

***University of Puerto Rico
Mayagüez Campus
College of Agricultural Sciences***

Annual Report 2022-2023

Submitted by:

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Dean and Director*

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General Information of the Dean's Office and its Units

A. Mission and Vision

1. Mission and Vision of the College of Agricultural Sciences

The College of Agricultural Sciences at the Mayagüez Campus of the University of Puerto Rico was founded with the establishment of the College of Agriculture in 1911, which became known a year later as the College of Agriculture and Mechanical Arts (CAAM). The University of Puerto Rico Law of 1942 created the College of Agriculture. According to the University of 1966 Law and Certification Number 13 of 1968 of the Higher Education Council, the College of Agricultural Sciences integrates formal education, research, and educational activities aimed at the community in various agricultural and complementary areas. These complementary and interdependent functions are carried out through a three-dimensional organizational scheme composed of the Faculty of Agricultural Sciences, the Agricultural Experimental Station, and the Agricultural Extension Service.

VISION - The College of Agricultural Sciences must be at the forefront in formal and non-formal education, as well as in research, seeking innovation in sustainable tropical agriculture systems and human and environmental sciences that benefit individuals, communities, and society in general.

MISSION - To develop new technologies through education, research, and extension to innovate in the production of agricultural inputs and products for humans and animals through economically viable, sustainable, safe, and global agriculture that contributes to the improvement of the quality of life of society.

2. Mission and Vision of units ascribed to the College of Agricultural Sciences

MISSION

Faculty of Agricultural Sciences

To develop through education, research, and extension new technologies that innovate in the production of inputs and agricultural products for humans and animals through an economically viable, sustainable, safe, and global agriculture that contributes to the improvement of the quality of life of society.

Agricultural Extension Service

Improve the quality of life of people living in socio-economic vulnerability through participatory action via a non-formal education process based on scientific research and focused on the aspirations and needs of families and communities.

Agricultural Experiment Station

Promote a research program in tropical agriculture that safeguards the sustainability of food production and environmental conservation in Puerto Rico and the Caribbean, improving the quality of life and conservation of natural resources.

VISION

Faculty of Agricultural Sciences

The College of Agricultural Sciences must be at the forefront of both formal and non-formal education, as well as research, seeking innovation in sustainable tropical agriculture systems and in human and environmental sciences that benefit individuals, communities, and society as a whole.

Agricultural Extension Service

Integrate the knowledge and know-how generated by the University System, governmental and non-governmental organizations, farmers, housewives, youth, and communities to address their aspirations and needs. Establish partnerships with our collaborators to achieve common goals through non-formal education and participatory action.

Agricultural Experiment Station

The Agricultural Experimental Station will be a leader in research that develops knowledge and technology in sustainable tropical agriculture for Puerto Rico and the Caribbean region.

B. Description and Functions

1. Description and Functions of the College of Agricultural Sciences

The College of Agricultural Sciences (CAS) of the University of Puerto Rico at Mayagüez is composed of three units, the Faculty of Agricultural Sciences, the Agricultural Experiment Station, and the Agricultural Extension Service. Each of these units has a function that contributes to the development of tropical agriculture. In addition to the aforementioned units, there is also the Office of International Programs. Through the Executive Board, composed by the Dean-Director of the College of Agricultural Sciences, the Associate Dean of the Faculty of Agricultural Sciences, the Associate Dean and Deputy Director of the Agricultural Experiment Station, the Associate Dean and Deputy Director of the Agricultural Extension Service, the Director of Planning and Budget, and the Director of the Office of International Programs, the plans and programs of the CAS are directed in accordance with Certification No. 174 of September 24, 1980, of the Council of Higher Education.

2. Description and Functions of the units under the College of Agricultural Sciences

The Faculty of Agricultural Sciences (FAS) is the unit of the College of Agricultural Sciences (CAS) in charge of formal education. The Faculty of Agricultural Sciences is responsible for offering undergraduate and graduate programs. It offers 13 undergraduate programs and 9 graduate programs. The undergraduate programs leading to a Bachelor of Science in Agricultural Sciences are: Agricultural Sciences (General), Agronomy, Crop Protection, Horticulture, Soils, Agricultural Education, Agricultural Extension, Agricultural Economics, Agribusiness, Animal Science, and Agricultural and Environmental Systems. In addition, it offers a three-year Pre-Veterinary program and a Bachelor of Science in Food Science. The graduate programs leading to a Master of Science are: Agricultural Education, Agricultural Extension, Agricultural Economics, Animal Science, Agronomy, Soils, Horticulture, Crop Protection, and Food Science and Technology. In addition, the online Master's degree in Agricultural Economics. Soon, the doctoral program in Tropical Agriculture will be offered.

The Agricultural Extension Service (PRAES) aims to educate individuals or communities through non-formal education. It has four (4) educational programmatic areas: Agriculture, Marketing and Natural Resources (AMNR), Family and Consumer Sciences (FCS), Youth and 4-H Clubs, and Community Resource Development (CRD). Within the AMNR and FCS programs, pesticide application and management certifications, and the food safety course are provided, respectively. In addition, the PRAES has the Plant Diagnostic Clinic.

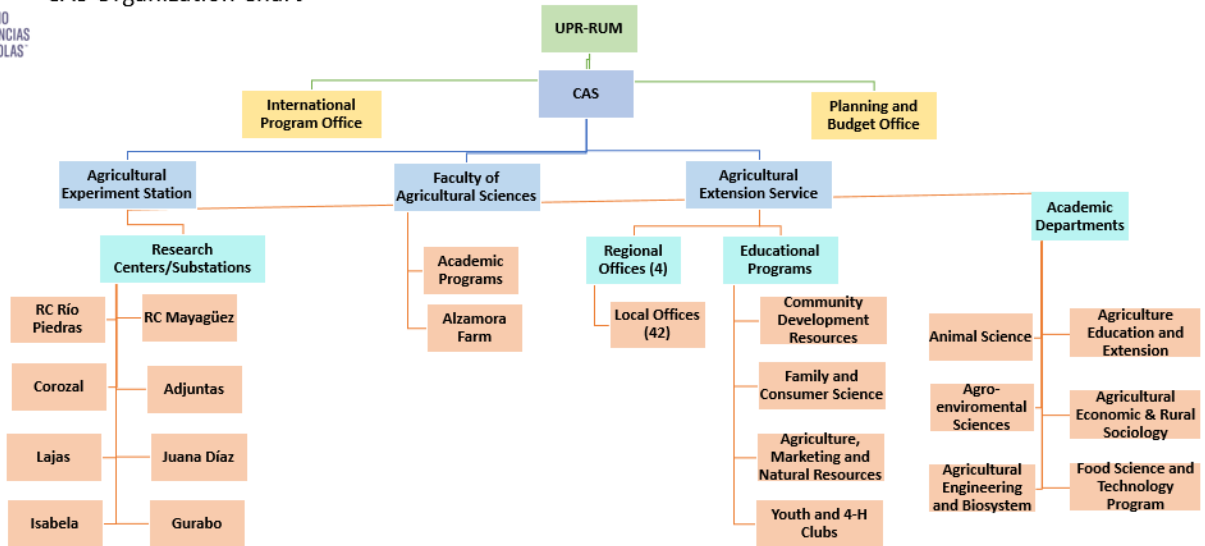
The Agricultural Experiment Station (AES), whose main purpose is to conduct research in agricultural sciences, has seven research areas: Milk and Meat Production Systems, Plant Genetic Resources, Plant Breeding and Production Systems, Integrated Pest Management and New and Emerging Diseases, Natural Resources and Environment, Agricultural Economics, Marketing and Community Development, Food Safety, Science and Technology, and Renewable Energy.

C. Organizational Structure

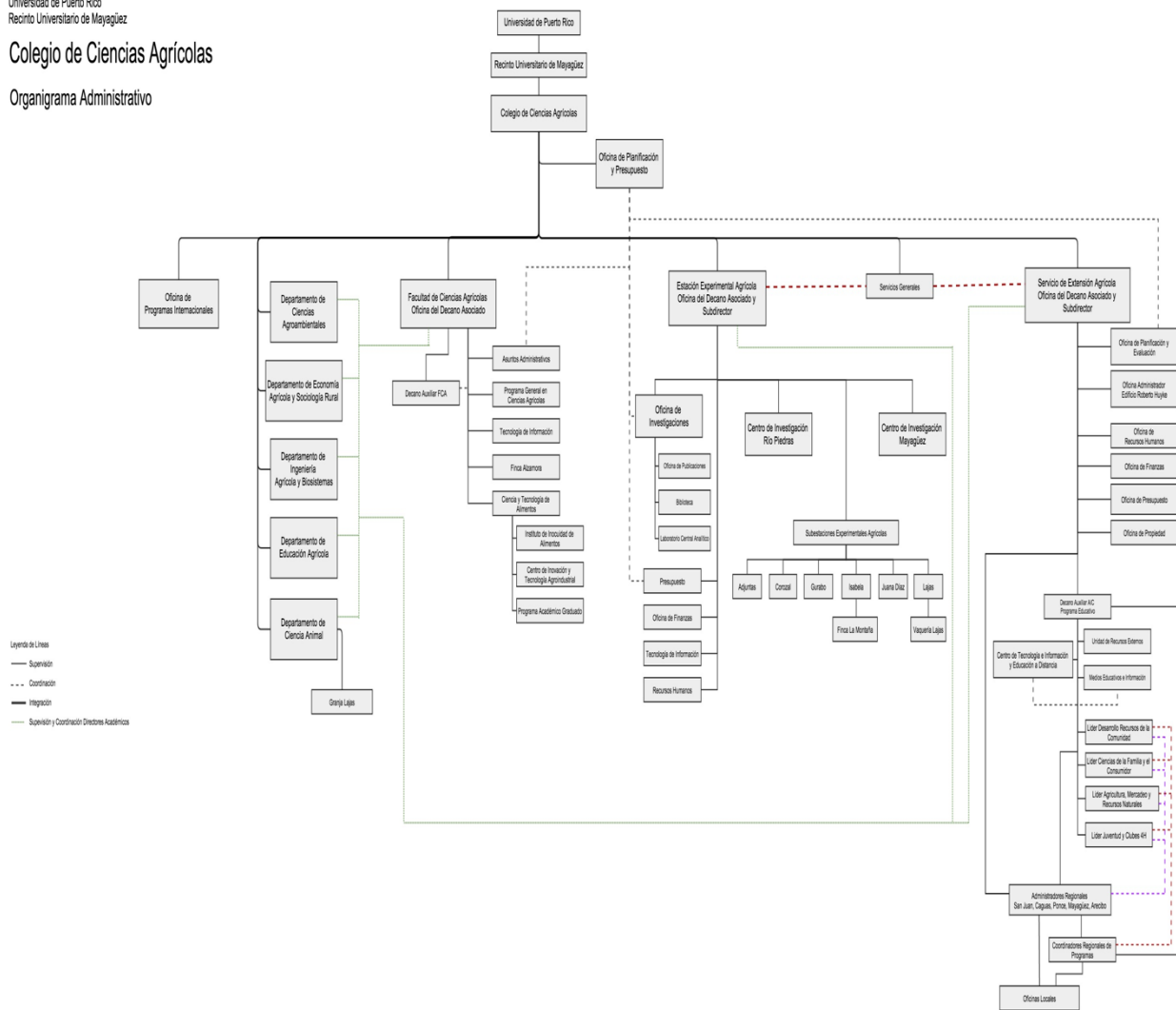
1. College of Agricultural Sciences - Organizational Chart



