

QUARTERLY PHYSICAL REPORT OF OPERATION
as of 3rd Quarter 2021

Department : **DEPARTMENT OF SCIENCE AND TECHNOLOGY**
 Agency : **INDUSTRIAL TECHNOLOGY DEVELOPMENT INSTITUTE**
 Operating Unit :
 Organization Code : **190050000000**

☒ Current Year Appropriations
☐ Supplemental Appropriations
☐ Continuing Appropriations
☐ Off-Budget Account

Particulars	UACS CODE	Physical Targets				Physical Accomplishments				Variance as of Q3	1st
		1st Quarter	2nd Quarter	3rd Quarter	Total	1st Quarter	2nd Quarter	3rd Quarter	Total		
1	2	3	4	5	7	8	9	10	12	13	14
I. Industrial Technology R&D Program Outcome Indicators 1. Number of partnerships with public and private stakeholders and international organizations		2	3	3	8	7	11	14	32	+24	Q3 2021: 14 signed MOAs/MOUs 1. DOE-EUMS (Technical Collaboration, Establishment of Fuel Cell R&D and Testing Facility) 2-4. Vision College of Jeonju, LSPU, and PUP-Biñan (Technical Collaboration, Cooperation on academic and educational exchanges) 5-7. Finite Element Institute of the Philippines, FEATI, and National University (Technical Collaboration, Promotion of Finite Element Analysis (FEA) in the Academic and Industry) 8. Philippine Army (Project Cooperation, Field testing of Food ration during combat operations) 9. Bestfriend Goodies (Licensing agreement, Dev't and field testing of shelf stable RTE chicken arroz caldo as relief food) 10-12. Sapang Multi-Purpose Cooperative, DOST III, and Tarlac Agricultural Univ. (Project cooperation, Upgrading the capability of distribution centers/ trading posts in the delivery of fresh and semi-processed agricultural products) 13-14. DSWD4A and DOST 4A (Project cooperation, Development of Three (3) New Disaster Relief Foods for Vulnerable Groups) Q2 2021: 1. DM Wenceslao and Associates (Contract R&D: Bench Scale Fluidized Bed Gasification (FBG) of Lignite Coal for Indirect Coal Liquefaction) 2-3. Ms. Raphie Amat and Ms. Hannah Laya Resurreccion (Project Cooperator: Thermal Process Validation of Traditional and Ethnic Bottled Products- Acidified-Pasteurized Vegetables) 4. Kasama HALAL Cooperative (Project cooperators for ongoing GIA project Development of Emulsified Meat Products) 5-6. Mr. Jojo L. Aquino and Mr. Alvin Causing (Project cooperation: Establishment of Halal assurance System for Selected food ingredients) 7. Kim Bagurdang (Project cooperators: Development of Halal Compliant Dehydrated Food Products)

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1. Number of partnerships with public and private stakeholders and international organizations (Cont.)											<p>8. Dr. Dave Canteno (Technical Collaboration/ Market Research/Bench-scale Production, Safety Assessment and Market Research of Halal Cosmetics and Toiletries)</p> <p>9. DOST Reg. II (Training and Consultancy on Lab Quality Management System: Compliance to PNS ISO/IEC 17025:2017 of DOST-II RSTL)</p> <p>10. Palaya Corporation (Technical Service: Evaluation of Bactericidal Activity of Ozein OZ-500 Ozone Air Purifier Model AP500. SD as Water Purifier Against E. coli and K. aerogenes)</p> <p>11. PUP Manila (Technical Service: Physico-chem Analysis and Anti-Microbial Activity Test for the 70% Alcohol Solution with Virgin Coconut Oil)</p> <p>Q1 2021:</p> <p>1-2. Fruit Magic and DOST-NCR (Ongoing PCIEERD Project: Development of a Compact Wastewater Treatment System for Restaurants and MSMEs Discharging to Manila Bay)</p> <p>3-6. Orich International Traders, Fenor Foods, Bagundang Enterprises, and PCIEERD (Project coperator for the PCIEERD Project: Development of Halal Compliant Dehydrated Food Products from Selected Food Materials (Dried Fruits, Dried Vegetables and Dried Root Crops)</p> <p>7. Techgreen (Project coperator for the GAA project "Development of Alternative Techniques for Okra Flakes/Sheets Processing")</p>
2. Amount of revenue generated from partnerships		25 M	25 M	25 M	75 M	45.7 M	134.9 M	401.7 M	582.3 M	+507.3 M	<p>Received funds from DOST and attached agencies and other government agencies for the conduct of 22 projects:</p> <p>1. GEMP Compliance Assessment of Local Government Units</p> <p>2. Towards Leveling-Up Onelab for Research, Development and Innovation</p> <p>3. Developing the Capability of Micro and Small-Scale Processors in the Manufacture of Quality Food Products from Philippine Cocoa Beans</p> <p>4. Development of Draft Standards and Recommended Code of Practice (RCP) Processing of Peanut Butter</p> <p>5. Pilot Implementation of ITDI's Pre-Commercialization Tools/Strategies for Effective Transfer and Commercialization of Generated Technologies and Intellectual Properties - Y2</p> <p>6. Development and Field Testing of Retort Foods as Food Ration for Men in Uniform During Combat and Other High Risk Operations</p> <p>7. Thermal Processing of Selected Materials Using Agitated-Type Retort</p> <p>8. ADMATEL Expansion Towards Long Term Competitiveness and Sustainability Phase 2: ADMATEL Geared for PHL Industry 4.0</p> <p>9. DOST-MOST China Joint Research Program - Green Oil and Phytochemicals from Cashew</p> <p>10. Development of Multiple Materials Platform for Additive Manufacturing MATDEV Y3</p> <p>11. Project 2. Combination Therapy: Lytic Bacteriophages and Plant Extracts againsts Multidrug-Resistant Bacteria</p> <p>12. Project 3. Detection of Food and Water-Borne Bacterial Pathogens using Phage-based Diagnostics</p> <p>13. Project 4. De Novo Synthesis of Non-Infective Zika Pseudovirus as Reference for Diagnostics and Vaccines Development</p> <p>14. Project 1. Isolation and Purification of Philippine Common Viruses with Medical Importance and Pandemic Potential for Antigen-Antibody Studies</p>

