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DOST-FNRI Launches New Food Technologies for Government Feeding Programs

✍ SRSerrano, Senior Science Research Specialist, TDSTSD

The DOST-FNRI launched new technologies for nutritious food products at the Dusit Thani Hotel in Makati City on July 20, 2023.

The new food technologies launched included “Cocokies” Hard Cookies; CocoDairy Milk Blends in cow, carabao, and goat milk variants; Improved Nutribunnets; New Enhanced Nutribun Variants; and Nutri Calaman-C Juice Drink. These nutrient-dense food products will provide additional options for feeding programs, relief operations, and other related nutrition projects primarily aimed at addressing malnutrition especially among young children.

Dubbed as “Let’s Meet Up: Launching of DOST-FNRI developed Nutritious Food Products”, the event engaged around 270 participants representing 188 existing and prospective licensees. Other participants are from: institutional partner-clients from government agencies conducting feeding and nutrition programs, other government and non-government agencies, media partners.

Bearing the theme: “TAGPUAN: TAGpuan ng Partners na UmAdopt ng Nutritious Food Products”, the event was sponsored by existing and prospective food technology licensees



who submitted 87 signed Letters of Intent (LOIs) to signify interest in adopting the new food technologies.

Through the event, institutional partners from the Department of Social Welfare and Development (DSWD), Department of Education (DepEd), National Nutrition Council (DOH-NNC), and the Department

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Director's Message



The DOST-FNRI is the country's lead government agency in providing accurate data, correct information, and innovative technologies to fight malnutrition. For the past 76 years, milestone achievements were realized through the unwavering commitment and hard work of the Institute's researchers in gathering data to define the nutritional status, developing strategies and programs, and diffusing knowledge and technologies to help achieve optimum nutrition for Filipinos.

We extend our heartfelt appreciation for joining us on this journey and for the continuous support that the Institute receives from the Department of Science and Technology, its affiliated agencies, various local and international partners, as well as the public and private sectors.

The third quarter of 2023 has been busy yet engaging for us. One of the major events of the quarter was the launching of the Institute's new technologies dubbed as "Let's Meet Up: Launching of DOST-FNRI developed Nutritious Food Products" with the theme "TAGPUAN: TAGpuan ng Partners na UmAdopt ng Nutritious Food Products". It is a pleasure to finally introduce the new food technologies that can be adopted by the existing and potential licensees.

The new technologies are intended for feeding programs, relief operations, and other nutrition programs conducted by different government agencies, non-government organizations, and various stakeholders in the country.

The 49th DOST-FNRI Seminar Series was also held in July with the theme "Innovative, Accessible, and Affordable Diet for All Products of R&D and S&T Services". This is in line with the 2023 Nutrition Month theme of "Healthy Diet Gawing Affordable for All". The annual seminar series continues to deliver latest DOST-FNRI research and development innovations and science and technology services in food and nutrition.

Featured in the photo news are some of the various activities including the Launch of Fruits and Vegetables for Sustainable Healthy Diet (FRESH) Workshop, HANDA Pilipinas: Innovations in Disaster Risk Reduction and Management (DRMM) Exposition - Luzon Leg, Nutrition Research Information Network (NUTRINET) Evaluation and Planning Workshop 2023, and the 14th Asian Congress of Nutrition.

It is also during this quarter that the DOST-FNRI was awarded with the Board Resolution on Program to Institutionalize Meritocracy and Excellence in Human Resource Management (PRIME-HRM) Maturity Level II by the Civil Service Commission (CSC). This establishes the Institute's competencies, procedures, and practices in human resource management.

Our Institute remains committed to provide relevant science-based solutions to help address malnutrition and the lack of livelihood opportunities. With everyone's perseverance to overcome the difficulties and challenges together, our goal will always be achievable as I believe that Oneness is Success.

Mabuhay tayong lahat!

IMELDA ANGELES-AGDEPPA, Ph.D.
Director IV and Scientist IV

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News Flash

DOST-FNRI conducts Training on Pretesting of Information, Education, and Communication (IEC) materials

✍ ENCBacolod, Science Research Specialist I, TDSTSD



Participants and resource persons of the DOST-HRDP funded Training on Pre-testing of Information, Education and Communication (IEC) Materials, August 2-4, 2023, Selah Pods Hotel, Pasay City

Information, Education, and Communication (IEC) materials are resources and tools developed for advocacy, behavior change, and knowledge dissemination. This is according to Asst. Prof. Luisa A. Gelisan, Faculty of Information and Communication Studies from the University of the Philippines Open University in her lecture during the Training on Pretesting of IEC Materials on August 2-4, 2023 at the Selah Pods Hotel, Pasay City.

Pretesting, on the other hand, is the process of bringing together members of the priority audience to react to the components of IEC material before they are produced in final form, as defined by Mr. Bernabe M. Remoquillo, Graphic Artist and Multimedia Production Specialist, also a resource speaker of the training.

The Training on Pretesting of IEC Materials is the last among the four capacity-building trainings conducted by the DOST-FNRI this year that were funded and supported by the DOST Human Resource Development Program (DOST HRDP) for DOST

personnel representing attached agencies and the regional and provincial offices. This initiative provides learning and development opportunities to upgrade the competencies of the information officers and communication specialists of the DOST system on developing and pre-testing IEC materials among intended audiences.

