 h.

Around 82 % reduction in drying time was recorded in drying paddy with 31.5 % (wb) initial moisture content as compared to using conventional

recirculating batch dryer at 70 °C drying temperature. Quality analysis of dried paddy samples showed that reduction in head rice yield was 4 % which is within the 5 % limit set in the Philippine Agricultural Engineering Standards. Specific heat energy consumption was 2.84 MJ/kg of water removed. Sensory evaluation showed that the color and taste of rice samples dried in the fluidized bed dryer were acceptable.

The pilot-scale system will be an offshoot for the development of commercial-scale (3 t/h capacity) fluidized bed drying system.

Source: PHiMech Annual Report 2014

Mechanizati[♥]n with a Heart

by Mila B. Gonzalez

Romeo Vasquez — his name rings a bell. Nope, he is not the matinee idol in the 1960s. He is the Department of Agriculture's regional Gawad Saka winner in 2014 under the agricultural entrepreneur category.

Romeo S. Vasquez, RSV for short, 54 years old, is a rice seed producer, a farm service provider and a corporate rice trader. He is also a mechanization practitioner and advocate.

Humble beginnings

He belonged to a farm household in San Mateo, Isabela. His father was a tenant, tilling a hectare farm. To help the family, he also toiled the land and drove a jeep plying the San Mateo to Santiago, Isabela route.

A working student, his hardships bore fruit and he graduated as an agricultural engineer at the Central Luzon State University in Muñoz, Nueva Ecija in 1985.

For his first job, he became a sales representative in a fertilizer company. His savings from his commission, he invested in farm lots. Thus, from being a tenant, he became a farm owner.

Establishing the farm business

First, he raised a family. He married Joy Bongon, a Bicolana, in 1988 and they have three sons – Arvie, Arjay and Ardell. His wife is a devoted partner both in love and in work.

His second to the eldest son, Arjay, then five years old, helped him decide his career path in life— farming. The father recalled the words of his young son: “What use would be the rich people, if there are no farmers to provide their food?”

Engr. Vasquez is both an inbred and hybrid seed grower. His produce include seeds and milled rice. He farms several hectares of land, both owned and leased. As a farm service provider, he operates in a 100-hectare service area using two mechanization modules. Each module has 50 hectares of land provided with a technology support package of 3 transplanters, 1 tractor and 1 combine harvester.

Through the years, Engr. Vasquez’ farm ventures have been very productive earning him numerous awards. Some of these include the Land Bank of the Philippines’ Outstanding Agri-entrepreneur in Luzon in 2014, and The Outstanding Farmers of the Philippines

(TOFARM) under the agri-entrepreneur category given by the JCI and Universal Harvest Inc. in 2013, and so forth.

For Engr. Vasquez, farming is not just work. “It is a business, it is an enterprise. . . .”

To mechanize or not

Engr. Vasquez started farming in 1993. He started farm mechanization in 2012.

Reminiscing, Engr. Vasquez shared: “When I encouraged Arjay to venture into farming, he requested that we invest in farm machinery ... He wanted a transplanter. . . .”

At first, Engr. Vasquez declined because of the labor displacement it will cause. But when planting time, harvesting time came and there was no labor because of construction works in several malls in Isabela, he gave in to Arjay’s request. And he was correct in his decision although in the beginning there were failures.

“... In one cropping, all our seedlings died because of the wrong mixture of organic fertilizer. . . . We were delayed in our planting. . . . We encountered difficulties in our first use of the transplanter in the 10-hectare farm. We had no system then. . . . But my son (Arjay) and I used the internet and searched the websites of DA, PHiMech, PhilRice and IRRI. These are related to agri-machinery. We studied them all and applied the knowledge in our system. . . .”

Engr. Vasquez said that for their first venture of mechanized transplanting in 2012, there was a yield increment of 26 bags per hectare. For the 10 hectares, there was an increment of 260 bags. This amounted to P260,000.

“In short, the transplanter was paid. . . . After two years, there was a return of investment. . . . From one transplanter, we increased our units. To date, we have five transplanters. Since the transplanting is mechanized, we also bought a combine harvester in 2012 to mechanize the

harvest,” Engr. Vasquez said.

