



Making science
work for you

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The ready to eat (RTE) chicken arroz caldo was developed to give immediate satisfaction to the hunger of every disaster victim. It will also lessen their agony. (Photo by Ceajay Valerio, DOST-STII)



The OL Trap is an anti-dengue device that helps control the population of the Aedes mosquitoes by killing mosquito eggs and larvae.

DOST-ITDI among the world's 2016 R&D 10 Awards finalist

By Violeta B. Conoza, DOST-ITDI

The Department of Science and Technology – Industrial Technology Development Institute (DOST-ITDI) made it to the list of 2016 R&D 100 Awards, joining the ranks of 100 finalists from world-renowned R&D (research and development) agencies, companies, and universities from around the globe.

“By becoming an R&D 100 Award Finalist, your institution is now a member of a select R&D community recognized for their excellent contributions to advancing science and technology,” said Bea Riemschneider,

editorial director of the ABM Science Group of the R&D Magazine which, through the awards, honors the 100 most innovative technologies and services of the past year.

“You should be very proud, indeed, of your exemplary R&D achievements and the teams that are responsible for these new products.”

DOST-ITDI's innovative products that bagged the awards under the Process/Prototyping category are the Pack of Hope RTE Chicken Arroz Caldo as First Stage Disaster/Relief Food and the Philippine Mosquito

DOST programs help entrepreneurs yield more innovative products and services

By Allan Mauro V. Marfal, DOST-STII

Secretary Fortunato de la Peña of Department of Science and Technology (DOST) said that innovation for inclusive growth has been the central idea of different programs of Department of Science and Technology (DOST) in recent years, particularly in supporting small and medium enterprises (SMEs) in the provinces.

“We have many local products and services, which are world-class, and DOST is recognizing this. That is why we are sharing all the resources and knowledge that we have to empower them to be innovative in improving and marketing their respective products,” said Secretary de la Peña during the launching of Benito and Catalino Yap Foundation (BCYF) Innovation Awards held last October 17 at Manila Polo Club in Makati City.

Sec. de la Peña shared that DOST, through its Small Enterprise Technology Upgrading Program (SETUP), had helped many SMEs in the countryside to improve the quality of their production and services, particularly in the areas of technology upgrading, packaging assistance, market research, and technology transfer. He said that through this support, DOST was able to create ideal environment for our SMEs to develop and introduce more innovative products and services.

“Innovation has provided numerous impacts to our country, particularly on the SMEs side. It could stabilize businesses, it could generate income and revenue, and most importantly, it could generate employment opportunities for people in the countryside,” Secretary de la Peña said.

Sec. de la Peña believes that the launching of BCYF Innovation Awards will help more in encouraging and motivating people to really contribute towards innovation.

On the other hand, UA&P President Dr. Winston Conrad B. Padojinog also emphasized

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Ovicidal-Larvicidal (OL) Trap System: DOST Anti-Dengue Device.

OL Trap

Developed by ITDI's Chemicals and Energy Division, the OL Trap is an anti-dengue device that helps control the population of the Aedes mosquitoes through its ovicidal and larvicidal effect that prevents the next generation of mosquitoes from developing to the adult stage.

It has been successfully commercialized and rolled out nationwide in households and public schools. In partnership with selected schools, DOST launched a dengue vector surveillance website (dengue.ph) to provide information on mosquito density in a certain area. Mousing over certain locations in the map will draw up balloons that contain specific warning alerts, health advisory, and actions to be done by households in the area and the local government concerned.

Pack of Hope

Meanwhile, ITDI's Packaging Technology Division developed the Pack

of Hope Ready-to-Eat Chicken Arroz Caldo as a disaster mitigation/relief food that can be immediately available to hungry disaster/calamity survivors, responders, and emergency service providers (medical, military personnel, and volunteer groups) within the next 48 hours. Arroz Caldo (rice porridge) is a complete meal in the Philippines and considered as "comfort food" especially to the sick and unwell.

The Pack of Hope is categorized as a first-stage-disaster-food which means it is ready for consumption and can be eaten without preparation. Conveniently packed in an easy-open-stand-up retort pouch, the product can be directly consumed from the package. The retort pouch and transport packaging is designed to withstand grueling distribution by land, sea surface, and aerial drop.

The product went through field testing and validation studies in collaboration with the Department of Social Welfare and Development and local government units, and had been successfully commercialized.

R&D 100 Awards

Now on its 54th year, the R&D 100 Awards, also often referred to as the "Oscars of Invention", honors the 100 most innovative technologies and services. These can be promising new products, processes, materials, or software developed throughout the world and introduced to the market the previous year. Awards are based on each project's technical significance, uniqueness, and usefulness compared to competing technologies or services, according to the R&D Magazine website.

This year's R&D 100 Award Winners were presented with honors at the annual black-tie awards dinner held on November 3, 2016 at the Gaylord National Resort & Convention Center in Oxon Hill, Maryland (Washington, D.C.).

The finalists were selected by an independent panel of more than 50 judges and represent many of industry's leading R&D companies and national laboratories, as well as many newcomers to the R&D 100 Awards.

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that innovation is one of the most important facets of development. According to him, as the object of development is always on the people and the society which they belong, it is very important that development must always be oriented towards the promotion of human dignity.

"Innovation gives us the opportunity to become better individual. For example, mobile phone is an innovation in social communication so we can experience faster and more efficient way of interaction with each other. Innovation has also revolutionized the field of education, particularly in remote areas. We could have seen how innovation has helped us harness more efficient use of our resources and we could have seen how energy prices have fallen," said Dr. Padojinog.