Dr. Imelda Angeles-Agdeppa, DOST-FNRI Director IV and Scientist IV, warmly welcomed the 43 participants of the training. DOST Secretary Renato U. Solidum, Jr. via video recording gave an Inspirational Message where he mentioned that the true impact lies on how one integrates what was learned into daily life and work. Dr. Leah J. Buendia, DOST Undersecretary for Research and Development and USec. Maridon O. Sahagun, DOST Undersecretary for Scientific and Technical Services also delivered Messages of Support through video recordings.

Topics presented by the resource speakers on the first day included the Introduction to IEC Materials, the Front-End Analysis (FEA), Developing a

Creative Brief, Elements and Principles of Graphic Design, and Mayer's principles of Multimedia Learning.

On the second day, IEC Production Process and Pretesting were discussed. Participants were grouped for the first workshop to craft pre-testing questionnaires based on the IEC materials given to them.

On the last day of the two-and-a-half day training, participants conducted a mock Focus Group Discussion (FGD) as part of Workshop 2. Each group presented the highlights of the mock FGDs.

In his Closing Remarks, DOST Undersecretary for Regional Operations, USec. Sancho A. Maborang thanked the participants and resource speakers and commended the DOST-FNRI for spearheading the DOST-HRDP training and extending it to the DOST Regional Offices and attached agencies. He also shared a quote from Anne Roe: "Nothing in science has any value to society if it is not communicated". "One of our reasons why we conduct researches is to make lives better for everyone. That is why it is not right if we have a lot of researches, but we do not share them", USec. Maborang added.

The DOST-FNRI, with the support from DOST-HRDP, will continue to provide trainings to equip DOST employees in effectively and efficiently communicating various research results among their intended audiences, all for the goal of #OneDOST4U.■

DOST-FNRI, Bacolod City's Merzci Bread and Pastries launch Iron-Fortified Rice (IFR)

✍ JSDeJuan, Senior Science Research Specialist, TDSTSD



Dr. Imelda Angeles-Agdeppa, DOST-FNRI Director IV and Scientist IV (middle) receiving a Plaque of Appreciation from Mr. Jonathan Manuel T. Lo, CM & Sons Food Products Inc. CEO and President (left) and Bacolod City Councilor Jude Thaddeus Sayson (right) during the launch of Iron-Fortified Rice (IFR) and Iron Rice Premix (IRP) at the L'Fishers Hotel, Bacolod City on August 18, 2023

The proud and famous producer of Merzci Bread and Pastries from the City of Smiles that is Bacolod, CM and Sons Food Products, Incorporated, launched the DOST-FNRI IFR at the L'Fishers Hotel, Bacolod City on August 18, 2023. Mr. Jonathan Manuel T. Lo, Merzci CEO and President, led the launch together with his wife, Mrs. Lisabelle Lo and son, Mr. Jeremy Manuel Lo.

Dr. Imelda Angeles-Agdeppa, the DOST-FNRI Director IV and Scientist IV graced the event as guest of honor. Dr. Agdeppa underscored in her message that "the DOST-FNRI remains committed in ensuring optimal nutrition for Filipinos". "The Institute consistently applies innovations to food technologies, which are then licensed to qualified MSMEs across the country", Dr. Agdeppa added. She declared that "this is aligned with and in response to DOST Secretary Renato U. Solidum Jr.'s mantra: Science for the People, One DOST 4 U".

The launch of Iron Rice Plus brand of CM and Sons Food Products, Incorporated includes the IFR and

IRP technologies of DOST-FNRI. The milestone event is the embodiment of a vision that has been nurtured through the unwavering dedication and steadfast collaboration with the government and private sectors to address malnutrition among Filipinos.

Also present at the launch were Councilor Jude Thaddeus Sayson, representing Bacolod City Mayor Albee Benitez, Bacolod City Lone District Representative Greg Gasataya, and other representatives from the DOST-FNRI, Philippine Rice Research Institute (PhilRice), Department of Education (DepEd) Central Office, DepEd Division of Himamaylan City, DepEd Regions 6 and 7, National Food Authority (NFA) Negros, Department of Social Welfare and Development (DSWD) Region 6, DOST Region 6, and Department of Health (DOH) Region 6.

Dr. Agdeppa, conveyed the DOST-FNRI's full support to the successful production and promotion of IFR and IRP by CM and Sons Food Products, Incorporated.

The notable achievements that the CM and Sons Food Products, Incorporated has gained over time is especially evident in the accomplishments of Merzci and its diverse selection of bakery, fast food, and culinary souvenir items that form part of the prominent heritage of the food sector.

This legacy is defined by unwavering dedication to the welfare of the community, particularly on nutrition improvement.

Such commitment is exemplified by adopting more of the DOST-FNRI developed nutritious food products like the Enhanced Nutribun squash, carrot, and sweetpotato variants that are intended to benefit valued patrons. While sustaining growth and prosperity, the company's dedication to help improve nutrition remains resolute. ■

DOST-FNRI engages with iconic Hotel and other Private Institutions

✍ JT Gonzales, Senior Science Research Specialist, TDSTSD



Participants and resource persons of the Training on Meal Management and Safe Food Handling, August 17, 2023, The Manila Hotel Conference Room

The DOST-FNRI through the Food and Nutrition Training Unit (FNTU) is the “go to” for its training courses on meal management and food safety, among others. The FNTU offers trainings and other services to share the Institute’s data and established F&N R&D and S&T systems and procedures to its various stakeholders.