CAS Organization Chart

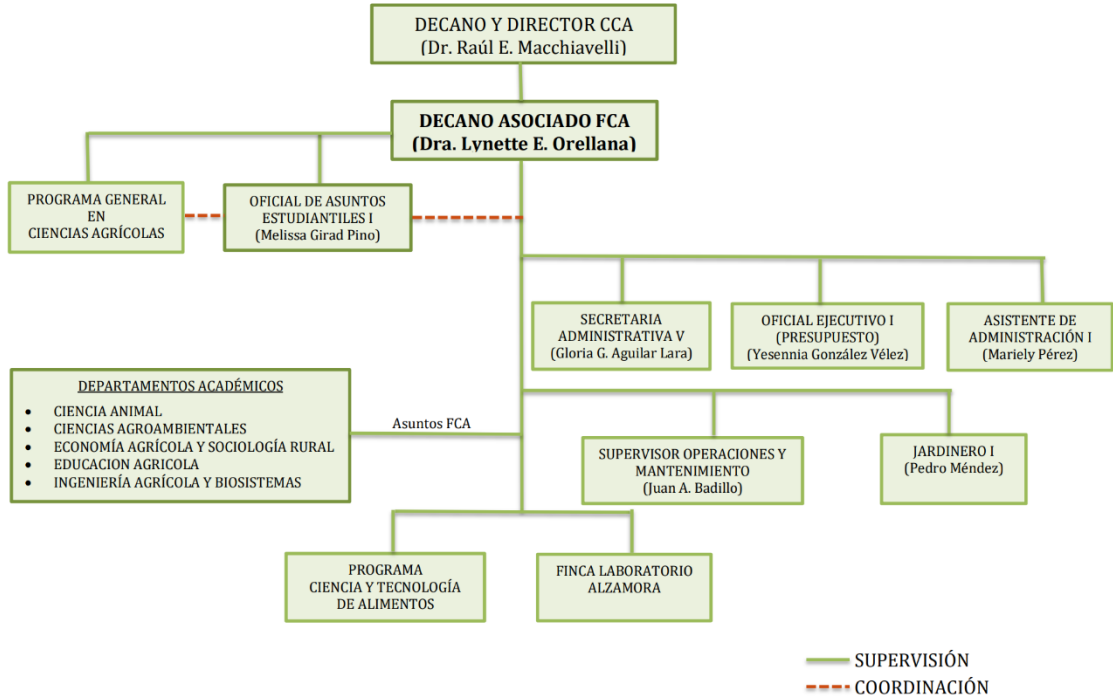


Universidad de Puerto Rico
Recinto Universitario de Mayagüez
Colegio de Ciencias Agrícolas
Organigrama Administrativo



2. Faculty of Agricultural Sciences – Organizational Chart

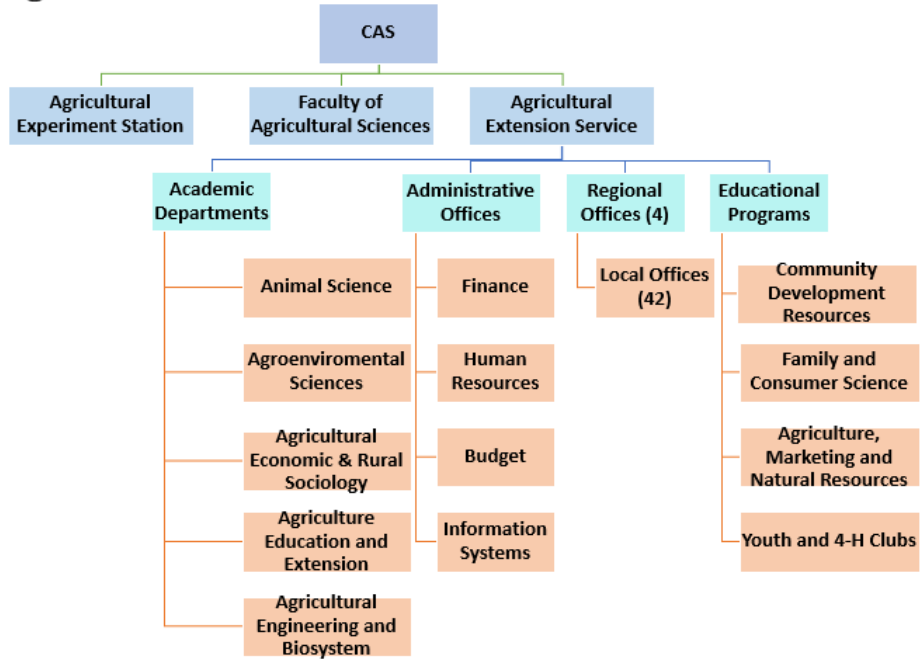
ORGANIGRAMA DE LA OFICINA DE LA DECANA ASOCIADA DE LA FACULTAD DE CIENCIAS AGRÍCOLAS



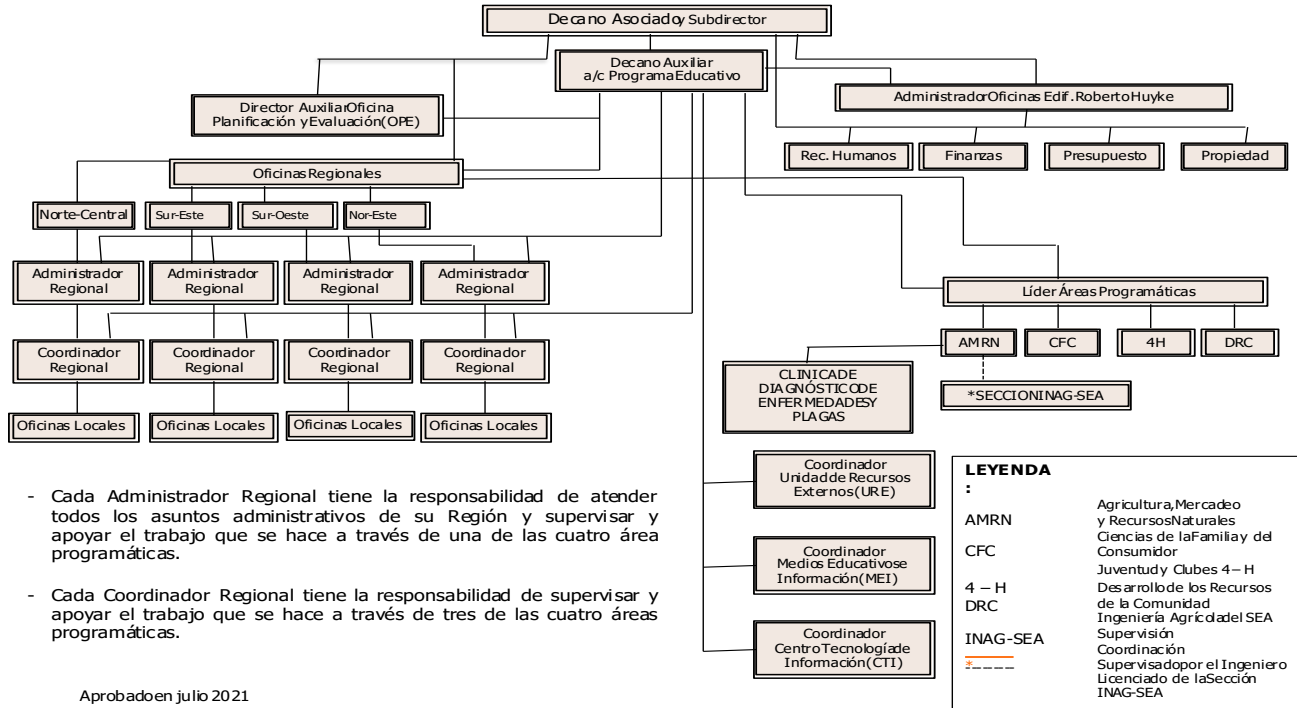
3. Agricultural Extension Service – Organizational Chart



AES Organization Chart



SERVICIO DE EXTENSION AGRICOLA



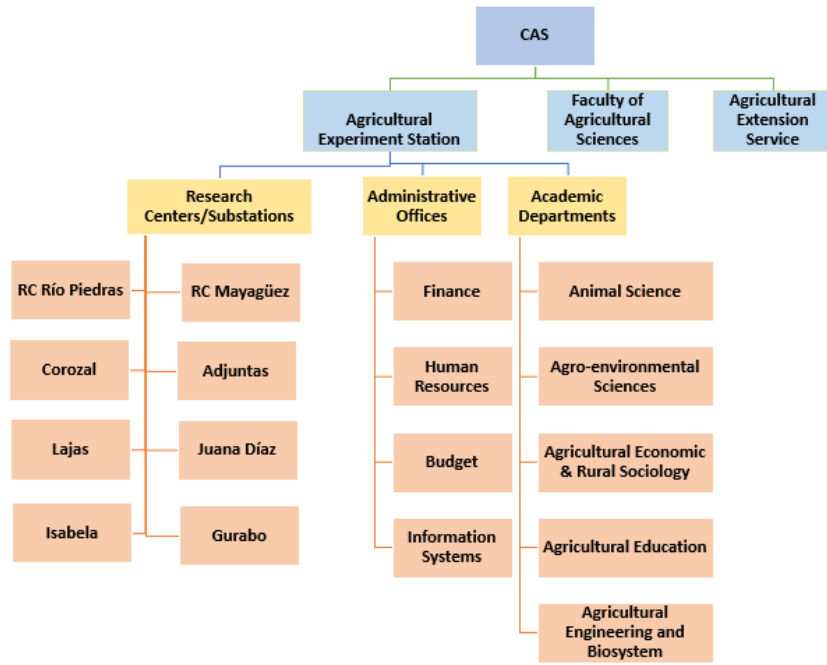
- Cada Administrador Regional tiene la responsabilidad de atender todos los asuntos administrativos de su Región y supervisar y apoyar el trabajo que se hace a través de una de las cuatro área programáticas.
- Cada Coordinador Regional tiene la responsabilidad de supervisar y apoyar el trabajo que se hace a través de tres de las cuatro áreas programáticas.

Aprobado en julio 2021

4. Agricultural Experiment Station – Organizational Chart



AEXS Organization Chart

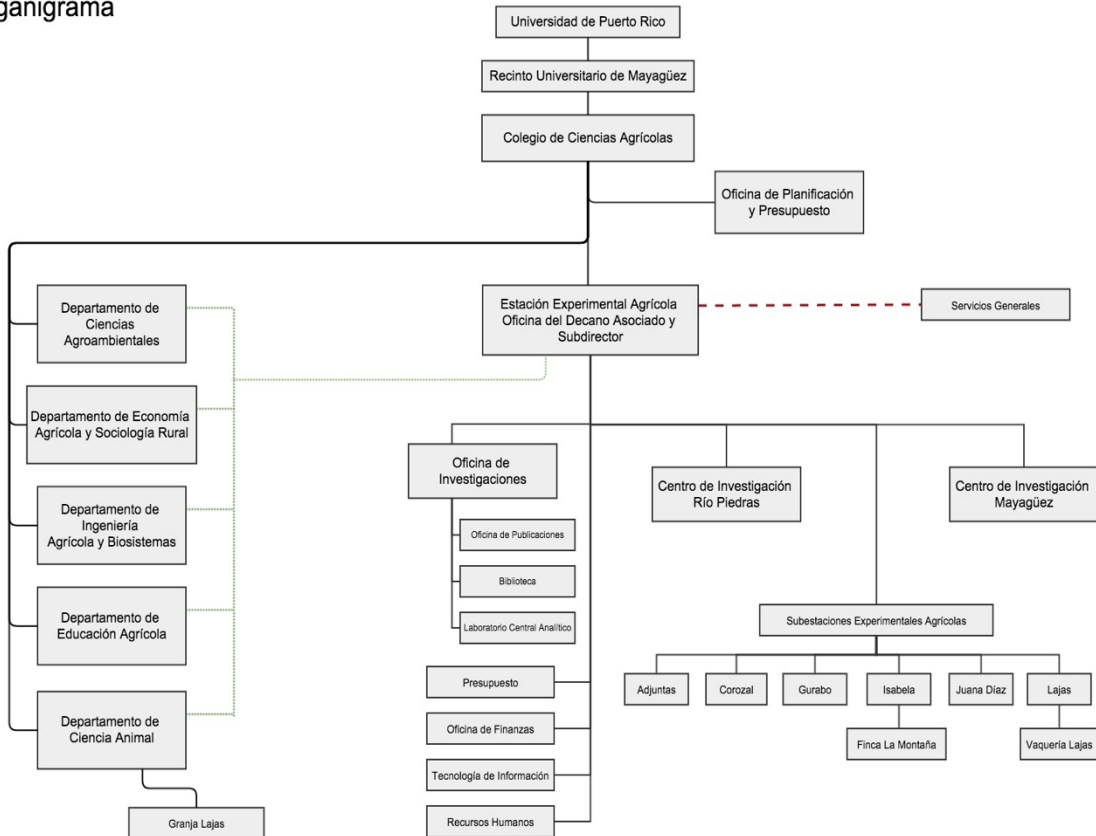


Universidad de Puerto Rico
Recinto Universitario de Mayagüez

Colegio de Ciencias Agrícolas

Estación Experimental Agrícola

Organigrama



D. Profile of the Dean's Office and Departments**1. Academic Programs**

Undergraduate Program	Graduate Program
General Agricultural Sciences	M.S. in Agricultural Economics
Agronomy	M.S. in Agricultural Education
Agricultural Economics	M.S. in Agricultural Extension
Agricultural Education	M.S. in Horticulture
Agricultural Extension	M.S. in Animal Science
Horticulture	M.S. in Agronomy
Animal Science	M.S. in Soil Science
Agricultural and Environmental Systems	M.S. in Crop Protection
Crop Protection	M.S. in Food Science and Technology
Agribusiness	M.S. in Agricultural Economics (Online)
Soil Science	
Pre-Veterinary (Three-year program)	
Food Science and Technology	