(Left) Secretary Fortunato de la Peña of Department of Science and Technology (DOST) gives his message during the launching of Benito Catalino Yap Foundation (BCYF) Innovation Awards last October 17, 2016 at Manila Polo Club in Makati City. He said that in recent years, DOST has been at the forefront of pushing innovation for inclusive growth, particularly to the small and medium enterprises in the countryside. The BCYF Innovation Awards will be co-organized by DOST, BCYF, University of Asia and Pacific and TEVSAPHIL. Also in the photo are: (middle) UA&P President Dr. Winston Conrad B. Padojinog and (right) TEVSAPHIL Chairman Brig. General Alex T. Escaño. (Text by Allan Mauro V. Marfal and photo by Gerardo Palad, DOST-STII)



DOST-TAPI helps Filipino inventors gain financial literacy for a secured future

By Rodolfo P. De Guzman, DOST-STII

Inventors create new products for people to use and are held with high esteem because their work made many people's lives better.

Because of the value of their inventions, many inventors made more money than they could imagine. However, there are some inventors who were not lucky enough because of different reasons. One is how they manage their financial resources. Although they may be geniuses in their own field, some are "financial illiterates."

To help inventors manage their financial resources and preserve their wealth, the Technology Application and Promotion Institute (TAPI) of the Department of Science and Technology (DOST) sponsored a two-day forum cum workshop on Entrepreneurship and Financial Management for Inventors until tomorrow, November 16, 2016. This event is in collaboration with the Filipino Inventors Society, Inc., a long time partner of the DOST.

This forum coincides with the holding of the 73rd Annual National Inventors Week

that kicked off on November 14 and ran until November 18, 2016 at the DOST Compound, Bicutan, Taguig City.

Edwin M. Suson, an associate professor at the College of Business Administration of the University of Santo Tomas and a financial advisor and trainer, gave valuable tips to the inventors present during the forum.

Among the nuggets of wisdom Suson shared with the participants were as follows: financial planning process, setting financial goals, budgeting and financial strategies, prudent resource utilization, investing in mutual funds and other high-yielding financial instruments, wealth creation through asset management, among others.

On the other hand Mr. Generoso S. David, department manager of the Land Bank of the Philippines, shared his expertise in fund sourcing. During his talk Mr. David discussed the many loan facilities of Land Bank and how inventors can avail of its services to finance their inventions for commercialization.



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Prototype carbonizer (painted red) is shown in foreground. Behind it is the gasification component (fluidized bed gasifier). (Photo by RBSMCI1)



DOST-ITDI's Engr. Apollo Victor Bawagan said that the gasification of biomass, such as sugarcane bagasse and sugarcane trash, is "most interesting" because the produced synthetic gas has a near-zero combustion. Bawagan led the DOST-ITDI team that modified the biomass carbonizer technology for sugarcane bagasse to support the setting up of the a co-generation facility at the plant.

The DOST Region VII through the Negros Oriental Provincial Science and Technology

Center provided P990,000 for this Grants-In-Aids project. Components include among others the design, fabrication and installation, testing and debugging of the 50kg/hr batch-type biomass carbonizer.

The launching ceremony was attended by DOST VII Regional Director Edilberto L. Paradela, Bawagan, and the company's business associate, Edward Lee. Various government agencies, private sectors and local businessmen also witnessed the event. (DOST- Negros Oriental Media Service).

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Sugar company gets DOST support for renewable energy facility

By Licinio F. Gingoyon, DOST-Region VII



Ceremonial ribbon cutting: DOST VII RD Edilberto L. Paradela (center) assisted by RBSMCI President Atty. Alejandro Florian O. Alcantara (extreme right) and Edward Lee (business associate). Behind Atty. Alcantara is Engr. Apollo Bawagan, Energy Section Head of the ITDI Chemicals and Energy Division. (Photo by RBSMCI1)

produce carbon dioxide and energy. This drives a second reaction that further converts waste material to hydrogen and additional carbon dioxide-- this is the gasification stage.

As such, the system helps supply the electric power requirement and bring down electricity costs of the company, according to Atty. Alejandro Florian O. Alcantara, president and CEO of the company.

"I see several advantages to powering our turbines with synthetic gas produced by ITDI's FBG System. These are 100 percent reduction of our agricultural wastes, production of our monthly electricity requirement at no cost, and significant reduction of gaseous pollutants due to the near-zero combustion process of the FBG System," Atty. Alcantara said.

The system is expected to provide around 40 percent of the company's total electricity requirement. The plant produces nearly 1,100 tons of pure, whole and unrefined muscovado annually. Muscovado is produced from fresh sugarcane juice without using bleaching agents.

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Raw Brown Sugar Milling Company from Negros Oriental, through a P990,000 equipment grant from DOST, now has renewable energy facility—the first in the country-- to enhance its muscovado production.

A sugar company finally built a facility that converts wastes to new source of renewable energy, the first of its kind in the country. Called Fluidized Bed Gasification (FBG) System, the facility was recently unveiled by the Raw Brown Sugar Milling Company, Inc. in Pamplona, Negros Oriental.

The FBG System, introduced by the Department of Science and Technology-Industrial Technology Development Institute (DOST-ITDI), is used by manufacturing plants to convert biomass into new source of renewable energy.

Agri wastes are "burned" when a limited amount of oxygen or air is introduced into the FBG System to



The fluidized bed gasifier up close. (Photo by RBSMCI1)



Fashion designer Vince Tolentino, (Seated, 3rd from right with eyeglasses), listens to women weavers who participated in a forum on revitalizing the Philippine textile and garment industry through S&T interventions. Organized by the Philippine Textile Research Institute of the Department of Science and Technology, the forum was held on October 25, 2016 at the Makati Palace Hotel. During the workshop, designers and weavers discussed fabric designs that can be marketed locally and abroad. **(Text & Photo by Rodolfo P. de Guzman, DOST-STII)**