On August 17 and 18, 2023 FNTU conducted a face-to-face training on Meal Management and Safe Food Handling for the iconic Manila Hotel Staff composed of Food & Beverage Managers, Waiters, Service Crew and HR staff. The training was conducted in two batches with 30 participants. It was composed of six modules namely: 1) basic nutrition concepts; 2) meal planning; 3) food buying with emphasis on reading and interpreting food labels; 4) food storage; 5) food preparation and; 6) basic food safety.

Another engagement was with Marco Polo Ortigas Manila held on August 15, 2023 at Marco Polo Ortigas Manila, Ortigas Center, Pasig City. It was a customized training on meal management and safe food handling with selected topics like Basic Nutrition

concepts with focus on trans fat, meal planning and basic food safety. It was attended by 15 food handlers and service crew of Marco Polo.

Future engagements with other private institutions are also in the pipeline. A training on basic nutrition concepts and first 1000 days will be held on September 6, 2023 among community workers-beneficiaries of San Miguel Foods Corporation. The customized training will be conducted in two batches via Zoom. The first batch will be on September 6, 2023, while the second batch will be on October 10, 2023. Other interested private companies like Hi-Top Merchandising Inc., and MEGA Global Corporation reached out to DOST-FNRI on June 27, 2023 and August 16, 2023, respectively.

Hi Top Merchandizing Inc. proprietor Mr. Hans Tan signified his interest to partner with DOST-FNRI to educate their employees on basic nutrition concepts by giving them awareness seminar in their two manufacturing plants in Quezon City and in Marilao, Bulacan. The proposed dates for the awareness seminar will be on October 21 and October 23, 2023.

On the other hand, MEGA Global Corporation is also interested to collaborate with DOST-FNRI through FNTU and the Nutrition Food Research Development Division (NFRDD). The NFRDD group will evaluate 12 recipes using sardines to be included in their MEGA Bigay Sustansya (MBS) program while FNTU group will conduct 16 sessions of nutrition education seminars among their school children-beneficiaries, mother/caregivers of the school children plus the school teachers who will be involved in the feeding program.

DOST-FNRI can also customize trainings and seminars depending on the needs of the requesting party. For those who are interested to avail of the trainings offered by DOST-FNRI, you can write or email our Director, Dr. Imelda Angeles Agdeppa at dostfnri47@gmail.com or you may reach Ms. Lhearnie Manongdo, SRS II at landline number 8837-8113 loc 321 or email at Immaglaya@gmail.com. ■

NUTRINET reviews accomplishments, crafts plans

✍ DYDeLeon, Senior Science Research Specialist, TDSTSD



tasks of each NUTRINET Committee that includes the Adopt-A-Library Committee, Capability Building Committee, Database and Filipiniana Resource Committee, and the Promotions and Publicity Committee. She finished her presentation by outlining the activities for the next two days.

Day 2 started with a tour of selected DA-PhilRice offices, facilities, and experimental rice fields. The group visited the DA-PhilRice Library, followed by the Genetic Resources Division and Crop Biotechnology Center.

The Nutrition Research Information Network (NUTRINET) conducted its Evaluation and Planning-Workshop on August 30 to September 1, 2023 at the DA-PhilRice, Science City of Muñoz, Nueva Ecija.

The planning-workshop was co-sponsored by DOST-FNRI, Department of Agriculture-Philippine Rice Research Institute (DA-PhilRice), and the Department of Health-Knowledge Management and Information Technology Services (DOH-KMITS).

The Network crafted a three-year strategic plan for 2024-2026 based on its objectives and identified projects and activities relevant to the New Normal.

Day 1 started with a warm Welcome Message from Dr. Eduardo Jimmy P. Quilang, Officer-in-Charge, Office of the Deputy Executive Director for Research of DA-PhilRice. Dr. Quilang gave an update on the Healthier Rice Program of DA-PhilRice, mentioning that they are developing rice that is high in zinc and iron. He concluded by challenging the NUTRINET members on expanding the reach of sharing research results among stakeholders.

After Dr. Quilang's message, the

participants were requested to introduce themselves for the benefit of new members. After posing for a photo opportunity, the group viewed the audio-visual presentation on the Network's 35th Anniversary produced by DOST-FNRI.

Dr. Elizabeth D. Malabanan, Library Director of University of Perpetual Help System Laguna (UPHSL), discussed Navigating Libraries through Kiosk-Driven Services. She discussed the features and functionalities of kiosks. Dr. Malabanan also shared the advantages of kiosk-driven services. She ended her presentation by showing the kiosk driven services of the UPHSL Library.

Mr. Dexter Y. De Leon, Head of NUTRINET Secretariat and Senior Science Research Specialist of DOST-FNRI, presented the Network's accomplishments from 2018 to 2022. Mr. De Leon reported that NUTRINET achieved many targets despite the pandemic.

Dr. Milflor S. Gonzales, Chair of NUTRINET TecCom and Chief Science Research Specialist of DOST-FNRI, discussed the overview of the workshop. Dr. Gonzales reiterated the

The group rode the "Bleachair" or Kalesang de Gulong to proceed to the next stop of the tour dubbed as the Palayamanan Plus Complex. The Complex showcases different integrated farming enterprises, and mushroom and vermicompost production demonstration. The next stop of the tour was the Rice Engineering Mechanization Division (REMD) where the machines designed by DA-PhilRice were displayed. One of the machines is the Drumseeder, which a farmer can effortlessly drag across the field to deposit rice seeds in perfectly-aligned rows and spaces.

After visiting the REMD, the team visited the Rice Science Museum. The Museum presents thematic displays and informs visitors of the past through its "rewind journey" of rice production in the country through the years. This helps understand the past and present farming conditions in the Philippines.