Farmers who sought their mechanized farm services also increased because of the benefits they experienced in mechanized farm operations. According to the engineer, their calendar is already fully booked until January 2016 for mechanized transplanting and harvesting services.

The agri-machinery pool of Engr. Vasquez used in farm service now includes 2 combine harvesters, 5 transplanters, 2 tractors, 1 mini-tractor, 1 weeder and 2 threshers, one thresher used as soil pulverizer and the other as seed cleaner.

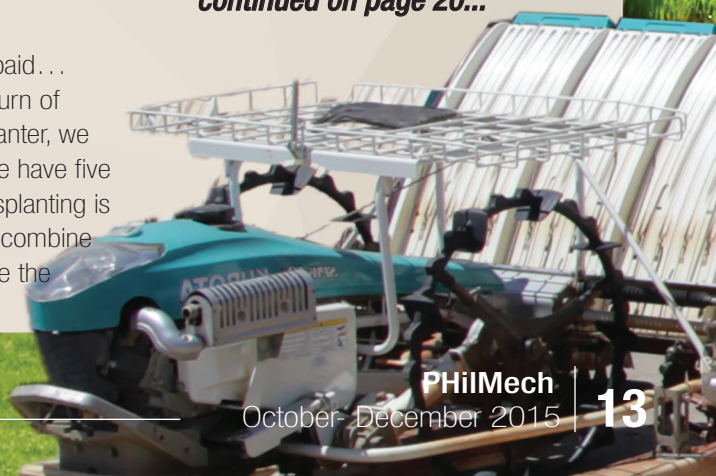
For their drying needs, they still use the multi-purpose drying pavement in their area. Soon, however, a recirculating dryer will be installed in preparation for the next harvest season.

Using the internet, Engr. Vasquez and his son Arjay transact farm business like providing land preparation, transplanting, and harvesting services to several farmers in the area, big and small. They also provide assistance to the farmers especially with regard to fertilizer application. As basis in their nutrient management services, they consult the Rice Manager Philippines of the International Rice Research Institute (IRRI).

Engr. Vasquez takes pride in narrating his son’s honest boast: “Daddy, while you earned your first million at age 38, I earned mine at 24.”

Not only is Engr. Vasquez a mechanization practitioner, he is also an advocate. “Mechanization is already a world

continued on page 20...



ISG

ADOPTING THE NEW TRENDS IN FARMING

by Vladimir B. Caliguiran

A few months from now, they will celebrate their 25th anniversary. From a group of about 40 seed growers, the Isabela Seed Growers Cooperative, Inc. (ISG) has grown into full maturity.

"As of now, ito ang pinakamalaking (coop) ng seed growers sa Isabela at maaaring pati sa buong bansa," said Bernardo Batori, ISG manager. Batori has been managing the cooperative for five years now.

The cooperative is now home for 240 seed growers from the different parts of Isabela. Its office is located in Cauayan City.

With a starting capital of P50, 000, they have now a growing asset of P67 million.

Services

The ISG is assisting its members and other farmers in the province through its various services.

The group is providing freight services to haul the produce of the seed growers.

They also have a gasoline station in front of their office to provide fuel for their machines. And according to Manager Batori, "the lending or financing service is one of their best services." Through the Land Bank of the Philippines, each member can borrow up to P600, 000.

Also, the cooperative is the one who markets the produce of its members. Certified seeds of different varieties such



Manager Bernardo Batori



The ISG office in Cauayan City



Rice Processing Center

as NSIC Rc222, Rc238, Rc216, Rc 152, Rc214, Rc300, Rc 302, Rc82, Rc18 are being sold to different parts of the country. Majority of their produce were procured by the Department of Agriculture in Regions 1, 2, 4a and 4b.

On-farm Mechanization

The ISG continues to adopt the changing farm practices. A study of PHilMech revealed that the province of Isabela has one of the highest mechanization level with 9.52 hp/ha. Activities in land preparation such as plowing, harrowing and levelling, and threshing are mostly mechanized.

In between 2010 and 2011, another farm machine became popular in the region—the rice combine harvester. During this time, the ISG acquired their first unit through the Department of Agriculture Rice Mechanization program.

“Noong bumagyo, kahit nakadapa ang mga palay ay kayang i-harvest. ‘Yung mga tao naming ay na-train na, kaya kayang-kaya na nila itong i-operate,” the 36-year old manager shared.