2. Undergraduate and Graduate Enrollment by Academic Program

Undergraduate Program	2022-2023	Graduate Program	2022-2023
General Agricultural Sciences	94	Agricultural Economics MS	10
Agronomy	140	Agricultural Education MS	4
Agricultural Economics	24	Agricultural Extension MS	17
Agricultural Education	29	Horticulture MS	9
Agricultural Extension	26	Animal Science MS	32
Horticulture	66	Agronomy MS	8
Animal Science	499	Soils MS	27
Agricultural and Environmental Systems	59	Crop Protection MS	26
Pre-Veterinary	48	Food Science and Technology MS	42
Crop Protection	21	Agricultural Economics MS (Online)	9
Agribusiness	36		
Soil Science	12		
Food Science and Technology	3		
Total	1057	Total	184

3. Degrees Awarded by Academic Program

Undergraduate Program	2022-2023	Graduate Program	2022-2023
General Agricultural Sciences	11	M.S. in Agricultural Economics	4
Agronomy	13	M.S. in Agricultural Education	1
Agricultural Economics	4	M.S. in Agricultural Extension	1
Agricultural Education	10	M.S. in Horticulture	3
Agricultural Extension	13	M.S. in Animal Science	8
Horticulture	15	M.S. in Agronomy	4
Animal Science	99	M.S. in Soil Science	7
Agricultural and Environmental Systems	17	M.S. in Crop Protection	3
Crop Protection	6	M.S. in Food Science and Technology	4
Agribusiness	8	M.S. in Agricultural Economics (Online)	--
Soil Science	--		
Food Science	--		
Total	196	Total	35

4. Teaching and Non-Teaching Staff

	Faculty	PRAES	AES	Total
Professors	37	18	30*	85
Researchers	---	0	6**	6
Extension Specialists	---	7	1	8
Other (Librarian I)	---	0	1	1
Family and Consumer Sciences Educators	---	47	---	47
Agricultural Agents	---	55	---	55
Total Faculty	37	127	38	202
Total Non-Faculty Staff	36	172	232	440
Total Faculty and Non-Faculty Staff	73	299	270	642

*Retired Associate Dean

** Two Post Doc Researchers

Notes:

1. Data for teaching staff includes probationary, permanent, and special appointments.
2. Data for non-teaching staff includes "jornal", special, and permanent appointments.

Report of initiatives, activities and achievements according to the Strategic Plan

A. Executive Summary

For the fiscal year 2022-2023, we continued to face significant challenges caused by the COVID-19 pandemic and Hurricane Fiona, which passed through our island on September 18, 2022. The hurricane caused damage to both the infrastructure and crops of the Agricultural Experimental Station (AES), resulting in delays in achieving the projected objectives in research projects. However, thanks to the commitment of our human resources, both teaching and non-teaching staff, the Agricultural Experimental Station continued its research activities. Likewise, the Agricultural Extension Service (PRAES) continued to work diligently to fulfill its mission while improving Strategic Planning and Evaluation processes, restructuring its administrative reporting and monitoring system, and expanding initiatives to strengthen non-formal education. One of the most utilized tools by the Agricultural Extension Service to continue its outreach work have been virtual platforms, which have allowed for the continued assistance to the needs of farmers and Puerto Rican families, despite limitations imposed by the pandemic and atmospheric events. On the other hand, the Faculty of Agricultural Sciences (FAS), through its academic departments, continued its mission to train professionals who can contribute their acquired knowledge to the development of agriculture in our country.

This annual report presents the various initiatives, activities, and achievements accomplished during this fiscal year. We express our gratitude to all staff members and personnel for their demonstrated commitment during these challenging times.

Faculty of Agricultural Sciences

During the past year, the Faculty of Agricultural Sciences has been working diligently to assess all academic programs and promote them in collaboration with various offices within our college and other campus-wide offices. We have also been implementing new activities and forging partnerships to attract new students. Furthermore, we have continued to improve our physical facilities with the aim of enhancing our services, and we have established new collaborations with other faculties to introduce new academic programs and offerings.

Agricultural Extension Service

During the period covered by this report, the body of specialists from the Agricultural Extension Service (PRAES) played an important role within the Faculty of the College of Agricultural Sciences (CAS), offering 16 undergraduate courses with a total enrollment of 325 students and 11 graduate courses with a total enrollment of 56 graduate students. They also had a significant impact on the research program of the CAS. The faculty members of the PRAES served as chairs (n=25) or members (n=36)

of graduate thesis committees, impacting approximately 75 graduate students. They also supervised 6 undergraduate special projects. A total of 69 assistantships were awarded, totaling \$295,711 for the specified period. During the reporting period, a total of 15 competitive proposals were submitted to various sources, including CORTEVA, USDA NRCS, MIDA, USDA-NIFA, Extension Foundation, USDA-FS, USDA-NIFA, Southern Research & Education, and National Agricultural Statistics Service. A summary table categorizing these is included. Of the 15 proposals, 11 were approved (\$ 1,366,188), 1 was denied (\$ 49,999) and 3 are pending (\$ 254,998). In terms of income for a particular use, the Pesticide program generated \$98,805, while the Food Safety program generated \$27,344.

Several projects were developed to address community needs such as Community Gardens, Socially Disadvantaged Farmers & Ranchers, Divided by water, united by need: IPM programs for PR & USVI, Integrated pest and pollinator management, "Harvesting Our Future" Banco de Alimentos de Puerto Rico, Food Systems Resilience in Coastal Communities: Fisheries and Aquaculture in PR, Urban agriculture project developed by the "Centro Paso" in Aibonito and multiple educational activities of the Extension Community Resource Development Education Program. Initiatives to promote an entrepreneurial mindset and leadership among students included the Equity and Social Responsibility Training. Multiple activities aimed at students and young people of school age included 4-H Bug Camp, the educational event "Together... for the greater well-being of our communities" in Patillas, Service at Hogar Padre Vernard, Harvesting the well-being of our childhood, at the Aguada Community, Painting for Others, DropBox 4-H, Teen Leading Chan, Equity 4-H Challenges, 4-H Open House, among many others.

Department of Agricultural Economics and Rural Sociology

The Department of Agricultural Economics and Rural Sociology has integrated the three components of teaching among its faculty: formal teaching, extension or dissemination and research. In addition, the teaching staff of the Department has been characterized by offering services to the academic community, public and private sector and communities. The Department has faculty who have been successful in obtaining competitive external funding and collaborating in various projects of competitive external funds in other Departments of the College of Agricultural Sciences and the Mayagüez University Campus, promoting multidisciplinary research and extension projects.

The undergraduate and graduate programs in this Department are unique in their class in Puerto Rico. The curricula are designed with balanced preparation between the different disciplines. Malleability of the graduate in being able to perform in various

professional areas. The acceptance by our graduates in the job market has been excellent, both at the Baccalaureate and Master's level. The market recognizes the importance of agricultural economists. The need for agricultural economists is imperative for the agricultural sector of Puerto Rico, as well as in agribusiness (food processors, sellers of agricultural inputs and services, food wholesalers and retailers, economic studies and others). The program has updated and relevant courses. Excellent teaching staff with good preparation in the subject and recognized professional reputation.

Since August 2021, the academic offer for the Master of Science in Agricultural Economics began under the Online modality. During 2022-2023, 8 students were admitted for this new modality.

Department of Agricultural Education

The following initiatives, activities and achievements were carried out in the Department of Agricultural Education:

1. Graduate student Jonathan Irizarry created and worked on social media: Facebook, Instagram, and Twitter to give exposure to the department, promote the achievements of students, teaching and non-teaching staff.
2. Graduate student Bryan Hernandez, as part of his thesis research, managed to create and carry out the "Agriculture Week Challenge" *camp* that was a success in the College of Agricultural Sciences.
3. On February 17, 2023, Drs. Janitza Saavedra Lugo, Edly Santiago Andino, and a group of undergraduate and graduate students participated in the "CTE Career Expo and Career Show" at the Puerto Rico Convention Center. Activity that is celebrated as part of the activities of the Assistant Secretary of Career and Technical Education of the Department of Education in February, in the occupational month. They were representing the College of Agricultural Sciences RUM and Department of Agricultural Education - UPRM, informing students and teachers about our academic offerings.

B. Mission

The College of Agricultural Sciences (CAS) at the University of Mayagüez is where formal education, research, and outreach are integrated for the benefit of society. These three functions are mutually complementary and exist under a central three-dimensional organizational framework. Each of these units has a function that contributes to the work of tropical agriculture. The CAS with its three units is essential for economic and social development, especially the development of communities and Puerto Rican agriculture. The CAS is committed, as part of the UPR-Mayagüez

Campus, to providing our youth with the best university education in agricultural sciences, conducting research in agricultural sciences, non-formal teaching, and outreach for the development of society, youth, communities, and the agricultural sector, always ensuring responsible optimization of economic resources, which will be carried out responsibly, always caring for the investment and benefit of Puerto Rican society and the country, who place their trust in this institution. The Office of International Programs is the unit responsible for international liaison and promotion of the CAS.

C. To institutionalize a culture of strategic planning and assessment

To comply with the culture of strategic planning and evaluation, the CAS has the Strategic Planning and Evaluation Committee, which carries out the following functions: a) Develop and ensure the implementation of strategic and evaluation plans of the College of Agricultural Sciences; b) Develop integrated methods among all units and departments to track, support, and provide visibility to the activities and metrics of the CAS Strategic Plan; c) Develop integrated evaluation activities, guidelines, and/or recommendations to systematically assess the different processes outlined in the Strategic Plans; d) Review the results of the evaluation activities of the units and provide recommendations; and e) Present a semi-annual report to the Dean and Director on the work and activities carried out by the committee.