The next leg of the tour was at the DA-PhilRice Airstrip, which is the experimentation and study site of different DA-PhilRice researches. Finally, the last destination of the tour was the Rice Chemistry and Food Science Division (RCFSD), which supports boosting the productivity and profitability of rice farming systems. The RCFSD also determines the grain

DOST-FNRI delegates at the 14th Asian Congress of Nutrition (ACN)

✍ NMBristol, Science Research Specialist II, TDSTSD



The DOST-FNRI delegates, led by Dr. Imelda Angeles Agdeppa, Director IV and Scientist IV, presented various Philippine nutrition studies at the 14th Asian Congress of Nutrition (ACN) in Chengdu, China on September 14-17, 2023.

“Feeding the Future by Sustainable Nutrition”, the reverberated call to action of the 14th ACN covered broad and timely topics on food and nutrition science in eight sessions: Nutrition and Sustainable Development, Basic Nutrition and Research, Public Nutrition and Health, Food and

Nutrition, Nutrition Across a Lifespan, Nutrition Education, Clinical Nutrition, and Precision Nutrition.

Dr. Agdeppa presented the studies on “Development of Phil-HEI (Healthy Eating Index) and its evaluation of the Filipino Diet” and “Micronutrients Status and Food Fortification in South East Asia and the Philippines – Gaps and Opportunities”.

Meanwhile, Mr. Robby Carlo A. Tan, Senior Science Research Specialist, presented the study: “Is Quality of Life related to Muscle Mass, Muscle

Strength, and Physical Performance among Community-Dwelling Older Filipinos?”.

While Ms. Hazel T. Lat, Science Research Specialist II, presented the study: “Energy Cost of Selected Physical Activities Among Community-Dwelling of Older Filipinos in Taguig City, Philippines”.

The Federation of Asian Nutrition Societies (FANS) and the Chinese Nutrition Society (CNS) organized the 14th ACN. ■



Photo News



49th DOST-FNRI Seminar Series (FSS), July 5-6, 2023,
Dusit Thani Hotel Manila, Makati City



DOST-FNRI 76th Anniversary Celebration, July 7, 2023,
Dusit Thani Hotel Manila, Makati City



Fruit and Vegetables for Sustainable Healthy Diet (FRESH)
Workshop on understanding consumer behavior towards
increasing fruits and vegetable intake, July 21, 2023,
Dusit Thani Hotel Manila, Makati City



Briefing-Orientation on DOST-FNRI developed technologies
and services for the Department of Foreign Affairs - Technical
Cooperation Council of the Philippines (DFA-TCCP),
July 26, 2023, DOST-FNRI, Bicutan, Taguig



Pilot visit and briefing-orientation on DOST-FNRI Food
Technologies Ready for Transfer and Commercialization for the
Provincial Government of Northern Samar, July 26, 2023,
DOST-FNRI, Bicutan, Taguig



DOST-FNRI exhibitors on HANDA Pilipinas: Innovations in
Disaster Risk Reduction and Management (DRRM) Exposition
July 27-29, 2023, World Trade Center, Pasay City



Participants and resource persons of the Training-Workshop
on DOST PINOY Modules and Cooking Demonstration of
Complementary Food Blends, August 9-10, 2023, San Emilio,
Ilocos Sur



Director Margarita G. Reyes, Civil Service Commission (CSC)
Field Office Director for the Department of Science and
Technology (DOST), awarded DOST-FNRI with the Board
Resolution on Program to Institutionalize Meritocracy and
Excellence in Human Resource Management (PRIME-HRM)
Maturity Level II, September 11, 2023, DOST Science Plaza



Bangsamoro Planning and Development Authority, Ministry of Agriculture, Fisheries, and Agrarian Reform, Ministry of Science and Technology, and Ministry of Trade, Investments, and Tourism (MTIT) visited DOST-FNRI as part of their benchmarking activity to support the viability and technical studies for the establishment of Bangsamoro Agri-Fishery Development and Enterprise Center or BAFDEC, September 13, 2023, DOST-FNRI Conference Room



Meeting with Hi-Top Management, September 14, 2023, DOST-FNRI.



DOST-FNRI Science Research Specialist I, Ms. Filipiniana B. Bragas' TV Patrol interview on nutritious & safe *baon* for school kids aired on September 15, 2023, via ABS-CBN News YouTube Channel



DOST-FNRI signed a Memorandum of Agreement (MOA) with New Pathways to Enterprise for the Spiced Coconut Vinegar Fortification Project, September 18, 2023, DOST-FNRI Information Resource Station



Meeting with Nestle, September 19, 2023, DOST-FNRI Information Resource Station



Dialogue with the Philippine Chamber of Food Manufacturers, Inc. on the Adoption of 2015 Philippine Dietary Reference Intakes in Nutrition Labelling, September 28, 2023, DOST-FNRI Conference Room

Writers Pool Corner

What is affordable food to you?

✍ CAJavier, Senior Science Research Specialist, NAMD



Several months late, but this year's Nutrition Month theme: "Healthy diet, gawing affordable for all", is as relevant now with daily news featuring rising costs of food, fuel, transportation fare, other basic commodities, and utilities.

In preparation for a presentation last July, I asked some people what affordable diet is for them and how they would translate "affordable food" in their local vernacular.

Perhaps the closest translation I was looking for (partly because it came from my own mother speaking in our local tongue) was "Kabaelan nga pagbiag", which, when translated to English does not literally mean affordable food, but rather "being able to acquire food that is nourishing or sustains life".