“Kung wala ‘yung mga harvester ay sira ang mga seeds namin. Kaya malaking bagay ang mga ito,” he added.

“Dati kapag harvesting ng wet season, kapag binaba mo sa lupa ang iyong ginapas ay nadudumihan ito. Pero noong dumating ang harvester, ‘yung aanihin mo ng wet at dry season ay parehas na ang quality. Noong meron na ang harvester, hindi na ito napuputikan kaya lalo pang gumanda ang quality ng seeds namin.”

He further explained that the quality of the

seeds are not affected by the mechanized harvesting. *“Dumadaan naman sa seed laboratory ang aming mga seeds kaya nakasisiguro tayo sa quality.”*

At present, they have now two units of combine harvesters. The cooperative is collecting eight percent of the total harvest of its customer. According to Batori, the service charge was much higher before, *“Noong una, medyo mahal pa ang rate (service fee) umaabot ng 14 percent. Pero noong tumagal, eh over supply ang harvester dito sa Isabela. Ang nabenta ng isang distributor ay umaabot ng 2,000 mahigit sa Isabela, Pangasinan at Tarlac. Ang 50-60 percent niito ay nabenta sa Isabela. At maliban pa rito ang naibigay ng programa ng DA.”*

Rice processing

During harvesting season, bags of palay were earned and these were dried and milled through their Rice Processing Center (RPC). The RPC was also acquired through the government’s Rice Mechanization Program in 2014.

The RPC houses three units of mechanical dryer and multi-pass rice mill. Either for seed or food purposes, the produce of ISG were dried on the recirculating dryers with biomass fed furnace.

“Itong tatlong mechanical dryers ay gamit na gamit. Nitong mga nakaraan kasi ay laging umuulan sa Isabela, mostly ang mga seeds namin ay dito namin dina-dry,” he said.

The manager also assured its regular customers that the quality of their seeds is not affected by mechanization. Aside from the seed testing, the group also maintains

a standard system in operating the dryers. *“Gumawa kami ng system ng paglilinis sa mga dryer para hindi maapektuhan ang purity ng mga seeds. Saka yung isang dryer ay isang variety lang ang nilalagay namin.”*

The facility was a replacement to their existing old rice mill. The multi-pass rice mill offers a higher milling recovery of 60 to 70 percent.

“Ginagamit namin ito sa custom milling. ‘Yung mga excess na production ng members ay dito rin ginigiling. And at the same time ‘yung kita ng harvester naming ay dito mini-mill kaya napapataas pa namin ang kita ng coop,” Batori said.

Their milled rice are being distributed in the local market. There is also an on-going negotiation with the National Food Authority for contract milling.

Gear up for success

As the ISG provides quality seeds for the Filipino farmers, they are reaping tons of success.

Surviving for 25 years as a group may not be easy but thriving as a cooperative is more challenging. Manager Batori said that their key for their 25 successful years are their leaders—the Board of Directors. *“Ang gusto ng mga directors namin ay lahat ng miyembro ay yumaman. At para magawa ito, dapat payamanin ang coop,”* Batori said.

Their asset is continuously growing. And most important are their values of modesty and unity. As to their plans? *“Dapat mapatibay ang samahan at ma-maintain ang quality ng seeds.”*

Local coffee showcased at 1st Coffee Expo

Four partners of the Philippine Center for Postharvest Development and Mechanization showcased their coffee products during the first coffee exposition last November 17 at PHilMech, Science City of Muñoz, Nueva Ecija.

The activity was organized by the PHilMech-- Enterprise Development Division to create a venue where the local coffee growers and producers assisted by the agency can display their coffee products and link with potential buyers.

The exhibitors were the Tuba Benguet Coffee Growers Association (TUBENCOGA) from Tuba, Benguet, the Sagada Arabica

Coffee Growers and Processors Organization (SACGPO) from Sagada, Mt. Province, (the late) Mr. Luisito F. Fabregas and his raw materials suppliers from Dipaculao, Aurora, and the Km. 7 Farmers and Producers Cooperative from Butuan City, Agusan del Norte.

Attendees came from different institutions and private businesses around and near the City. It comprised of students, business owners, employees, and other interested individuals.