During this year, the committee met frequently to address priorities in the objectives of the CAS Strategic Plan and its implementation. As part of **Objective 4 - Increase and Diversify Sources of Income for the CAS**, the activity of establishing a training program for the ethical and optimal management of fiscal and human resources was carried out. Ms. Vanessa Alequín Báez, Administrative Officer for Equal Employment Opportunity (EEO) and American with Disabilities Act (ADA Law), collaborated with the committee in preparing a training plan aimed at personnel with managerial and administrative functions so that, in addition to acquiring knowledge, they could develop skills and abilities to assist them in the exercise of sound public administration. The following workshops were coordinated by Ms. Alequín and conducted during the fiscal year 2022-2023:

Equal Employment Opportunity Office			
Staff Training Plan (including faculty and non-faculty) – Fiscal Year 2022-2023			
Theme	Date	Lecturer	Participants
Title IX, as amended	23/05/2022	Lcda. Elba Emmanuelli	32
Microsoft - Get Started with Microsoft Teams	18/08/2022	Cindy Negrón Yassiris Camacho	84
Webinar PRATP – Technological Assistance for labor inclusion	25/08/2022	Kevin Pizarro Janvier Santos	152
Microsoft Cloud Storage: OneDrive for Business and SharePoint Online	25/08/2022	Kevin Pizarro Andrea Nuñez	152

Get started with MS Teams for Education, Part I	30/08/2022	Kevin Pizarro Yassiris Camacho	96
Teams for Education, Part 2	1/9/2022	Kenneth Laureano	68
Microsoft Outlook	8/09/2022	Jan De La Paz - Kenneth Laureano	76
Calling and Meetings in Microsoft Teams	16/09/2022	Cindy Negrón - Hernan Martoral	52
Explore Teams and Channels with Microsoft Teams	22/10/2022	Jan De La Paz - Cristina Quiñones	24
Get started with Excel	27/10/2022	Nicole López - Yassris Camacho	50
Microsoft To Do	3/11/2022	Yari Cruz - Carlos Vargas	61
Microsoft PowerPoint	10/11/2022	Jan De La Paz - Yassiris Camacho	42
Tips and shortcuts in MS Teams	17/11/2022	Kevin Pizarro - Nicole López	27
Go further with Microsoft Teams meetings	29/11/2022	Jan De La Paz - Kenneth Laureano	21
Webinar PRATP Technological Assistance for labor inclusion	6/12/2022	Carlos Carle	49
Vaccine against pessimism	31/01/2023	Cindy Negrón - Yassiris Camacho	88
Tips, shortcuts, and What's new with MS Teams	14/02/2023	Yari Cruz - Carlos Vargas	36
Sensitivity and Dignified Treatment for People with Disabilities	16/02/2023	Odulia Ruiz	32
"Increase collaboration with MS Teams"	28/02/2023	Jan De La Paz - Cristina Quiñones	30
Summer Salary and Time and Efforts Reports	16/05/2023	Dadmara Segarra	36

As part of the academic evaluation, the committee prepared an assessment instrument to provide to the students. The "Student Learning Outcome number 1 (SLO #1) - Demonstrates purposeful and continuous learning" was chosen for assessment. The assessment instrument was administered to approximately 400 first and fifth-year students via email (Basic CIAN courses, Basic CFIT courses, and seminars).

The achievements obtained in the CAS, according to the activities carried out for the fiscal year 2022-2023, are presented through the report.

Faculty of Agricultural Sciences

During the past month of April, a draft for the educational outcomes objectives for the academic programs of the College of Agricultural Sciences were established:

- Demonstrate knowledge to apply concepts and techniques for sustainable use of inputs and resources for commercial agricultural food systems.
- Demonstrate best practices to manage food production from plants or animals sustainably and environmentally responsible.
- Use and apply technology or engineering practices to achieve sound solutions.
- Demonstrate leadership and team skills to face relevant agricultural challenges.

These educational outcomes will soon be submitted for approval by the Faculty's Academic Affairs Committee and the development of assessment activities.

Department of Agricultural Economics and Rural Sociology

1. Assessment activities (academic and/or administrative)

- Meetings during the semesters of the departmental Academic Affairs Committee. IMI's and Quotas, departmental award evaluations were reviewed. The criteria to be established for Non-Traditional Admission were evaluated.
- Semi-annual meetings of the departmental Graduate Committee.
- Semi-annual meetings of the Assessment and Planning Committee
- Semi-annual meetings of the Staff Committee to deal with personnel actions:
 - ✓ Promotions
 - ✓ Recruitment
 - ✓ Part-time appointments for retirees,
 - ✓ Highlights
 - ✓ other
- Meeting with the Dean of Academic Affairs discuss the admission processes and low enrollment in the programs.

2. Five-year evaluations and recommendations.

The undergraduate and graduate programs in Agricultural Economics are been completed, but a final report is pending.

Department of Agricultural Education

The Department has eight (8) standing Committees: Staff Committee, Graduate Studies Committee, Publications Committee, Outreach and Promotion Committee, Academic Affairs Committee, Planning and Assessment Committee, Library Affairs Committee, and External Resources Committee.

Department of Agricultural and Environmental Systems

Department faculty administer assessment tools in their courses (e.g. initial and final surveys, pre- and post-tests) as an individual effort to improve teaching effectiveness. The Five-Year Evaluation Report (2016-2021) for the Agricultural and Environmental Systems program recognized the need to evaluate and update departmental academic and administrative assessment plans. This is one of the areas that will be addressed during the 2023-2024 academic year.

Food Science and Technology Program

1. Developing and updating metrics

Since FST is a multidisciplinary program (instead of an academic department), it is not required to have a strategic planning and/or assessment committee. As agreed by its faculty, all issues are addressed at ordinary meetings or via referendums. Since 2018, strategic efforts have focused on expanding FST's academic offer to include bachelor's, professional master's, and online master's degrees. The BS program officially started in May 2022 and transfer students arrived in August, 2022. The first wave of freshmen should arrive in August 2023. All efforts have been directed toward degree inception and commencement. Thus, no strategic or assessment metrics have been developed yet.

2. Resources assigned to meet the objectives of the strategic plan

Follow-up to all strategic issues is done by FST's Coordinator and Administrative Assistant

Agricultural Extension Service

1. Developing and updating metrics

- a. Based on user's feedback from SISE (Information System of Agricultural Extension Service), continuous improvement has been made towards production, efficiency, and achievement indicators in order to reduce duplication and enhance their specificity.
- b. Following the new NIFA reporting format (NIFA Reporting System; NRS), the format in SISE is being restructured to gather the work accomplished. For this purpose, the most relevant educational programs within each Program Area are being identified. Each of these programs will be defined in the NRS, and specific indicators will be created for them within SISE. Previously, each Program Area had hundreds of indicators, which made the reporting process and the extraction of achievements by federal contacts and supervisors challenging. By grouping the indicators under specialized programs, the number of indicators is significantly reduced, mitigating the aforementioned disadvantages.

- c. This year, data collection platforms for our clientele in the program areas of CFC (FamiCo), Youth and 4-H Clubs (4-H Registration), and DRC were made available to Extension users. Assistance continues to be provided for the AMRN platform (PAGRI), which has been in use for over 5 years.

2. Improvement initiatives based on metrics

- a. The CASEA committee, composed of Dr. Germán Ramos, Dr. María Rodríguez, and Dr. Jaime Curbelo, hired a graduate student specializing in statistics to analyze the CASEA digital data. All relevant analyses and meetings were conducted during the past semester, and we are now developing a publication for the faculty of the Agricultural Extension Service (PRAES). The publication will present the data interpretation along with descriptive graphs and tables that will enable PRAES faculty members to better identify needs at the municipal, programmatic unit, regional, and state levels.

3. Assessment of results

- a. During the past 12 months, 38 evaluation reports were generated for educational activities offered by SEA faculty members.
- b. Corresponding to FY2022, 21 personnel evaluations for promotion were conducted and subsequently administratively approved.

4. Resources allocated to address the objectives of the strategic plan:

- a. Two students, one specializing in business administration and the other in electrical engineering, were hired under the OPE assistantship to maintain the SEA's online store and programmatic area platforms. This is in line with the recommendations of the strategic plan "Increase and diversify the revenue sources of the CCA."
- b. During the period corresponding to the fiscal year 2021-2022, the pesticide program generated \$98,805, while the Food Safety program generated \$27,344.

Agricultural Experiment Station

Adjuntas Substation

At the Adjuntas Substation, a weekly work plan is prepared to evaluate the employees' performance and the achievement of goals and objectives outlined in the research projects. Each researcher submits written requests for the tasks required for their research project. At the end of each week, the group of agronomists meets to assess which tasks were completed and which ones did not meet the established work plan for that week. Each task is individually assigned to field workers, and each responsible party must explain the reasons if the expectations are not met.

Corozal Substation

At the Corozal Substation, we held a meeting for the Flourey Crops company, where we received visits from flourey crop farmers. During this meeting, researchers presented the results of their investigations in these crops and also addressed any issues related to pests or diseases that farmers may be facing. Training was provided on how to take samples of insects and diseases, and 19 Agricultural Agents were trained by Dr. Edda Martínez from the PRAES.

Throughout the year, several Continuing Education activities were carried out, such as:

- "Bed Bugs," attended by 30 exterminators, led by Dr. Edda Martínez from the PRAES.
- A one-day activity on pollinators, involving 131 people at the Corozal AES, with contributions from Dr. Dania Rivera, Dr. Edda Martínez, Prof. Manrique Planell, Prof. Pablo Jiménez, and Prof. Luis G Sierra from the PRAES.
- Pesticide licensing workshop for Corozal EEA employees by Agro. José Marrero from the PRAES.
- Visit by UPR-Utuado students to the Corozal AES.
- Visit by UPR-Rio Piedras students from the GPS-GIS course taught by Prof. Amílcar Vélez, conducting a historical sampling to observe the aftermath of Hurricane Maria.
- Insect taxonomy workshop, teaching mounting and preservation techniques to 6 4H students and 5 adults, led by Dr. Edda Martínez and Prof. José Marrero from the PRAES.

Additionally, in February of this year, Puerto Rico hosted the National Education Conference (NEC 2023) of the IR-4 Project, which was celebrating its 60th anniversary. Over 100 participants from the IR-4 Project across the United States, including Central and South America, visited the Corozal AES. Eight demonstration stations were set up around the Substation, showcasing:

- Papaya and root and tuber crop cultivation and diseases in Puerto Rico, presented by Dr. Sofia Macchiavelli from the PRAES.
- Pineapple application demonstration using the irrigation system, presented by Dr. Robert Welker (NCSU) and Jullie Coughlin (University of Hawaii).
- Carambola application demonstration using an airblast sprayer, presented by Luis E Almodóvar from the AES.
- Banana weevil trap and disease demonstration, presented by Dr. Edda Martínez from the PRAES.

- Dragon fruit foliar application and management practices demonstration, presented by Dr. Wilfredo Robles from the AES.
- Pollinator garden and bee colony demonstration, presented by Dr. Dania Rivera from the PRAES.
- Coffee diseases demonstration, presented by graduate student Daniel González from UPRM.
- Coffee preparation and tasting demonstration, presented by Professors Delvin Fernández and Salvador Baiges from the PRAES.

Gurabo Substation

At the Gurabo Substation, we have several active projects that serve investigative, educational, and self-sustainability purposes for the AES. During 2022-2023, we received visits from various students and researchers involved in these projects. Additionally, we offered a course on Agroecological Producers and Promoters in collaboration with El Josco Bravo, provided by Dr. Alfredo Aponte Zayas. We also welcomed farmers in search of agricultural products. Approximately \$60,287.26 in funds were generated through the sale of compost, vegetables, bananas, hay bales, and animals. It is expected that additional funds will be generated next year through sales resulting from the surplus generated by the research projects carried out at the Gurabo Substation.

To achieve these objectives, we continue to promote and disseminate our mission and research results. For example, our social media followers continue to increase, generating interest from communities in our institution. Furthermore, the amount of land used for cultivation and research at our facilities has increased. In terms of cattle, a fattening group has been added, leading to the allocation of new grazing areas within our facilities. The H-372 project, part of the IR4 Project (Integrated Pest Management) led by Dr. Wilfredo Robles, has been reinstated. The "Center for Disaster and Philanthropy" project and the "Bean Seed Validation and Multiplication" project are also underway. Additionally, the H94-C and H94-D projects for the evaluation of taro cultivation, led by Dr. Martha C. Giraldo, have recently started.

To support the objectives of the Gurabo AES strategic plan, resources allocated include the hiring of two Farm Workers, two Scientific Research Technicians, and the acquisition of various equipment. We have also received administrative funds from some projects to cover maintenance, repairs, and sustainability expenses.

Isabela Substation

At the Isabela Substation, employees are evaluated annually, providing opportunities for personal improvement by identifying areas for improvement and each employee's strengths. Many research projects related to crops and forages have experiments been conducted at this Substation.

D. To lead higher education throughout Puerto Rico while guaranteeing the best education for our students

Faculty of Agricultural Sciences

1. New academic programs

The Bachelor in Science in Food Science-was approved by the Board of Trustees according to the Certification 132 2019-2020 and received their first students in the academic year 2022-23.