Affordability is a component of food accessibility, which is one of the pillars of food security. It is not just having enough income to buy adequate food, but how easy or difficult it is for people to have adequate food even without changes in income.

This is the case in some regions that increased minimum wage, but for many working people, incomes have not changed accordingly with escalating food prices. Food price is an important factor in food purchases.

Since the last quarter of 2022, we are experiencing the increasing prices of our commonly-consumed food, such as onions, rice, and tomatoes.

The news items that we see do not even feature or highlight other foods that provide other important nutrients that we need to sustain our health, such as vegetables and fruits, which are usually more expensive if these are purchased and not harvested from own gardens.

Based on the 2018-2019 Food Consumption Component of the Expanded National Nutrition Survey (ENNS) of the DOST-FNRI, vegetables and fruits consist only of 10.5% and 2.2%, respectively, of the household food cost compared to cereals and products at 28.2% and fish/meat/poultry at 38.6%.

Looking at the trends, consumption of fruits and vegetables have been on the downtrend compared to four decades ago. Per capita consumption of fruits in 2018-2019 was 34 grams, which was only one-third of the fruit consumption in 1978 at 104 grams.

Households in lower-middle countries spend about 52.4% of per capita income to achieve an EAT-Lancet reference diet, which is a healthy, environmentally- and sustainably-developed reference diet based on an analysis by Hirvonen in 2020.

In the Philippines in 2021, the food threshold, which is the minimum amount required to meet the basic food needs and satisfy the nutritional requirements of families or individuals to remain economically and socially productive, was Php 275 for a family of five, or about Php1,925 weekly, based on Philippine Statistics Authority (PSA) data.

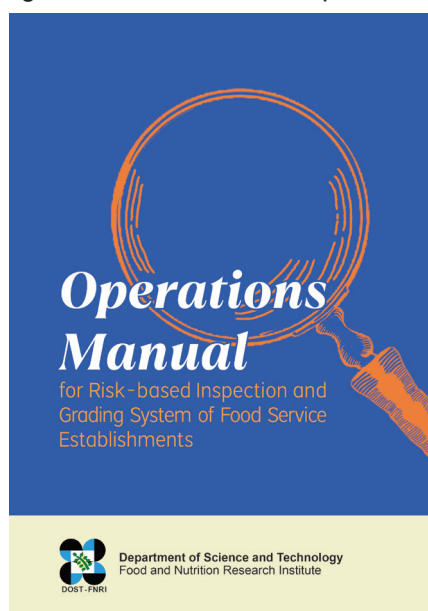
If we are to assume inflation in 2022 and 2023, an amount lower than this has to be contextualized as to how many people are consuming food with that amount and whether the foods included are meant to satisfy only hunger or meet the energy and nutrient requirements of household members.

For people with lower socio-economic status, choosing foods that are energy-dense but lower in nutritional value, such as grains, fats, and sweets is one of their coping strategies because these are generally cheaper, according to the 2022 DOST-FNRI study

Other food-related coping strategies are reducing the amount of food to eat, reducing number of meals, or changing food distribution, like giving more food to children and those who are earning compared to other members.

Is your food service safe? Use DOST-FNRI's Food Safety Grading Tools to find out

✍ LManongdo, Science Research Specialist II, TDSTSD



FOOD INSPECTION CHECKLIST		Date of Inspection:
Inspector's Name:		Inspector's ID No.:
Registered Business Name:		Business Permit No.:
Physical Address: (Unit / stall number, floor, building, street, barangay, city / municipality, province)		
Contact No.:	Operating Hours:	No. of Employees: No. of Shifts and time:
Manager/ Supervisor (At the time of inspection):		
Food Safety Compliance Officer (FSCO): (if applicable)		FSCO Certificate No.: (if applicable)
Type:	Inspection:	
<input type="checkbox"/> Buffet <input type="checkbox"/> Canteen <input type="checkbox"/> Carveria <input type="checkbox"/> Casual Dining <input type="checkbox"/> Catering <input type="checkbox"/> Fast Food <input type="checkbox"/> Food Stall <input type="checkbox"/> Hospital Food Service	<input type="checkbox"/> Initial <input type="checkbox"/> Complaint <input type="checkbox"/> Routine: 1 st 2 nd 3 rd 4 th	
Instructions: On the Compliance column, mark ✓ if the answer to the question is YES; mark X if the answer to the question is NO; with NA if the question is Not Applicable. On the Remarks column, write R for Repeated violations. After the inspection, encircle (O) the point for those marked with ✓.		
A. DOCUMENTS AND PERMITS		
1. Is the sanitary permit displayed where it can be seen by consumers? 3.1.A	Compliance	Remarks
2. Do all food handlers, including the Food Business Operator (FBO) or manager, have adequate knowledge and training in food safety with valid certification? 3.1.B	Compliance	Remarks
3. Are there evidences of compliance to a management system or standard (e.g. ISO, HACCP, Certification, Third Party Audit / Certification or International Certification)? 3.1.C	Compliance	Remarks
4. Are important documents and records available for checking? 3.1.D	Compliance	Remarks
5. Do all food handlers have valid health certificates and show no signs of illness? 3.2.A	Compliance	Remarks
6. Does water supply come from safe sources approved by local authorities? 4.4.A.1-2	Compliance	Remarks
B. DELIVERY AND TRANSPORT		
7. Is the off-site transporting or delivery of cooked food done properly? 3.A.1	Compliance	Remarks
C. HOLDINGS		
8. Is there a dedicated, calibrated and sanitized food thermometer to monitor the holding of cooked food? 3.4.E.1	Compliance	Remarks

Do you wash your hands before eating? When you are in a fast food restaurant, do you ask the server for single use or heated utensils? After going to the market, do you wash vegetables before cooking or storing in the refrigerator? If you answered YES in any of the questions, then you are applying basic food safety principles.