Representatives from the Philippine Coffee Board (PCB) attended also the activity. Board member Mr. Emmanuel Torrejon expressed

the willingness of the PCB to fund trainings and give assistance to the local coffee growers.

"Maganda itong ganito para makahanap kami ng mga buyers" said one of the farmer participants. Another farmer said *"Sana taon-taon ang ganito"* referring to the product exposition activity.

Chef Edwina T. Bandong conducted a brief lecture and demonstration on coffee processing and brewing.

Concurring with the Coffee Expo was the Annual Project Assessment activity of the project "Building Viable Farmer-based Coffee Processing Enterprise". *JMBadua*



The four local coffee brands produced by the partner processors of PHilMech.

The participants got free cups of specialty coffee made by the guest baristas.



Agriculture Secretary Proceso J. Alcala checks the machines displayed at the Corn congress.
Photo from DA- Central Luzon

Farm machines take the stage in 11th Corn congress

Corn farmers and industry stakeholders had the chance to see the latest technologies and farm equipment on corn farming at the 11th Philippine National Corn Congress (PNCC) held in Clarkfield, Pampanga on October 21-23, 2015.

With the theme “Moving forward, enhancing competitiveness: Philippine Corn towards ASEAN integration,” the congress aimed to strengthen the corn industry in the country to make it globally competitive.

The event was attended by farmer associations, local government units, agricultural extension workers, machinery manufacturers, dealers and distributors, and assemblers.

About 20 local and international agri-machinery manufacturers,

distributors, and dealers displayed their products and offered services during the three-day congress. The machinery and equipment ranged from big-sized tractors, combine harvesters, small engines, gadgets, implements, instruments, recirculating dryers, storage systems ancillary equipment, and simple hand tractors to state of the art mechanical dryers.

PHilMech’s latest research and development results, technologies, and equipment were featured in the exhibits.

Department of Agriculture (DA) Secretary Proceso J. Alcala led the participants in the viewing of the exhibits. “The Department of Agriculture wants to make corn as one of the champion crops here in the country and to make it globally competitive especially now that the ASEAN integration is fast

approaching,” the Secretary said.

The DA also presented the 3rd National Corn Achievers Award during the congress. Outstanding provinces, municipalities, cities, extension workers, and farmers were recognized.

The PNCC was organized by the DA Agri Pinoy Corn Program, Philippine Maize Federation, PHilMech, Agricultural Training Institute, National Food Authority, National Corn Board, and other partner agencies.



Dr. William Dar delivers his keynote message during the opening of the R&D symposium

PHilMech bags awards

CLAARRDEC conducts 26th R&D symposium

The Central Luzon Agriculture and Aquatic Resources Research and Development Consortium (CLAARRDEC) conducted its 26th Regional Symposium on Research and Development (R&D) Highlights at the PHilMech on October 13 to 14, 2015.

The symposium is a yearly gathering of all the member-agencies of the consortium to review and share their R&D undertakings. This year, the theme of the R&D symposium was "Research and Development Trends, Challenges and Opportunities in Relation to the Association of Southeast Asian Nations (ASEAN) Economic Community."

Participants who attended the

symposium were from the 29 R&D implementing and coordinator agencies and institutes of CLAARRDEC, farmers, academicians, scientists, extension workers, researchers, and administrators from the region. Dr. William D. Dar, the keynote speaker of the program was the former director of agricultural agencies and institutions such as the Philippine Council for Agriculture, Forestry and Natural Resources Research and Development (PCAARRD) and Department of Agriculture-Bureau of Agricultural Research (DA-BAR), and now the President of Inanglupa Movement.

"Many should dream for this country," said Dr. Dar with a passionate look. He then

challenged the participants to be part of the development he wants to continue pursuing in his long career in agriculture.

A 'best paper' and 'best poster' was selected among the 22 papers from the research category, 10 papers of the development category, and 15 technical posters. In the research category, Dr. Clarisse Yvonne J. Domingo of Central Luzon State University (CLSU) garnered 1st place, while Dr. Hermogenes M. Paguaia of Bataan Peninsula State University (BPSU) got the 1st place in the development category.

Meanwhile, the PHilMech technical posters bagged the first, second and third best poster awards.