2. Initiatives to strengthen teaching

Teacher training activities – Please refer to Attachments I and II.

3. Collaboration Agreements

Annually, the University of Puerto Rico, Mayagüez Campus receives a variety of requests from institutions across the U.S. regarding our junior, senior, and master's level students. The requests primarily take place during the fall term and involve the promotion of: fellowship opportunities, Ph.D. programs, funded campus visits, summer research internships, master's programs, application fee waivers, research symposium invitations, new scholarships, online graduate degrees, graduate recruiting events, webinars and other academic endeavors.

- a. On April 2023 the College of Agricultural Science signed a collaborative agreement with AG-NGINE (Agriculture National Graduate Institutional Name Exchange). This national consortium was formed to recruit students by graduate programs at colleges of agriculture and related sciences from across the country (<https://ag-ngine.cals.ufl.edu/>). The following website lists the invited and participating institutions: <https://ag-ngine.cals.ufl.edu/members>.
- b. Organization: Centro de Microempresas y Tecnologías Agrícolas Sustentables de Yauco, Inc. (CMTAS); Effective date: 12/20/22-12/20/27; Purpose: Memorandum of Understanding with the College of Agricultural Sciences for the development of various initiatives in agricultural sciences, including student participation.

4. Strengthening of facilities for academic use

Improvements to facilities

Finca Alzamora at UPRM made an investment of around \$5,300.00 for improvements to the teaching nurseries and “La Granja Experimental Agricola” at Lajas of around \$34,500.00 for permanent infrastructure improvement.

5. Academic offerings

First Semester 2022-2023							
AGRO	3011		CIAN	4040		EXAG	4005
AGRO	3013		CIAN	4997		EDAG	6999
AGRO	4015		CIAN	5357		EXAG	4005
AGRO	4019		CIAN	5359		EXAG	4009
AGRO	4025		CIAN	6600		EXAG	6610
AGRO	4029		CIAN	6603		HORT	3005
AGRO	4037		CIAN	6604		HORT	4005
AGRO	4038		CIAN	6607		HORT	4009
AGRO	4045		CIAN	6609		HORT	4015
AGRO	4046		CIAN	6625		HORT	4018
AGRO	4990		CIAN	6637		HORT	4028
AGRO	4995		CIAN	6995		HORT	4029
AGRO	5005		CIAN	6996		HORT	4055
AGRO	5006		CIAN	6998		HORT	4995
AGRO	5015		CIAN	6999		HORT	6652
AGRO	6505		CITA	3015		HORT	6995
AGRO	6624		CITA	4305		HORT	6999
AGRO	6997		CITA	4999		INAG	4418
AGRO	6999		CITA	5995		PROC	4006
CFIT	3005		CITA	6606		PROC	4008
CFIT	4005		CITA	6010		PROC	4016
CFIT	6645		CITA	6601		PROC	4017
CIAG	6601		CITA	6603		PROC	4018
CIAN	3011		CITA	6655		PROC	4026
CIAN	3012		CITA	6999		PROC	4035
CIAN	3015		ECAG	3005		PROC	4995
CIAN	3017		ECAG	3007		PROC	4996
CIAN	4005		ECAG	4007		PROC	6608
CIAN	4006		ECAG	4019		PROC	6609
CIAN	4007		ECAG	4025		PROC	6993
CIAN	4008		ECAG	4026		PROC	6995

CIAN	4010		ECAG	4028		PROC	6999
CIAN	4015		ECAG	6611		SAGA	4009
CIAN	4017		ECAG	6665		SAGA	4015
CIAN	4019		ECAG	6999		SAGA	4036
CIAN	4025		EDAG	3005		SAGA	4038
CIAN	4026		EDAG	4005		SAGA	4129
CIAN	4027		EDAG	4008		SAGA	4335
CIAN	4028		EDAG	4015		SAGA	4991
CIAN	4036		EDAG	4017		SAGA	5008
CIAN	4037		EDAG	4018		SAGA	5126
CIAN	4038		EDAG	6601		SAGA	5991
CIAN	4039		EDAG	6607			
CIAN	4995		EDAG	6611			
Second Semester 2022-2023							
AGRO	3011		CIAN	4995		EXAG	4009
AGRO	3013		CIAN	5346		EXAG	6612
AGRO	4005		CIAN	5350		EXAG	6640
AGRO	4015		CIAN	6608		EXAG	6642
AGRO	4016		CIAN	6611		HORT	3005
AGRO	4018		CIAN	6617		HORT	4005
AGRO	4019		CIAN	6618		HORT	4008
AGRO	4025		CIAN	6638		HORT	4009
AGRO	4026		CIAN	6990		HORT	4014
AGRO	4035		CIAN	6995		HORT	4025
AGRO	4037		CIAN	6996		HORT	4027
AGRO	4046		CIAN	6999		HORT	4028
AGRO	5008		CITA	3015		HORT	4045
AGRO	6300		CITA	4999		HORT	4046
AGRO	6600		CITA	6017		HORT	6616
AGRO	6602		CITA	6615		HORT	6652
AGRO	6996		CITA	6655		HORT	6999
AGRO	6997		CITA	6995		PROC	4006
AGRO	6998		CITA	6999		PROC	4008
AGRO	6999		ECAG	3005		PROC	4017
CFIT	3005		ECAG	4005		PROC	4019
CFIT	4005		ECAG	4006		PROC	4025
CFIT	4007		ECAG	4007		PROC	4026
CIAG	3025		ECAG	4009		PROC	4995
CIAG	6601		ECAG	4019		PROC	4996
CIAG	6602		ECAG	4028		PROC	5006
CIAN	3011		ECAG	4991		PROC	6999

CIAN	3012		ECAG	4993		SAGA	3016
CIAN	4005		ECAG	6651		SAGA	4008
CIAN	4006		ECAG	6660		SAGA	4015
CIAN	4007		ECAG	6991		SAGA	4037
CIAN	4008		ECAG	6997		SAGA	4041
CIAN	4010		ECAG	6998		SAGA	4048
CIAN	4015		ECAG	6999		SAGA	4319
CIAN	4017		EDAG	3005		SAGA	4335
CIAN	4019		EDAG	4005		SAGA	4501
CIAN	4025		EDAG	4006		SAGA	4505
CIAN	4027		EDAG	4007		SAGA	4991
CIAN	4030		EDAG	4015		SAGA	5008
CIAN	4035		EDAG	4017		SAGA	5315
CIAN	4036		EDAG	4019			
CIAN	4037		EDAG	6612			
CIAN	4038		EDAG	6999			
CIAN	4039		EXAG	4006			
CIAN	4357		EXAG	4007			

6. Dissemination of academic achievements

Promotion is carried out through the College of Agricultural Sciences pages on social media platforms.

Department of Agroenvironmental Sciences

Recognition of teaching staff

- Dr. Angela Linares and Dr. Diego Viteri article in El Nuevo Día Newspaper. This was to recognize a new variety of pigeon pea developed by their research.
- Dr. Wilfredo Robles received the National Recognition of Excellence on behalf of the IR-4 Project.

Department of Agricultural Economics and Rural Sociology

1. Curriculum reviews

Updated undergraduate and graduate catalogs 2022-2023.

2. Initiatives to strengthen teaching

a. Development and implementation of teaching methodologies

Since November 2021, the modalities of in-person, hybrid, and distance formats have been approved for the offerings of the Registered Undergraduate Courses of the Department of Agricultural Economics and Rural Sociology.

b. Use of technology in the classroom

- Distance Courses (Hybrid, Distance)
- Courses with Assistive Technology
- Google Meet
- Facebook Live
- Institutional Moodle
- Zoom
- Teams

c. Teacher training activities

Distance Learning Certifications (CREAD) – Please refer to Attachments I and II.

3. Participation of students in competitions and academic activities

- NASS Boarding School – Agricultural Census 2022
17 undergraduate and graduate students participated in National Agricultural Statistics Service (NASS) internship related to the 2022 Census of Agriculture. The institutional interest that the Census manages to obtain complete, correct and timely data to maintain current academic programs, services offered to farmers and the preparation of research proposals.

4. Strengthening of facilities for academic use

Upgrade 17 licenses of the STATA program. This programmed is downloaded electronically and installed in each computer located in the AP-202 room. Direct benefit for undergraduate and graduate students, both face-to-face and / or online.

5. Academic offerings

- The courses for First and Second Semester 2022-2023 were offered in three modalities: distance (asynchronous or synchronous), hybrid and face-to-face. The offer was according to course schedule and according to course demand.
- For the selection of courses and sections, students enrolled the courses according to the enrollment shift that corresponded to them.
- Students who are candidates for graduation received academic counseling to ensure they take the necessary courses to complete their degree.

- Assistance that students needed during the enrollment process or adjustments by staff in the Department was provided through the following link: <https://ajustes.uprm.edu/> ("Service Ticket").

6. Dissemination of academic achievements

- a. Honor Students Recognition
 - Agribusiness – 6 students
 - Agricultural Economics - 4 students
- b. Recognition Graduating Class 2023
 - Master in Agricultural Economics
 - ✓ December 2022 – 2 students
 - ✓ May 2023 – 2 students
 - Bachelor's Degree in Agricultural Economics
 - ✓ December 2022 – 1 student
 - ✓ May 2023 – 3 students
 - Bachelor's Degree in Agribusiness
 - ✓ Summer 2022 – 1 student
 - ✓ December 2022- 4 students
 - ✓ May 2023 – 3 students
- c. Departmental Awards Ceremony – June 8, 2023
Andrea L. Almonte Ortiz – Best Student Award in Agricultural Economics and Rural Sociology 2022-2023

Department of Agricultural Education

1. Recognition of teaching staff

- a. Dr. Janitza Saavedra - 2023, received recognition as a distinguished professor from the College of Agronomists of Puerto Rico.
- b. Dr. Edly Santiago Andino was recognized with the FFA Honorary Degree for her work as a professor of Agricultural Education and her contribution to the FFA Organization, at the 88th State Convention of Future Farmers of America, last May 2023; under the slogan: Leading a new era in agriculture.
- c. The National Organization of Future Farmers of America (FFA), awarded Dr. David Padilla Vélez, director of the Department of Agricultural Education, its highest distinction by exalting him as an Honorary American Degree. He is the first RUM professor to obtain this award that was granted at the ninety-fifth annual convention of the entity, which took place in Indianapolis last November 2022.

2. Initiatives to strengthen teaching:

- a. On Friday, February 17, 2023, the Department of Agricultural Education of the College of Agricultural Sciences, participated in the CTE Career Expo and Career Show at the Puerto Rico Convention Center. The activity was carried out as part of the activities held by the Assistant Secretary of Career and Technical

Education of the Department of Education for the month of February, a month dedicated to occupational and technical education. There was participation from primary and secondary schools in the country.

The Department of Agricultural Education was represented by Drs. Edly Santiago Andino, Janitza Saavedra Lugo and undergraduate students of the department to inform teachers and students of public schools, on the offers that the department and the College of Agricultural Sciences have at the University of Puerto Rico, Mayagüez Campus.

- b. During the first academic semester 2022-2023, the intern students of the Agricultural Education Program of the University of Puerto Rico, Mayagüez Campus (RUM) worked on the AGYTÚ Project, offering classes both face-to-face and online. The project is coordinated by Dr. Edly Santiago Andino, Professor of the Department of Agricultural Education; it seeks to publicize everything related to the agricultural industry, its interrelations with humanity and natural resources. The purpose of the program is "that the children and youth of Puerto Rico recognize the interrelationship of agriculture in their lives and can make informed decisions in the future."

The educational activities developed by the practitioners integrated various academic areas such as: science, mathematics, history, among other subjects. AgyTú practitioners worked for eight weeks, presenting live agricultural literacy lessons to varying degrees. The material used was prepared by the students of Teaching Practice of the Agricultural Education Program; reviewed and supervised by Dr. Santiago Andino. The lessons developed are creative and interactive so that participants learn without realizing it, because they work interacting and playing in the activities.