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											15. Project 5. Development of a Real Time Polymerase Chain Reaction for Point of Need Detection for African Swine Fever Virus (ASFV) 16. Project 6. Development of a PCR-based Detection Kit for Tomato Yellow Leaf Curl Virus (TYLCV) Philippine Strains 17. DOST-CITEM Innovative Food Products under the Value Food Innovation Program for IFEX 2021 18. Development of Mobile Modular Food Processing Facility (MFPP) 19. Development of FIC Competency in Moving New Products from Concept to Market Launch 20. Virtual Livelihood Training Program on Nata de Coco and Ube Processing for Filipino Women Residing in Sri Lanka 21. DOST-ITDI Strategic Communication Portfolio for Enhanced Technology Promotion and Transfer Y2 22. Design and Prototyping of Salt Harvesting Machine Program Title: Accelerated R&D Program for Capacity Building of Research and Development Institutions and Industrial Competitiveness: Collaborative Research and Development to Leverage Philippine Economy (CRADLE)
Output Indicators 1. Number of projects completed		3	3	0	6	7	6	0	13	+7	No completed project for Q3 2021. *Some projects were carry-over from 2020 due to COVID-19 Q2 2021: 6 GAA projects were completed: 1. RDR-FPD-2020-01 - Development of Alternative Techniques for Okra Flakes/Sheets Processing 2. RDR-FPD-2020-03 - Establishment of Food Safety System for High Risk Bakery Products for Public Consumption 3. RDR-FPD-2020-05 - Improving the Quality of Deep-Fat Fried Cassava Chips 4. RDR-FPD-2020-06 - Natural Flavorings from Local Sources as Food Additive Study 1: Optimization of Spray Drying of Flavors from Fermented Fish and Shrimps 5. RDR-PTD-2019-06 - Development of Intelligent Packaging Colorimetric Sensor as Total Volatile Base Nitrogen (TVBN) Indicator 6. RDR-TSD-2020-01 - Market Testing of FIC Technologies/Products through collaboration with existing adopters ---000--- Q1 2021: 8 projects were completed: 1. RDR-CED-2019-01 - Natural Hydrocolloid as Alternative Emulsifier and Stabilizing Agent from Okra (Hibiscus esculentus) Pods 2. RDR-CED-2020-02 - Processing of Anti-freezing Agent for Biodiesel 3. RDR-CED-2020-03 - Development of Uninterruptible Power Back-Up System Using Motor Control for Lighting Applications as Sample Electrical Load