Food borne illness refers to disease caused by contamination of bacteria, viruses or parasites through food or water. Children, pregnant and elderly have high risk of developing symptoms like vomiting, nausea or diarrhea.

According to the World Health Organization (WHO), diarrhea is the second cause of death in children below five years old. Diarrhea is usually a symptom of an infection in the gastrointestinal tract either caused by virus, bacteria, or parasite.

In the Philippines, most common sources of food and waterborne diseases that can cause diarrhea are contaminated water and food. However, it can be prevented by following good hygiene and food safety practices, such as drinking clean and safe water, washing your hands before and after cooking, and ensuring that food is cooked in the right temperature.

The Philippine government passed the Food Safety Act of 2013 to protect consumers and facilitate market access to safe and clean food. This Act provides that all food establishments, both institutional or commercial, must designate a Food Safety Compliance Officer (FSCO) who passed a prescribed training course for FSCO recognized by the Department of Agriculture (DA) or the Department of Health (DOH).

The FSCO is responsible for implementing the food safety, hygiene, and sanitation program of the food establishments, as well as ensure its compliance with the local regulations.

Related to this, the DOST-FNRI developed the Food Safety Grading System Tools to help FSCO or sanitary inspectors in conducting risk-based inspection and grading food safety compliance of food establishment. It is composed of the Food Inspection Checklist (FIC), Code of Standards (COS) for the Food Inspection Checklist and Grading System of Food Service Establishments, and Operations Manual (OM) for Risk-based Inspection and Grading System of Food Service Establishments.

These grading tools are standardized and aim to measure compliance of food establishments on safe food handling

and legal requirements. The code of standard consists of guidelines on the criteria incorporated in the Food Inspection Checklist. The Operations Manual (OM) serves as a handbook of reference for sanitation inspectors on the food safety standards in performing risk-based inspections.

These tools can help institutions and food safety operators in implementing food safety measures in their establishments. The DOST-FNRI offers training for stakeholders who wish to adopt the tools.

DOST-FNRI recommends adoption of the Food Safety Grading Tools by national government agencies, local government units, and institutions concerned with food service and food safety regulation.

Food borne illness can be prevented. Effective collaboration between government, consumers and food establishments is important to ensure that food safety is a public health priority. ■

Is grilled *balut* poisonous?

✍ LMManongdo, Science Research Specialist II, TDSTSD



Photo grabbed from GRILLED BALUT in TAMPILISAN ZAMBOANGA DEL NORTE PART 1 YouTube video

Who would not testify to the soul-soothing taste of *balut* among Filipinos? *Balut* is one of the popular Filipino street food delicacies that visiting foreigners are being dared to eat usually with a wager or *pusta*.

Balot or *balut* is a 16-21 day-old fertilized duck's egg. During this time, there is a semi-developed duck embryo inside the shell. But did you know that it is also common in China, Cambodia, Thailand, Laos, and Indonesia?

Based on the Food Composition Tables (FCT) of the DOST-FNRI, *balut* is a good source of protein and calcium. It is also rich in vitamin C and other minerals. These nutrients are essential for repair of body tissues, important for good vision, proper growth and development, and strong immunity. The egg yolk, which is often used as main ingredient in Filipino desserts like leche flan, contains significant amounts of Vitamin A, D, E, and K.

The duck egg that is made into *balut* is larger compared to a chicken egg. The liquid serves as the flavorful soup, the embryo provides meat, the tasty yolk

contains protein, and the egg white delivers the chewy-gummy texture.

Balut is cooked by boiling, then continuously steamed to maintain its ideal temperature, since a cold one is considered undesirable. It is consumed by breaking and opening the top portion of the shell where salt or spiced vinegar is sprinkled before gulping the liquid. From there, the rest of the shell is broken to reveal and consume whichever part is preferred first or last to go.

Recently, grilled *balut* became viral in the Philippines, as it was all over the social media. It has been said that grilled *balut* adds smoky flavor which makes it more tasty. In addition to the distinct flavor, it is served by exposing a small portion while cooking so that consumers can add the seasoning of their choice while the egg is on the grill. Compared to the regular selling of *balut* in a basket covered with cloth warmed by hot water at the bottom to preserve its temperature, some claim that grilling adds to the gourmet experience.

The occurrence of hydrogen sulfide is

a common chemical reaction in eggs which is not known to everybody. When you overcook egg, the iron in the yolk reacts with the hydrogen sulfide in the egg white which gives a green hue on the egg yolk. Contrary to claims it is not detrimental to health and will not cause suffocation and food poisoning (Agency for Toxic Substances and Disease Registry, 2014).

The smell of cooked eggs is also due to the hydrogen sulfide gas. However, this is not dangerous when inhaled. The chemical quantity generated when cooking egg is 0.02-0.2 parts per million (ppm), which is much lower compared to the permissible exposure limit of 20 ppm, based on the Occupational Safety and Health Administration (OSHA). With this, consuming grilled *balut* is as safe as consuming the regular *balut*.

What makes eating *balut* dangerous is the quantity consumed per day. According to the Food Composition Tables of DOST-FNRI, *balut* contains 172 calories, 12.8 grams (g) of protein, 12.4g of fat and 2.2g of carbohydrate.