- c. Students of the EDAG 4018 and EDAG 4019 courses visited different educational facilities to practice as agricultural education teachers.
 - Using Technology in the Classroom
 - Workshops and lectures were given to students from different programs using the electronic platforms.
 - Moodle, Teams and Zoom platforms have been used in the classroom.
 - Visited public schools that have the Agricultural Education Program and certified agricultural education cooperating teacher
- d. Dr. Janitza Saavedra presented her respective research proposal plans at the Research Symposium for Faculty and Graduate Students UPRM that was held on May 17, 2023, at the College of Business Administration and had as its motto "Finding the Joy in Research"

3. Collaboration agreements

- a. Dr. Edly Santiago has a collaboration agreement with EcoExploratorio. It offers Agricultural Literacy and its relationship with the Sciences
- b. The Department of Agricultural Education has a collaboration agreement with the Department of Education of Puerto Rico and its Agricultural Education programs in public schools that offer vocational programs.
- c. Dr. Ivys Figueroa has made collaborative contacts with the Department of the Family, Department of Health and the Judiciary.

4. Student participation in academic competitions and activities

- a. Bryan Hernández (graduate student) Agro. Hernández is a graduate student of our department with an assistantship in the Department of Agro-Environmental Sciences. He was the only laboratory instructor who integrated the MUSA as part of the course and in addition made an exhibition of the end-of-semester works of the course at the MUSA.
 - Bryan Hernández participated in the poster presentation in the Research Symposium for Faculty and Graduate Students UPRM that was held on May 17, 2023, at the College of Business Administration and had as its motto "Finding the Joy in Research"
 - Dr. Janitza Saavedra and graduate students Agro. Bryan J. Hernández Aquino and Agro. Jonathan Irizarry-Soto carried out the coordination and logistics of the Undergraduate Open House 2022 and Graduate Open House 2023. Together with other undergraduate students, they offered guidance on the academic programs that the department has, dynamics were carried out and delivery of promotional items such as seedlings, seeds, pens and others to motivate visitors.
 - ✓ In the Undergraduate Open House 2022, according to records, more than 174 high school students were oriented, mostly from twelfth grade from 41 different municipalities.
 - Pre-University Program "Agriculture Week Challenge" – Agro. Bryan Hernández:
 - ✓ As an initiative of the graduate student Agro. Bryan J. Hernández Aquino proposed to the Faculty of Agricultural Sciences the creation of the Pre-University Program "Agriculture Week Challenge" with the objective that high school students explore and can consider as an alternative of study one of the 12 academic programs offered by the College of Agricultural Sciences.
 - ✓ The format of the program was a hybrid one using practical, creative and fun activities.
 - ✓ Together with Dr. Janitza Saavedra, 25 private schools and colleges located in the western towns were visited in order to promote careers in agricultural sciences and the "Agriculture Week Challenge" program. In these visits, academic advisors received printed promotional material and were oriented

about the initiative. In addition, 208 public schools and 179 private schools were contacted by email.

- ✓ The program was held from June 12 to 16, 2023 at the facilities of the Faculty of Agricultural Sciences where 57 high school students from 31 municipalities throughout Puerto Rico participated. Of these participants, 46% of the students had completed tenth grade and 54% eleventh grade.
 - ✓ The program was being led by graduate student Agro. Bryan J. Hernández Aquino where Dr. Janitza Saavedra and Agro. Lilliam Cardona collaborated strongly in the design of instructional material, coordination and logistics of the resources and personnel used.
 - ✓ Agro. Jonathan Irizarry-Soto (graduate student of the department) offered support in the design of educational strategies used.
 - ✓ It had the support of Dr. Lynette E. Orellana and all the staff working for the Office of the Faculty of Agricultural Sciences. Also, multiple directors, faculty and non-faculty staff, laboratory technicians, undergraduate students and graduates of all departments and academic programs attached to the Faculty of Agricultural Sciences were participating and collaborating.
 - ✓ Dr. Edly Santiago Andino collaborated in the design phase of the evaluation instrument used in the program.
 - He was invited to the Horticulture: Art Exhibition, by the organizers of the event, Prof. Sally González and Dr. Lizzette González to collaborate in the exhibition with the students of the HORT 4005-010 laboratory, lab which Bryan was offering this semester as a teaching assistant, who made an exhibition of their end-of-course works.
 - He presented the poster: “Actitudes de los estudiantes de escuela superior participantes de la Casa Abierta del RUM 2022 con respecto a las alternativas para informarse sobre una carrera en Ciencias Agrícolas” en the Research Symposiu, held on May 17, 2023 at UPR RUM, thanks to the assistance of Dr. Janitza Saavedra and Dr. Edly Santiago, who assessed him in this study.
- b. Agro. Jonathan Irizarry-Soto: Agro. Irizarry is a graduate student of our department with an assistantship in the Department of Agro-Environmental Sciences.
- Coordination and logistics, together with Dr. Janitza Saavedra and Agro. Bryan J. Hernández of the Undergraduate Open House and Graduate Open House, as a strategy for orientation and recruitment of students in the programs of our department.
 - Created Instagrams, Facebook and Twitter to establish the department's online presence on social media, including creating and maintaining profiles on various platforms.
 - Development of relevant content and publications related to the events where department staff participated and created promotion of academic offer and important dates for active students and potential students.
 - Educational Coordinator – MUSA – Museum of Art

- ✓ Development of programming for visitors of all ages, promoting learning and appreciation of science, art and culture. Being able to provide a multidisciplinary environment and the naturalistic approach of the current exhibition integrates aspects of agricultural sciences, botany and the conservation of natural resources. Coordination with the MUSA project - In Your Community, where visibility of the entire campus is generated and not only the MUSA, in each school that is visited. Each visit bridges the gap that exists between the institution and the possibility of future young people to study regardless of the social, economic and disadvantaged background that precedes them.
- ✓ He had collaborated with the courses of EDAG 3005 – Agricultural Orientation and Dr. Janitza Saavedra to integrate the exhibition Borinqueniana Flora: Three Centuries of Botanical Illustrations. Dr. Saavedra was the only professor in the Department who joined MUSA as part of her classes.
- ✓ Collaboration with the laboratory of HORT 4005 – Ornamental Plants and Agro Bryan J. Hernández to integrate the exhibition Borinquenian Flora: Three Centuries of Botanical Illustrations.

c. Dr. Edly Santiago Andino

- In May 2023, Dr. Santiago participated in the activity entitled: All for the Meat Industry, in San Juan, together with doctors Katherine Domenech and Fernando Pérez, where farm owners of the Meat Industry of Puerto Rico were invited.
- ✓ Dr. Andino is responsible for analyzing the perceptions of people related to all lines of the Industry. Among the quantitative and qualitative analyses that must be done are to gather the needs they present, the barriers they face and the recommendations presented by sectors such as those in the area of cattle, poultry, rabbits, small ruminants and pigs.
- ✓ The analyses that are developed and those that are yet to be developed with other focus groups, will help to develop university academic programs and unique curricular sequences that will be presented not only in Puerto Rico, but also the Virgin Islands and Santa Cruz.
- ✓ The SWOT procedure is carried out to retrieve information from people in the slaughterhouses, public and private agencies, processing plants such as Carmela, producers and farm owners of the Meat Industry. Graduate and undergraduate students, as well as administrative staff and family members of the doctors participated in the workshop. Dr. Katherine Domenech, Dr. Edly Santiago Andino and Dr. Fernando Perez along with the entire staff composed of graduate and undergraduate students, as well as administrative staff and even relatives of the doctors.
- ✓ Doctor Domenech work is related to lead the project and meet the people of the Industry; Dr. Pérez is related to Food Quality and Dr. Santiago is responsible for the development of the curriculum and analysis of what is indicated by the population.

- ✓ Graduate students Mirelis Soto and undergraduate student Carola Ramallo both from the Department of Agricultural Education are in charge of collecting data that they will then analyze together with the mentoring of Dr. Santiago Andino.
- ✓ Dr. Santiago works with the Middle State accreditation of the College of Agricultural Sciences.

d. Dr. Ivys Figueroa

- Kick Off Initiative - "The power that unites us" - with the purpose of injecting positivism and an attitude to the new beginning of the courses offered by the Program.
- Educational seminar – "Guided by the passion to educate" – the purpose was to celebrate the achievements and goals achieved by our Teaching and Non-Teaching staff of the Program. The professional resources that complemented the educational part were, doctors José Ferrer López of U.P.R.- Mayagüez and Carlos Cañuelas of the Medical Sciences Campus.
- NutriTour 2023- "Sustainable food, fuel for the future" - with the purpose of disseminating information related to food and nutrition to all teaching staff of the Agricultural Extension Service.

5. Dissemination of academic achievements

- a. The department's social networks: Instagrams, Facebook and Twitter; As well as the official website of the department, they keep students, the university community and the public informed about the administrative processes, outstanding news and achievements of the student body, teaching staff and non-teaching staff.
- b. Support to students through distance and hybrid courses, visits to the administrative office or teachers are through appointments, phone calls or through online platforms.
- c. Alternative methods of communication with faculty and students are strengthened using whatsapp, chats, teams, Meet, teams and hangout, collective email, Moodle and phone calls.
- d. The department's website on the WordPress platform is kept updated: <https://www.uprm.edu/edag>, as well as social networks; Instagrams, Facebook and Twitter.
- e. Among the academic achievements:
 - About 10 students completed the Bachelor Degree in the Agricultural Education Program and 13 students in the Agricultural Extension Program for a total of 23 undergraduate students who completed the degree.

- ✓ In Master's degree under the Agricultural Education program one (1) student completed their degree and in the Agricultural Extension Program, one (1) student for a total of two (2) Master's students who completed their degree.
- ✓ It has been the largest graduating class (with 25 graduate students) that the department has had so far. An achievement without a doubt.
- In the honor list of Agricultural Science students, four (4) students of the Agricultural Education Program and two (2) undergraduate students of the Agricultural Extension Program were awarded honors for their academic performance, obtaining honors in their disciplines.
- Four job offers are under evaluation for assistant professors in the areas of: Specialist in Family Welfare and Human Development, Specialty in Positive Youth Development, Specialty in Gerontology, Specialty in Non-formal Education Programs and Methodologies.
- The first academic semester 2022-2023 had an enrollment of 171 students: 63 undergraduates, 21 graduates. New students were three (3) in Agricultural Education Program and three (3) in Agricultural Extension Program for a total of six (6) students.
- The department had two undergraduate students with daily wages, who were with Dr. Edly Santiago Andino, working on statistics for the accreditations that are being carried out; and a graduate student who developed and worked on the department's social networks: Instagram, Facebook and Twitter.

Department of Agricultural and Environmental Systems

1. Initiatives to strengthen teaching

a. Use of technology in the classroom

All the Department's classrooms are equipped with modern audiovisual equipment for the use of professors and instructors to offer their courses and laboratories. The Computerized Teaching Classroom has computers and software (MS Office, AutoCAD, ArcGIS, among others) to support course offerings and laboratories. In addition, three classrooms are equipped with the necessary technology for concurrent classroom and distance learning (HEERF proposal). These are equipped with speakers with integrated microphones, camera, projector, electric screen, computer with double monitor and television. Departmental faculty and instructors incorporated online activities in the Moodle platform as part of the course and to support the learning process. In addition, the course SAGA 5126-Food Safety was transformed and offered online during the Fall term.

b. Teaching training activities

Professors were trained, on an individualized basis upon request, on the use of the technology installed in the classrooms to offer face-to-face and distance courses simultaneously. Please refer to Attachments I and II.

2. Strengthening of facilities for academic use

Improvements to facilities

The installation of the equipment and materials necessary to replace the entire wired (ethernet) and wireless internet network in both buildings of the Agricultural Engineering Department was completed. A wireless antenna was installed in each of the classrooms and in the study area to increase the capacity. Internet speed increased from 100-400 Mbps to 1 Gbps. This project was funded by HERFF funds and installed by RUM CTI staff. The installation of 21 new computers and software in the Computerized Teaching Room (AM-102) was completed with HEERF funds. Floor tiles of classroom AM-104 were replaced. Communication was maintained with RUM personnel for the correction of leaks that arose after the temporary waterproofing of the roof by a private company.