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											4. RDR-CED-2020-04 - Catalytic Hydrogenation and Transesterification of Highly Unsaturated Fatty Acids from Rubber Seed Oil 5. RDR-CED-2020-05 - Bench-scale Production of Curcumin from Philippine Turmeric using Different Extraction Methods 6. RDR-PTD-2020-02 - Establishment of Shelf Life and Safety of Chilled Ready-to Heat and Freshly Cooked Ready to Eat Foods Sold in Convenience Stores and Delivery Service 7. RDR-EBD-2020-01 - Development of a Fermentation Product (Kimchi-Filipino adaptation) from locally-grown vegetables using indigenous LAB isolates as starter culture
2. Percentage of projects implemented within the approved timeframe		100%	100%	100%	100%	100% (46/46)	97.83% (38/39)	97.30% (36/37)	97.30%	-2.70%	*35/36 GAA-funded projects and 1 Downloaded (Metrology program) were implemented within the approved timeframe. One project was suspended due to unavailability of chemicals needed for surface modification and pelletizing. Seven projects were completed last Q2 2021 while 4 new projects started this Q3 2021.
3. Percentage of projects completed which are published in peer-reviewed journals, presented in national and/or international conferences, or with IP filed or approved		5%	5%	5%	5%	36% (45/126)	38% (48/126)	41% (52/126*)	41%	+36%	*52 out of 126 completed GAA projects from the last 5 years (2016-2020) were published/ presented/ filed for IP as of Q3 2021
II. Industrial Technology Transfer Program Outcome Indicators 1. Percentage of clients that rate the technology transfer as satisfactory or better		90%	90%	90%	90%	100% (5/5)	0%	100% (5/5)*	100% (10/10)	+10%	*5 out of 5 clients rated technology transfer as satisfactory or better during Q3 2021

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Output Indicators 1. Number of knowledge/technologies diffused		8	12	15	35	78	35	33	146	+111	Q3: 33 knowledge/technologies were diffused 1. Coconut Water Concentrate 2. Buko Pie 3. Mushroom Culture and Production 4. Oyster Sauce Processing 5. Coconut Skim Milk 6. RTE Chicken Egg 7. Syrup from Rice Bran 8. single-use plastics 9. RTE Chicken Adobo 10. RTE Beef Curry 11. RTE Steamed rice 12. RTE Adobong Kangkong 13. RTE Chicken Afritada 14. RTE Bangus Sisig 15. RTE Beef-Filled Suman 16. RTE Chicken Soup 17. RTD Rice Milk 18. Liquid Detergent 19. Drum Carbonizer 20. Nata de Coco 21. Ube Chips 22. Ube Halaya 23. SD Bagoong Balayan 24. Coconut sap sugar
1. Number of knowledge/technologies diffused (Cont.)											25. Nanoprecipitated Calcium Carbonate 26. Slimming Cream 27. RTE Cassava 28. RTE Corn Soup 29. RTE Mongo 30. Active Packaging for Monay 31. Carrageenan Capsule 32. Analgesic Balm 33. Packaging technology for Durian Q2 2021: 35 knowledge/technologies were diffused through different online platforms and media: 1. Salt Iodization (Process) 2. Ube Snack Food 3. Butterscotch 4. Ithe Powder 14. Coconut Burger 15. Coconut Macaroons 16. Halal Lipstick 17. Halal Shampoo 18. Halal Soap 19. Liquid Hand Soap Production 20. Plastic Densifier 21. Retort Egg 22. VF Okra 23. VF Squash 24. VF Sweet Potato 25. Abaca Fibre Reinforced Composite for Boat 26. RTD Coconut Mungbean 27. Bioremediation technologies to fix heavy metal contamination

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											28. Halal Emulsified Chicken Meat Processing 29. Dragon Fruit Processing 30. Collapsible Toilet 31. Utility Tent 32. Ceramic Water Filter 33. Emergency Disinfection System 34. Filter in wastewater in fruit plant 35. Freeze Dried Products (Mango and Pineapple) Q1 2021: 78 knowledge/technologies were diffused through different online platforms and media: 1. Calamansi Dietary Fiber 2. Vinegar Production using ITDI Acetator Kit 3. Alcohol Making 4. Banana Chips 5. Cacao Roaster 6. Cacao Desheller 7. Cacao Grinder 8. Calamansi Processing 9. Compact wastewater treatment system for QSRs
1. Number of knowledge/technologies diffused (Cont.)											10. Dried Fish Processing 11. Ebulliometer 12. Fish Paste Processing (Fermented Fish) 13. Fish Sauce Processing (Fermented Fish) 14. Freeze Dried Products (Mango and Pineapple) 15. Fruit Puree and concentrates 16. Ginger Candy 17. Guyabano Tea and Capsule 18. Hand Sanitizer Production 19. Household Tumbling Composter 20. Liquid Dishwashing Detergent 21. MOSYMU 22. Nipa Sap Sugar 23. OL Trap 24. Portable Biogas Digester 25. RTE Chicken Arroz Caldo 26. Sagip NutriFlour 27. Salt Iodization Machine 28. Salt Washer 29. Soap Making 30. Trickling Filter System for Removal of Nitrates and Phosphates from Wastewater Effluent 31. Vacuum Fried Langka 32. Virgin Coconut Oil (VCO) Processing 33. Waste Analysis and Characterization Study (WACS) Plan Preparation 34. Wine Kit 35. Bangus in Oil Processing (Thermal Processing) 36. DOST Tablea Processing 37. Drum Dried Mango 38. Nanoday 39. Natural Fiber Thermoplastic Composite