IBeronio

Bukidnon farmers completed SOA on Corn Postharvest System

The PHilMech collaborative project “Enhancing the Agricultural Extension Delivery System on Postharvest and Mechanization through the SCUs and the Techno Gabay Program” launched “School on the Air on Corn Post Production Principle and Systems” at the Central Mindanao University (CMU) on September 22, 2015. This was the second SOA conducted through the said collaboration.

Dr. Rodolfo P. Estigoy, chief of the Applied Communication Division of PHilMech, introduced the SOA during the culminating activity of Agricultural Training Institute (ATI) RTC X “School on the Air program on Coffee Production”. The same audiences took up the PHilMech SOA program.

The SOA program was aired at DXMU 88.9 MHz community radio station owned and operated by the university. The program started on October 5, 2015. Dr. Nenita B. Baldo and Prof. Raquel O. Salingay served as subject matter specialists.



The graduates of the school-on-the-air

The program was anchored by Prof. Florencia C. Tizuela.

On November 19, 2015, the SOA graduation was held during the celebration of the 4th RDE week of CMU. This culmination activity was one of the highlights of the said occasion.

The two-month SOA program tackled corn postharvest handling system, from harvesting, drying and the right storage techniques.

This program is appropriate for the farmers of Bukidnon especially those in the corn producing areas.

There were 385 SOA graduates during the graduation ceremonies who received their certificates of completion. Twenty SOA students received a sack of open pollinated corn seeds as a reward for having a perfect score during the SOA.

RDeGuzman

Farmers from... from page 6

combine harvester and mechanical transplanter, the production cost of the farmers will be reduced and our country’s agricultural sector will be competitive”, PHilMech Director Rex Bingabing said.

Furthermore, the program includes exhibit of various farm

mechanization, postharvest, food processing and packaging equipment and technologies which the farmers could avail through the DA’s projects and programs.

“Activities like MakinaSaka help farmers gain more knowledge about agriculture. The new technologies, I think, will help improve our harvest and uplift our lives”, said Librado Banastao Jr.,

local farmer technician of Canaman, Camarines Sur.

PHilMech also conducted seminars and demonstrations on their latest technologies that increased the enthusiasm of the farmers to have and use it in their farms. The said technologies are Compact Village Corn Mill, Cassava Digger, Village Level Coconut Water Pasteurizer, and Coffee Depulper. *CVAng*

Mechanization with... from page 13

trend especially with the ASEAN integration. How can we compete with other countries, if we don't mechanize?" asked Engr. Vasquez.

He added: "One of the biggest cost in farming is labor. Mechanization brings in labor and time efficiency. . . . Although mechanization is like swallowing a bitter pill, in the long run, the whole economy benefits. . . . If the economy is good, the farm laborers also benefit."

Dealing with labor displacement

The innovativeness of Engr. Vasquez in his farm operations brought back the labor-displaced by mechanization.

Instead of preparing seed beds in the field, he uses shallow trays with pulverized soil and organic matter combined. Seeds are placed on these trays and allowed to grow not on the fields but on the multi-purpose drying pavement (MPDP) for 15 days. These seedlings are regularly watered. Then the seedlings will be transplanted in the prepared field using mechanical transplanters.

Doing the tasks of tray preparation (pulverizing of soil, adding of organic fertilizer, watering, seed placement, placement of trays at the MPDP) are the laborers displaced during the manual transplanting. Women worker are also hired to do "hulip" or planting of seedlings on the

vacant spaces not covered by the mechanical transplanter.

The same is true during harvest. People are hired to pick-up the harvest not covered by the combine harvester. The lost harvests are saved by the farm labor.

"So we have mechanized but we did not totally displace labor. We hire them and they earn more. . . ." said Engr. Vasquez.

For the tray preparation alone, laborers are paid P5 per tray. For one day, farm workers can prepare 1,200 trays. So for 12 workers in tray preparation, each would be receiving P500 each day.

Partnership with PHiMech

Engr. Romeo Vasquez is tapped by the Technology Management and Training Division (TMTD) of PHiMech to serve as resource person on mechanization. And always, he inspires farmers with his example and advocacy.

"I want to share the knowledge. . . . It is my social responsibility," said the engineer of his being a regular speaker during training courses not only of PHiMech but also by other agencies like the Department of Agriculture, Philippine Rice Research Institute (PhilRice), Agricultural Training Institute (ATI) and the Department of Agrarian Reform

(DAR). He is also featured by the national media – print and broadcast – for his advocacy and experience on mechanization.