Food Science and Technology Program

1. Curricular reviews

During the 2019 summer, FST faculty conducted an academic assessment effort on the offered master's degree (with thesis). As a result of the activity, it was identified that the content of core courses required updating. Among those, the faculty decided to redesign the activities in CITA 6603, Food Processing Laboratory, merging them with Food Technology activities (CITA 6615) and increasing credit-hours from one (1) to two (2). During the fiscal year 2022-23, efforts focused on developing the activities of the revised course and preparing the educational materials.

2. New academic programs

The Bachelor of Science degree in Food Science received final approval in May 2022 (Certification 2022-142 of the Post Secondary Institutions Board) and officially started in August 2022.

3. Initiatives to strengthen teaching

The following activities were directed toward strengthening the teaching-learning process.

- a. Two courses were offered in hybrid form during the Spring 2022-23 term.
- b. A smart board and technology to offer online courses were installed at the Darlington facilities administered by the FST Program.
- c. Four training events took place during the Spring 2022-23 term on the use of the smart board and its software.
- d. Please refer to Attachment I and II.

4. Student participation in academic competitions and activities

Every academic year, the FST Program and the student association organize an on-campus food product development competition. For the academic year 22-23, a total of 58 students representing three (3) courses participated in the event.

5. Strengthening of facilities for academic use

The following improvements strengthened academic offerings.

- a. The Pilot Plant was reorganized to better accommodate academic and research activities and eliminate obsolete equipment. Also, the food chemistry laboratory at the Chemistry Building was refurbished.
- b. An area at the Pilot Plant was fitted with a TV to allow projection from a computer for courses, meetings, and research activities. Also, available distance education technology in both rooms of the Darlington Building facilities was upgraded. The new technology includes smart boards, cameras, laptops with related software, and sound systems. Also, a rheometer and a new ultra-freezer were acquired to support food chemistry research.

6. Academic offerings

The Bachelor of Science degree in food science was approved in May 2022. Transfer students started to arrive in August 2022 and the first wave of freshmen students should arrive in August 2023.

7. Dissemination of academic achievements

The FST Program keeps a Facebook page (https://www.facebook.com/CITAUPRRUM/?locale=es_LA) to post FST-related activities and events.

Agricultural Extension Service

1. Initiatives to strengthen teaching

a. Training activities for faculty staff by programatic area

Programatic Area - Agriculture Marketing and Natural Resources	
Num.	Title of the training offered to faculty staff of Extension
1	Proyecto administración de fincas (PAF)
2	Manejo de Suelos de Puerto Rico
3	Integrando el conocimiento del recurso suelo del campo al laboratorio
4	Reunion-conversatorio competencia taza de oro de café
5	Reunión Comité de Méritos
6	Reunión programa educativo certificación plaguicidas
7	Ventana de Apoyo a los Agentes Agrícolas de AMRN
8	Convocatoria Reunión Ordinaria Facultad de Especialistas Catedráticos del Servicio de Extensión Agrícola
9	CAPACITACION: Clínica de Diagnóstico: Cómo someter muestras de plagas y todo sobre plaguicida
10	Integrando el conocimiento del recurso suelo del campo al laboratorio
11	Ventana de Apoyo a los Agentes Agrícolas de AMRN
12	Clínica de Diagnóstico: Cómo someter muestras de plagas y todo sobre plaguicidas
13	Manejo de la Marchitez Súbita de la Sandía "Vine Decline".
14	Guía curricular polinizadores
15	Un día con los polinizadores
16	"Conceptos básicos de la catación y degustación de café"
17	Agricultura Convencional en Transición a Agricultura Sostenible
18	Ruta 2024 Proyecto COOPLE – Días de campo en forrajes, visitas a vaquerías, presentaciones sobre bienestar animal, manejo óptimo de becerras y novillas entre otras
19	Manejo y conservación del agua: Uso eficiente del agua de riego en fincas de hortalizas
20	Pruebas de percolación
21	Generando mapa GIS para PMDFAEP
Programatic Area – Family and Consumer Sciences	
1	Ventana de Apoyo a las Educadores CFC
2	Ventana de Apoyo a las Educadores CFC
3	Asamblea Anual Asociación Puertorriqueña en Ciencias de la Familia y del Consumidor (APCFC)
4	Capacitación Taller en Preservación de Alimentos (Bolsas Mylar y Pailas) Región Suroeste
5	Ventana de Apoyo a las Educadores CFC

6	Capacitación Taller en Preservación de Alimentos (Bolsas Mylar y Pailas) Región Sureste
7	Capacitación Taller en Preservación de Alimentos (Bolsas Mylar y Pailas)
8	Seminario PEAN 2022: Guiados por la pasión de educar
9	Plantas ornamentales como elementos de bienestar y ambientación de interiores
10	Enfermedades infecciosas
11	Capacidad financiera: Acciones para atender las finanzas personales
12	Modelo de asesoría en estudiantes/participantes
Programatic Area – Youth and 4H Clubs	
1	Ventana de Apoyo para las Educadoras y Agentes Trabajando con 4-H
2	Merit Review 4H
3	Ventana de Apoyo para las Educadoras y Agentes Trabajando con 4-H
4	Ventana de Apoyo para las Educadoras y Agentes Trabajando con 4-H
Programatic Area – Development of Community Resources	
1	Actividad: ¿Qué es DRC?
2	Ventana de Apoyo para las Educadoras y Agentes trabajando con DRC
3	Ventana de Apoyo para las Educadoras y Agentes trabajando con DRC
4	Conversatorio: ¿Qué es DRC?
5	Ventana de Apoyo para las Educadoras y Agentes trabajando con DRC

b. Collaboration agreements

Purpose	Validity	Agency
Participation in the Global Forum for Rural Advisory Services (GFRAS) meeting at the United Nations, Santiago de Chile	2022 to present	United Nations.
Invitation from the Latin American Network of Rural Extension Services (RELASER) to Puerto Rico to join the network. Progress made in the establishment of the Puerto Rico Forum.	2022 to present	Red Latinoamericana de Servicios de Extensión Rural
A cross-training session was conducted with NRCS (Natural Resources Conservation Service) to present the organizational structure of the Agricultural Extension Service (SEA), and vice versa. The purpose was to establish future collaborations for the benefit of farmers.	2022 to present	NRCS
Translation of educational material and participation in podcasts for Spanish-speaking audiences.	2023 to present	Universidad de Florida (IFAS)
Extension Educators offered educational activities about women's health and early detection of breast and cervical cancer. The CCC supported the activities by providing educational modules with	2022 to present	Puerto Rico Breast and Cervical Cancer Prevention and Early Detection Program

statistical information about the prevalence of cancers in Puerto Rico, the screening survey, and the analysis of interventions.		
“TomSPOT – an integrated toolbox for managing tomato bacterial diseases in North America	2023 to present	University of Florida, University of Georgia, Ohio State University, USA ARS, Louisiana State University, Purdue University
Memorandum of Understanding between UPRM (University of Puerto Rico at Mayagüez) and World Coffee Research.	2023 to present	World Coffee Research

Agricultural Experiment Station

Adjuntas Substation

At the Adjuntas Substation, the facilities are used for courses in the Faculty of Agricultural Sciences and by graduate students to conduct their thesis research. Under the projects H-499, H-94-B, and H-94-F, we have graduate students conducting their thesis research at the Substation.

Gurabo Substation

To strengthen academic programs and promote a better environment, the facilities of the Gurabo AES have been used in collaboration with the Food Safety Project (PIA), the Pesticide Certification Educational Program, the Food and Nutrition Educational Program (PEAN), the Youth and 4-H Clubs Program of the PRAES, and the Boy Scouts of America Youth Program to offer their workshops and activities. Additionally, courses were offered for the professional improvement of agricultural agents through the SARE Project. This is done with the purpose of personal and professional enrichment of community members. Furthermore, for agricultural science students and farmers, a tour of the main work areas at the Gurabo AES was provided. Biannual meetings were also held for members of the dairy cattle and forage companies.

As part of the improvement of the communication system, the wiring of the main building at the Gurabo AES was updated. Furthermore, options are being evaluated to install fiber optics or wireless communication antennas to provide internet access to the Animal Reproduction Laboratory area. Improvements were made to the conference room, such as the acquisition of a second screen with projection system and 2 new air conditioning units. We also have a communication system, CB Radio KP4 with backup battery, which aims to maintain viable communication in the event of an atmospheric event that disrupts common communication channels. Dr. Alfredo Aponte Zayas continues his collaboration with Josco Bravo and offered the course "Agroecological Producers and Promoters." Dr. Verónica Negrón Pérez hosted a group from the Animal Science Student Association at RUM (University of Puerto Rico at Mayagüez), to whom a talk on artificial reproduction practices in cattle and genetic improvement of dairy

cattle was given. The ZDA-032 project (Center for Tropical Animal Research and Reproduction) in collaboration with the Department of Agriculture of Puerto Rico remains active (2019-2023). The overall objective of this project is to propagate the gene of the hairless cow in Puerto Rico's dairy cattle and create an assisted reproduction center for farm animals.

E. To increase and diversify the Institution's sources of revenue

Faculty of Agricultural Sciences

Initiatives to obtain funds

Finca Alzamora have been raising funds through the rental of garden plants and flowers for activities.

Department of Agricultural Economics and Rural Sociology

1. Initiatives to obtain funds

- a. Hatch and other USDA RFPs
- b. SEA Grant
- c. DEG
- d. Others received electronically and/or online

2. Self-generated income and intended used

Funds received for course offerings through RUMex. During 2022-2023, the department had the following courses on offer through RUMex:

- ECAG 4025-001D (Seminar)
- ECAG 3007-001D (Computer Use in Agricultural Sciences)
- ECAG 4028-001D (Agricultural Finance).

The department accumulates 20% of the surplus after the payment of salaries and fringe benefits to the teachers of the sections belonging to that department, as established by Certification 21-46 in Number XV, section B, point 3.

Department of Agricultural Education

1. Initiatives to obtain funds

Dr. Roberto Rigau, extension specialist in our department, is Coordinator of External Resources of the PRAES, works with proposals from which he obtains funds for the College of Agricultural Sciences and PRAES.

2. External funds received

Doctors Janitza Saavedra, Edly Santiago Andino, Ivys Figueroa and María Rodríguez, work with external proposals to receive funds that benefit the College of Agricultural Sciences, PRAES and department.

Food Science and Technology Program

1. Initiatives to obtain funds

During the 2017-2020 period, the FST Program had an agreement with the then Puerto Rico Industrial Development Corporation to offer training, technical assistance, and analytical services to the food industry. As part of the academic year 2022-23 activities, efforts were directed toward reinstating the agreement. The new contract is currently being drafted.

2. External funds received

FST faculty submitted six (6) proposals for external funding during 2022-23. Three of those were approved, bringing in about \$1.7 million. Also, the FST Program offers industry training on regulation compliance topics. During 2022-23, the faculty offered eight (8) courses impacting over 60 participants.

3. Self-generated income and intended use

Aside from funding from research projects, the FST Program has two (2) sources of income: the University's General Fund to support academic and administrative activities, and a rotational account to manage funds from contracts, industry training, and other income-generating activities. The General Fund is used to cover salaries, laboratory materials, and other administrative expenses. The rotational account is used to cover materials for graduate student research, acquisition and repair of equipment, and infrastructure or technology improvements.

Agricultural Extension Service

1. Initiatives to obtain funding:

Ongoing improvements were made to the PRAES Online Store. Multiple training sessions were provided to the finance staff of the PRAES and AES on revenue collection and accounting through online financial platforms. Work is underway to create an intermittent product associated with an independent account that can be activated or deactivated to address matters such as camp payments or other recurring activities.

2. External funds received.

During the reporting period, a total of 15 competitive proposals were submitted to various sources, including CORTEVA, USDA NRCS, MIDA, USDA-NIFA, Extension Foundation, USDA-FS, USDA-NIFA, Southern Research & Education, and National Agricultural Statistics Service. A summary table categorizing these is included.