More Pinoy adults, elderly at risk for osteoporosis alarming– DOST-FNRI

✍ FJPBatalantes, Project Technical Assistant II, TDSTSD

Osteoporosis is a growing concern among Filipino adults and the elderly.

The DOST-FNRI reported that one of the potential contributor to poor bone health that causes osteoporosis among Filipinos is low calcium intake.

The 2021 Expanded National Nutrition Survey (ENNS) of the DOST-FNRI revealed that 97.2% of adults and 95.5% of elderly suffer from calcium deficiency. These statistics highlight the need to focus on osteoporosis awareness, diagnosis, and treatment, the DOST-FNRI emphasized.

Thus, the DOST-FNRI encourages everyone to eat calcium-rich food such as small fish, shell fish, cereals, green leafy vegetables, and dairy products.

It is also necessary to have sufficient vitamin D for efficient absorption of calcium by simply getting enough sunlight that activates vitamin D in the body, the DOST-FNRI added.

Furthermore, the Institute recommends that the national government should intensify the food fortification program not only on milk products but other food products which can be good vehicles of calcium and vitamin D fortification.

Also, the Institute proposes that the LGUs should have sustained effort and structured public awareness programs on the importance of bone health, initiate primary prevention programs focusing on modifiable risk factors such as nutrition and lifestyle-related behaviors, and establish diagnostic facilities like DEXA scans in their health centers for early detection of osteoporosis. ■



DOST-FNRI Launched New Nutritious... from p. 1

of Interior and Local Government (DILG) presented the requirements or needs of their feeding and nutrition programs for information and guidance of food technology licensees on the volume of production that they could be capable of providing these needs.

Successful technology adopters have shared their experiences and

gains in adopting the DOST-FNRI food technologies to inspire the other MSMEs. The event was honored by the recorded message of support from Senator Francis N. Tolentino who pushes for the development of food technologies from coconut to help the industry and its farmers. The TAGPUAN was also graced by DOST and partner-agency officials, including

a recorded message from DOST Secretary Renato U. Solidum, Jr. Major mass media partners from GMA 7, GNTv, TV 5, PTV 4, NET 25, DOSTv-STII, and Manila Times provided wide coverage and prime exposure immediately after the event, with follow-up interviews and write-ups days following the launch.■

NUTRINET reviews accomplishments, crafts ... from p. 6

quality characteristics of rice.

After the DA-PhilRice tour, the workshops commenced. In Workshop 1, the TecCom members were grouped into the four committees. Each committee reviewed the Action Plans from 2018-2022 and discussed whether these plans were accomplished, the issues and problems encountered, and the proposed solutions. After accomplishing the form, the committee presented their outputs.

For Workshop 2, the working committees crafted plans for 2024-2026. The committees also determined the timeline and budgetary requirements for each activity. The workshop ended with the presentation and review of the strategic plan by group. Day 2 ended with the TecCom members signing the pledge of commitment that indicates their assurance in accomplishing the plans for 2024-2026 and “renew” their membership to NUTRINET.

Day 3 started with Mr. Salvador R. Serrano, Senior Science Research Specialist of DOST-FNRI, giving a synthesis of the highlights of the engagement. Mr. Serrano stated that most of the targets were accomplished, including untargeted but related activities conducted by members. He expressed appreciation that the workshop outputs of committees came up with various innovations that reflect adaptive and foresight planning that the Network needs. On the side, Mr. Serrano reminded the members to be familiar with the history of the Network, citing the difficulty in recalling these

milestones during the trivia questions posed during the last activity of Day 2. He ended the recap by congratulating the TecCom members for a productive and enjoyable planning workshop.

After the synthesis, selected TecCom members gave their impressions. Ms. Catherine DG. Fernando, Librarian of Ateneo de Manila University School of Medicine and Public Health (ASMPH), said that it was an excellent introduction about NUTRINET and the medical librarianship. Mr. Alfonso T. Demdam, Librarian of University of the East Ramon Magsaysay Memorial Medical Center, Inc. (UERMCCI), expressed his gratitude for the learnings and ideas gained during the workshops.

In her impression, Ms. Carla G. Demabildo, Librarian of University of the Philippines Manila-College of Medicine (UPM-CM), said that the Network members should always adapt to changes. She hopes that the camaraderie between the members will be maintained. The impression of Ms. Julrose H. Dela Torre, Media Production Specialist I of Department of Agriculture-Agricultural Training Institute (DA-ATI) was in the form of an acronym: PPEST to stand for Pleasant, Proud, Excited, Smooth, and Thankful.

The last to give the impression was Mr. John Paul R. Combalicer, Librarian II of Department of Agriculture-National Fisheries Research and Development Institute (DA-NFRDI) who said that NUTRINET’s planning workshop exceeded his expectations. He ended his impression by thanking and

congratulating all TecCom members and he looks forward to collaborations with Network members.

The NUTRINET activity formally ended with the Closing Remarks of Dr. Gonzales. Dr. Gonzales stressed that it is really a challenge for NUTRINET to maintain the “sense of family” and being very collegial at the same time because each TecCom member has a different background. The NUTRINET’s 36 years in existence is a testimony to the strong camaraderie and professionalism of Network members. She added that the co-existence of camaraderie and professionalism will keep NUTRINET stronger in the years to come. She concluded her message by congratulating the TecCom members and the Secretariat for the fruitful evaluation and planning workshop.