What is the secret of Engr. Romeo Vasquez' success?

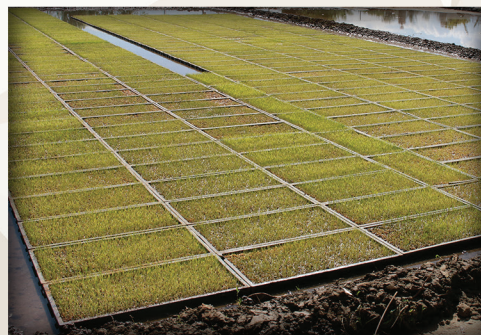
According to Engr. Vasquez, he is a regular participant of agriculture-related training courses. He grabs every training opportunity he encounters. This exposes him to agricultural innovations which he applies in the farm business.

Aside from his innovativeness, perseverance and simplicity, he shares this secret: family support and solidarity. Arjay manages the provision of farm services. Arvie is in charge of the logistics. Mrs. Joy manages the finances, keeps the books and monitors trading activities. The youngest son, Ardell, is still studying BS Physics at the University of the Philippines in Diliman.

Three men, one woman and their machines. The family business thrives and does well because the family members share their knowledge, skills and strength.

As Arjay, the 25 year old son, says on how he earned his million: "*Diskarte lang.*"

Yes, strategy. And their strategy is mechanization, not cold and callous, but mechanization with a heart.



PHilMech launches monthly technical symposium

The Philippine Center for Postharvest Development and Mechanization launched a monthly Technical Symposium on October 5, 2015 at the PHilMech auditorium.

The symposium is a monthly activity where in-house experts are invited to share significant topics on postharvest and mechanization.

As a kick-starter, the Applied Communication Division (ACD) headed by Dr. Rodolfo P. Estigoy, hosted the first three months showcasing the researches from the Socio Economics and Policy Research Division (SEPRD).

Topics that were discussed are (1) The Coffee Postharvest and Processing Systems, (2) The Status of Rice and Corn Mechanization in the Philippines, and (3) The Soybean Postharvest and Processing Systems. Talks were given on October 5, November 2, and December 7, 2015, respectively.

The first and second topics were

discussed by Dr. Renita SM. Dela Cruz, chief of the SEPRD while the third was lectured by Dr. Ma. Cecilia R. Antolin, chief of the Socio-Economics Research Section, SEPRD.

On the lecture on the Coffee Postharvest and Processing Systems, Dr. Renita SM. Dela Cruz discussed the PHilMech developed postharvest and processing systems for coffee which are being recommended to coffee growers and processors in the country. She highlighted the different methods of coffee processing; the natural method or dry process, the wet process, and the semi-wet process or the pulped natural method.

Furthermore, Dr. dela Cruz emphasized the importance of using appropriate technologies for a successful coffee processing.

Likewise, in November she discussed the importance of mechanization in the improvement of profitability and productivity of the farmer's produce.

She mentioned that the acceptance of the farmers to mechanization is becoming higher as they have seen the impact of using technologies in farming.

Meanwhile, Dr. Ma. Cecilia R. Antolin discussed the Soybean Postharvest and Processing Systems for the month of December.

She discussed the proper production practices and postharvest handling of soybeans. Part of her talk was the introduction of the PHilMech developed Soybean Cleaner/Sorter/Grader which can clean, sort by size and separate rejects like splits and immature seeds.

The monthly technical symposium aims to create awareness among PHilMech employees, whether technical or support staff, and help them to be more equipped and knowledgeable on the latest developments on the postharvest and mechanization of the country.