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											40. Smoked Fish in Oil Processing (Thermal Processing) 41. Tuyo in Oil Processing (Thermal Processing) 42. 3D Printing Services 43. Basil Sauce with Pili Peels and Pupt Oil 44. Bioreactor 45. Bottled Bangus and Potato Chips 46. Dual Drum Composter 47. Emergency Food Reserve 48. Extracion of Essential Oils 49. Ginger Tea Processing 50. Gourmet Salt Spice Mix 51. Herbal Milk Tea - Banaba Leaves 52. Herbal Milk Tea - Mangosteen Rind 53. Herbal Milk Tea - Moringa Leaves 54. Herbal Milk Tea - Soursoup Leaves 55. Herbal Tea - Banaba Leaves
1. Number of knowledge/technologies diffused (Cont.)											56. Herbal Tea - Bitter Melon Leaves 57. Herbal Tea - Mangosteen Leaves 58. Herbal Tea - Moringa Leaves 59. Herbal Tea - Soursoup Leaves 60. Isotonic Drink 61. Mango Peel Dietary Fiber 62. Massage oils using VCO with Essential oils 63. Mayonnaise with Pili peels and Pulp oil 64. Mayonnaise with VCO 65. Mixed Fruit Peel Dietary Fiber 66. Mouthwash with Calamansi Seed Oil 67. Nutribun Making 68. Pili Pulp Dietary Fiber 69. Pili Pulp Oil 70. RTD Tablea 71. RTE Smoked Fish 72. RTE Sweet Potato 73. Tomato Pomace Dietary Fiber 74. Tomato Sauce with Pili peels and Pulp Oil 75. Tomato Sauce with VCO 76. Tomato-garlic sauce with VCO 77. Toothpaste with Calamansi Seed Oil 78. Turmeric Tea Processing
2. Number of technologies transferred/ commercialized through technology transfer agreement		1	1	2	4	6	0	16	22	+18	Q3 2021: 1-3. Halal Lipstick, Halal Shampoo , and Halal Soap (Affection8 Consumer Goods Trading) 4-6. VCO, Coconut Flour, and Coconut Skim Milk (Poverello Farms) 7-8. Salt Washer and Salt Iodization Machine (NSB Engineering Design & Fabrication Incorporated) 9-11. Halal Chicken Sausage, Halal Chicken Burger Patty, and Halal Chicken Nuggets (Kasama Halal Producers Coop.) 12-16. Ube Powder, Ube Chips, Ube Butterscotch, Ube Halaya, and Nata (Filipinas in Sri Lanka through the Philippine Embassy in Sri Lanka)

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											Q1 2021: 1. Vacuum Fried Langka (Bounty Harvest Corp.,) 2. Calamansi Processing Plant Set-Up (Campfarm, Inc. and Maryland Manufacturing Corp.) 3. Setting Up of a Start Up and Operation of a Trickling Filter System for the Removal of Nitrates and Phosphates from Wastewater Effluent (CENMACO) 4-6. Acetator Kit, Wine Kit, Ebulliometer (Lozada Machineries Corp.)
3. Percentage of request for technology transfer that have been provided within the required time frame		95%	95%	95%	95%	100% (5/5)	0%	100% (5/5)*	100% 10/10	+5%	*5 out of 5 requests for technology transfer were provided within the required time frame during Q3 2021
III Industrial Technology Technical Services Program Outcome Indicators 1. Percentage of customers that rate the technical services as satisfactory or better		90%	90%	90%	90%	99.86% (736/737)*	100.00% (646/646)	99.81% (528/529)*	99.90% (1,910/1,912)	+9.90%	*528 out of 529 clients rated the technical services as satisfactory or better during Q3 2021
Output Indicators 1. Number of technical services rendered		5,000	5,000	5,000	15,000	4,594	4,168	2,074	10,836	-4,164	Operations were affected by surge of COVID-19 cases within laboratories.
2. Percentage of request for technical services that have been provided within the required time frame		90%	90%	90%	90%	100% (4,594/4,594)	100% (4,168/4,168)	100% (2,074/2,074)*	100% 10,836/10,836	+10%	*2,074 out of 2,074 of technical services were provided within the required timeframe
3. Number of clients benefitting from technical services		500	1,000	1,000	2,500	899	6,463	4,216	11,578	+9,078	

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Date: October 11, 2021

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Date: October 11, 2021