To know more about NUTRINET, email the Secretariat at nutrinet.secretariat@gmail.com and visit the website at nutrinet.fnri.dost.gov.ph. Please like and share the NUTRINET’s Facebook page (fb.com/nutrinet.ph). ■

What is affordable food to you? ... from p. 10

Non-food coping strategies include borrowing money from relatives and non-relatives, asking help from local officials like mayors, barangay captains, or councilors, securing a loan from formal institutions like the SSS, GSIS or PAGIBIG, and selling or pawning assets.

So where am I pointing at? While food price issues are in the daily news, little, if at all, mentions about the effects on malnutrition.

An analysis by the International Food Policy Research Institute (IFPRI) in 2022 among 1.27 million children in low and middle-income countries (LMIC) showed that exposure to food inflation while in the womb and in the first years of life is associated with greater risks

of child wasting in the short run and stunting in the long run.

Food inflation poses larger wasting risks for children of poor and landless rural households that worsens existing inequalities, the IFPRI further revealed.

Malnutrition in the Philippines has been a long, continuing battle, and still, the country ranked fifth in East Asia and the Pacific Region with the highest prevalence of stunting and among the top 10 countries with the highest number of stunted children in the world, according to the World Bank in 2021.

We acknowledge the stop-gap temporary efforts in making food more affordable, like in the case of rice,

through subsidies and price controls.

However, we need affordable diets consisting of a variety of foods in the long run if we are to address malnutrition and promote good health and well-being.

But for poor people, it may be difficult to think of their children's height and weight and IQ as worthy investments, if they cannot even think of how to put enough, affordable food on their tables on a daily or per meal basis. ■

Is grilled balut poisonous? ... from p. 12

Aside from this, *balut* contains 726 milligrams (mg) of cholesterol, which is twice as much as the cholesterol of a regular boiled chicken egg that weighs 460 mg.

The American Heart Association (AHA) recommends an intake of cholesterol of not more than 300 mg daily. Regular consumption of foods high in cholesterol may lead to hypercholesterolemia or

high cholesterol levels which can lead to high blood pressure or hypertension, cardiovascular diseases, and even heart attack, stroke and death.

Based on the DOST-FNRI National Nutrition Survey (NNS), 46.9% or 4 in 10 of Filipinos who are 20 years old and older have borderline high cholesterol. Foods with high cholesterol include shellfishes, organ meats and internal

organs, and eggs. Indeed, grilled *balut* is safe for consumption but should be taken in moderation, as in all other food and activities as well.

Remember, the concept of MOVABA which means Moderation, Variety and Balance when eating. ■



CONGRATULATIONS!

Newly promoted and original appointment staff



July 11, 2023 (from left to right)
Jenina Daquiaoag (Administrative Aide IV),
Tristan Gene Sario (Admin Assistant II),
Jacus S. Nacis (Senior Science Research Specialist)



July 25, 2023
Rogel L. Villapaz
(Science Research Specialist II)



August 1, 2023
Mildred O. Guirindola, Ph.D.
(Supervising Science Research Specialist)



August 23, 2023
David Kenneth C. Mendoza
(Science Research Specialist II)



September 7, 2023 (from left to right)
Ruvy Ann O. Rosales (Science Research Analyst),
Jenn D. Serrano (Science Research Specialist II)



September 11, 2023 (from left to right)
Tricia Camille A. Naniong (Science Research Specialist I),
Dannieline M. Solis (Science Research Analyst)

Library Acquisitions

✉ DYDe Leon, Senior Science Research Specialist, TDSTSD

Title/Author	Publication / Year
Unmasking the Real Effect of Gender of Household Head in Household FoodSecurity in the Philippines / <i>Mildred O. Guirindola, Carlo G. Custodio Jr., Jessica D. Villanueva, and Ruel B. Guirindola</i>	Philippine Journal of Science, 152 (1): 205-218 / February 2023
A study protocol for a pilot randomized controlled trial to evaluate the effectiveness of a gene-based nutrition and lifestyle recommendation for weight management among adults: the MyGeneMyDiet® study / <i>Jacus S. Nacis, Jason Paolo H. Labrador, Diana Glades D. Ronquillo, Marietta P. Rodriguez, Aurora Maria Francesca D. Dablo, Ruby D. Frane, Marilou L. Madrid, Noelle Lyn C. Santos, Julianne Janine V. Carrillo, Mikko Glen Fernandez, and Gerard Bryan L. Gonzales</i>	Frontiers in Nutrition / August 2023
Determinants of underweight and stunting among 6-59-months-old indigenous children in the Philippines / <i>Rowena V. Viajar, Julieta B. Dorado, Ma. Lynell V. Maniego, Joanne Jette S. Gulay, Patricia Isabel G. Amita and Imelda Angeles-Agdeppa</i>	Philippine Journal of Science, 152 (3): 1065-1083 / June 2023
Socio-demographic determinants of Filipino consumers reading food product labels and nutrition facts: Findings from the 2018-2019 ENNS / <i>Charina A. Javier, Mario V. Capanzana and Sarah S. Gohilde</i>	Acta Medica Philippina / June 2023
2019 Expanded National Nutrition Survey monograph series: the food, health and nutrition situation of Misamis Occidental / <i>Food and Nutrition Research Institute</i>	Food and Nutrition Research Institute / 2022
2019 Expanded National Nutrition Survey monograph series: the food, health and nutrition situation of Misamis Oriental / <i>Food and Nutrition Research Institute</i>	Food and Nutrition Research Institute / 2022