MLJose

PHilMech partners... from page 7

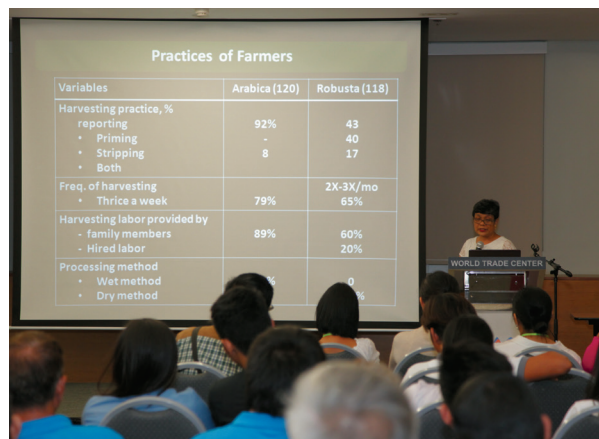
from Mexico, Pampanga. Mr. Layson focuses his entrepreneurial energy and resources in producing two products from soya, soya milk and soy coffee, with the help of PHilMech. During the three-day event, Mr. Layson grossed Php 29 000.00 while Alion Sea K, netted Php 50 000.00

Prominent leaders in the agriculture industry like Agriculture Secretary Proceso Alcala and other dignitaries graced the affair.

Thousands of visitors from the country and abroad visited the event. 'Awareness' shirts, notes and mugs were given free to lucky

visitors. Information materials were given free to all walk-in visitors.

IDCDavalos



Dr. Renita dela Cruz shares the results of their study on the Development of Postharvest Processing System of Coffee to the participants of Agrilink 2015.

PHilMech holds 1st Achievers' Night

"We always say that we have the best researchers and staff here at PHilMech. *And this year, hindi na lang tayo ang nagsasabi niyan dahil maraming iba't ibang agencies na nagpatunay na talagang magagaling ang mga taga-PHilMech,*" Executive Director Rex L. Bingabing proudly said during the first ever Achievers' Night held last December 16 at the PHilMech head office.

The PHilMech management organized the event to recognize the researchers and staff that brought pride and honor to the agency for the year 2015.

There were 40 staffs recognized during that night. Among the honorees were the winners at the National Research Symposium (story on p.3), CLAARRDEC R&D Symposium (story on p.18), and other award giving organizations.

These PHilMech staff have excelled in their respective expertise such as food protection, bio-process engineering, agricultural mechanization, enterprise development, technology transfer, photography and other fields.

Concurrent with the Achievers' Night was the tribute to its two employees who will retire from government service. Ms. Priscilla C. Castillo, science research specialist II and Mr. Reynold C. Guerra, administrative aide IV will finish their civil service at the end of 2015.

The recognition programs were concluded with the agency Christmas celebration.



The group of Dr. Romualdo C. Martinez (2-L) at the Agricultural Mechanization Division was one of the honorees during the Achievers' Night for being the best implementer of Asian Food & Agriculture Cooperation Initiative project.



Yearly, the PHilMech tower glows to celebrate the Christmas season



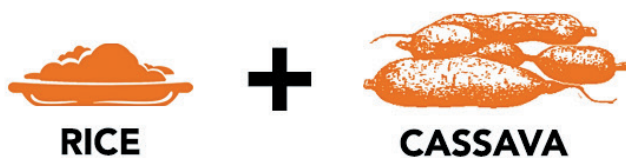
Makatutulong upang mas matagal makaramdam ng pagod at pagkagutom.

Makatutulong makaiwas sa diabetes dahil ito ay nagtataglay ng mas mababang glymeric index kumpara sa puting kanin.

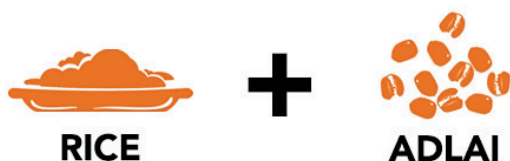
Mas maraming protein, fiber, antioxidants, Vitamin B complex at Vitamin E, iron, selenium, zinc, potassium, magnesium, manganese, phosphorus, lysine at tryptophan kumpara sa puting kanin.



Mas maraming fiber, Vitamins A at C, calcium, iron, magnesium, phosphorus, potassium at sodium kumpara sa puting kanin.



Mas maraming fiber, vitamins A, C, E at K, calcium, magnesium, manganese at potassium kumpara sa puting kanin.



Mas maraming protein, calcium, iron at B Vitamins; at nagbibigay din ito ng mas mataas na enerhiya kumpara sa puting kanin.



Be RiCEPONSIBLE



O&M Training

PHilMech regularly trains technical staff from different agencies on the operation and maintenance (O&M) of farm machines.

Photo by Danilo T. Esteves



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