Proposals	Status	Funds
1	Denied	\$ 49,999
3	Pending	\$ 254,998
11	Approved	\$ 1,366,188

3. Self-generated income and allocated use:

During the fiscal year 2022-2023, the Pesticide program generated \$98,805 in own revenue, while the Food Safety program generated \$27,344. These funds were utilized to support and sustain the respective programs.

Agricultural Experiment Station

Adjuntas Substation

At the Adjuntas Substation, horticultural improvement practices for citrus and coffee crops are continuously carried out to optimize their production, generating income through the sale of fruits and coffee in flour. A collection of mother trees is maintained in a closed structure to provide disease-free material for grafting onto citrus trees. Certified disease and pest-free citrus trees are grafted in a closed structure for sale to farmers. Over 100,000 coffee seedlings are planted for sale to the Department of Agriculture.

Corozal Substation

At the Corozal Substation, we continue to sell clusters and seeds. Additionally, we have collections of starchy plants such as plantains, bananas, and yams. We use the sawmill to provide wood cutting services to the public, generating income.

Gurabo Substation

At the Gurabo Substation, plantings of taro, sweet potato, cassava, malanga, pumpkin, watermelon, cucumber, and plantain were established with the purpose of producing fruits and seeds. The production of round bales of improved grass continues, both for consumption by replacement cattle at the CIRAT and for sale. We have received cull

cows from the Lajas AES to be used in the Gurabo AES as breeding animals for fattening and meat sales in the near future. Currently, we have 25 pregnant females expected to give birth to calves for sale in 2024. The sale of compost continues as an additional source of income (approximately \$1,280.00). We have sold 8 animals for meat production and consumption, 20 heifers for milk production to independent farmers, and 3 bulls (approximately \$53,800.00). We have also sold 23 bales of 50-pound hay (\$184.00 approximately).

Initiative/Project Source	Type of Source (internal, external or own)	Agency	Amount	Purpose/Intended Use
CIRAT (ZDA-032)	External	ADEA	\$750,000.00	Development of an Animal Reproduction Laboratory
Compost Management Project	Own Income	AES	\$1,280.00	Fertilization of Gurabo AES plots. (Reflected in A-021 Experimental IP)
Validation and Production of Improved Tropical Forages (H-502)	External Funds	AES	\$184.00	Production of improved forages for animal feed (hay bales) (Reflected in A-021 Experimental IP)
Breeding and Sale of Holstein Cattle	Own Income	AES	\$53,800.00	Development and management of the Gurabo AES herd (Reflected in A-021 Livestock IP)
Other Products	Own Income	AES	\$5,027.00	Maintenance and expansion of the planting project (Reflected in A-021 Experimental IP)

Juana Díaz Substation

1. At the Juana Diaz Substation, improvements were made to the facilities, including the replacement of four "inverter" A/C units, leaving only two original "inverter" units in the offices.
2. To promote income generation, the first UPR Select Seed Fair was held in September 2022. In April 2023, the launch of the "Semillas Selectas" (Select Seeds) brand took place at UPRM.

3. Specialized equipment acquisitions

- Precision Balance WL-213-00091 H-520, Dr. Irma Cabrera
- Yomato Natural Convection Oven H-520, Dr. Irma Cabrera
- I-340 Handheld Photosynthesis System H-520, Dr. Irma Cabrera
- IML Resistograph F-Series Inspection Drill-Model F500S H-520, Dr. Irma Cabrera

- 3 Apple iMac Computers - A-21 Administrative Offices
- 4 inverter consoles (12k, 36k-3)

4. Achievements and other activities

- Field Day for Project H-516 in collaboration with Dr. Irma Cabrera and Dr. Consuelo Estévez.
- Continual increase and diversification of the institution's income sources.
- Planting of taro for the sale of fruit, seeds, and seedlings. Planting of pumpkin for the sale of fruit and seed collection for continued planting and sale.

5. Self-generated income and its use

The self-generated income for the AES-Juana Díaz until the first week of June 2022-23 is \$112,525.23, which is \$11,735.44 less than the income for 2021-2022 (\$124,260.67), without concluding the month of June. From the funds raised in previous years, \$112,213.23 was used for materials, goods, and services during the year 2022-23, including agricultural equipment parts, office supplies, maintenance, security, and other expenses.

Isabela Substation

At the Isabela Substation on April 20, 2023, the development of the Select Seed program of the AES was celebrated. Throughout the year, we increased botanical seeds developed by our Plant Breeding program. These seeds are adapted to our climatic conditions. Farmers have the opportunity to acquire this quality seed and propagate it throughout Puerto Rico. During the drought season, several farmers use our weeds as feed for their livestock. We identify plots that they can cut, and as a result, they have to pay us for each bale of silage. We do not allocate labor, equipment, or diesel for this activity. All resources are provided by the farmer.

Lajas Substation

At the Lajas Substation, the website semillas.eea@uprm.edu is maintained for the sale of seeds produced at the substations. This project started at our facility and will be extended to other substations in the future. This provides consumers with the opportunity to purchase seeds online and then pick them up in person. The reception and payment area, seed packaging areas, and refrigerators and freezers were reorganized to separate conventional seeds from organic ones. This initiative has been generating economic activity, increasing self-generated income, and meeting the demand for certified seeds from local farmers and consumers due to the lack of suppliers.

Two external activities were carried out to promote the concept and sell seeds to the general public. Additionally, a plan was initiated to sell seeds in envelopes through vending machines in high-traffic areas.

F. To implement efficient and expedient administrative procedures

Faculty of Agricultural Sciences

Department of Agricultural Economics and Rural Sociology

1. Automation of administrative processes

- Approval of Requisitions through SIA Prod (sia.upr.edu)
- R3 approval via upr.edu account
- Approval and processing of documents through Signrequest

2. New or revised processes

We continued to work on applications for graduate and/or undergraduate assistantships for research (R3) through *Signrequest*. This streamlines the administrative process, reducing the time of collecting signatures. It includes all official document procedures that require electronic signatures.

3. Improvement activities for administrative and support staff

- Professional Enrichment Center (CEP)
- Workshops sponsored by Government Ethics
- In coordination with the Office of Human Resources and the Equal Employment Opportunity and Reasonable Accommodation Officer, the participation of all staff was encouraged to comply with Article 3.3 of the Government Ethics Law, which establishes that all public servants must comply with a minimum of 20 hours of continuing education in ethics. of which 10 hours minimum have to be completed through training or any other method developed by the Center for the Development of Ethical Thinking (CDPE) and the remaining 10 hours through training offered by other public or private entities (validations)
- Workshops coordinated by the UPRM, PRAES an AES
- Registration Workshops
- Graduate Assistantship Training/Online Graduate Assistantship System

4. Recruitment of administrative staff

- The Department of Agricultural Economics and Rural Sociology only has an administrative staff that provides support to all areas, through emphasis. It is important to mention that this department is an integrated one that serves teaching staff of the three units of the College of Agricultural Sciences

(Agricultural Experimental Station, Agricultural Extension Service and the Faculty). Since August 23, 2022, Ms. Sonia M. García Torres returned to her work as Administrative Secretary III, after attending to medical situations. Due to the lack of additional personnel in this department, it has been necessary to grant additional tasks to his position in order to meet departmental goals.

Department of Agricultural Education

Administrative processes have been maintained with agile and efficient decision-making through communication, promoting collaboration and through faculty and administrative participation.

Department of Agricultural and Environmental Systems

1. Establishment and documentation of internal administrative procedures

- The Department has a digitized inventory with photos of the equipment with property numbers in the Microsoft Lists application. The inventory is updated periodically as equipment is added, decommissioned, or moved. This facilitates the inventory process and allows for greater control over location and users.
- To reduce the amount of paper and facilitate remote access, we continued with the digitization of academic and administrative records.
- The Sign Request platform was used for signing and tracking documents digitally.
- The Departmental group was used in the Microsoft Teams platform to share frequently used documents and hold departmental and committee meetings.
- Digital forms (Microsoft Forms) were used for borrowing equipment, requesting a change of location, updating student information in the academic program, general data on students with assistantships or work experience, information on the students' practicum center, among others.
- A digital record was kept up to date in Microsoft Lists for managing and tracking service and maintenance notes for the Department's buildings.

2. Improvement and recognition activities aimed at administrative and support staff

The Department's Administrative Assistant participated in the training courses offered on the use of Microsoft software and applications. The Laboratory Technician participated in the trainings offered by the Professional Enrichment Center related to laboratory safety.

Agricultural Extension Service

1. Automation of processes

Spaces were created on the Extensionist portal to provide access to updated official documents for all teaching staff. This ensures uniformity in PRAES procedures and prevents the use of unofficial or outdated documents.

2. Reviewed processes

In order to standardize and streamline the process of generating the annual NIFA report, a guide was created for the Federal Contacts of the Agricultural Extension Service (PRAES). The guide includes a summary of NIFA webinars and the approved report from the previous fiscal year. With this information, PRAES Federal Contacts will be able to make more informed decisions regarding the programs they will be reporting on, reducing the need for interventions with the Assistant Director of OPE.

3. Establishment and documentation of internal administrative procedures

- a. The Graphic Identity Manual of the Agricultural Extension Service (PRAES) was developed and published.
- b. Improvements were made to the interactive virtual map of the PRAES, which allows our audience to identify field personnel in their area and locality. All office coordinates were updated (using Google Maps) and confirmed with the staff to ensure accuracy.
- c. Publications in print or image format were digitized to strengthen the PRAES repository on the website.

4. Evaluation of administrative processes (provide examples)

Every year, the teaching staff of the Agricultural Extension Service (PRAES) evaluates their administrators with special appointments through Appendix L.

5. Improvement and recognition activities aimed at administrative and support staff.

During 2022, multiple consultations were provided to agricultural agents and CFC educators through Support Windows. The Program Area Leader met monthly with field staff to provide recommendations aimed at the strategic improvement of each educational program within PRAES.

Agricultural Experiment Station

Adjuntas Substation

In the Adjuntas Substation, the "Sign Request" program is also utilized to streamline the signature process and greatly reduce the need to print and send documents through traditional mail. This results in cost savings for the institution and time savings in administrative and research tasks. The Office of the Associate Dean of the AES initiated the sale of citrus and coffee trees, as well as special coffee flour, through the "Semillas Selectas" website.

Corozal Substation

In the Corozal Substation, all administrative personnel have been relocated to share the same office and photocopier, eliminating the need for individual printers. Scanners are used to digitize documents and carry out procedures via email. Emphasis is placed on using the Sign Request tool to streamline processes and reduce paper usage.

Gurabo Substation

In the Gurabo Substation, virtual document processing is maintained to expedite administrative processes. Work plans for major projects are prepared on a monthly basis and delivered to the supervisor and research assistants to promote work efficiency and process automation. As evaluation mechanisms, the responsible personnel provide researchers with the collected data as coordinated. The conference room is utilized to offer governmental ethics workshops for administrative and support staff of the Gurabo AES as a training activity. Short social activities are organized (following health and institutional protocols) to promote employee well-being, interpersonal relationships, and teamwork. Workshops are also being coordinated to strengthen workers' skills in their respective areas.

Juana Díaz Substation

In the Juana Díaz Substation, the conference room is used for various meetings and workshops, including seed fairs, agricultural entrepreneurship courses, governmental ethics training, and more. There have been visits from professors, USDA personnel, and students, as well as meetings with agricultural experts and document deliveries to farmers.

Isabela Substation

In the Isabela Substation, we continue to utilize and implement the "Sign Request" program, which has been extremely useful for our institution. Using this platform allows us to acquire necessary signatures without having to send documents through traditional mail or deliver them in person. It translates into efficiency and, combined with other technological methods such as email, it has helped us focus and utilize fewer resources in these aspects. We continue to digitize documents whenever possible, reducing the use of paper for various procedures.

Lajas Substation

In the Lajas Substation, the implementation of online sales through the website semillas.eea@uprm.edu for the sale of seeds produced at the substation has allowed for the use of credit and debit card payments, making the payment and collection process easier. Additionally, we have made the products available electronically, providing real-time disclosure of available seeds for immediate purchase. This process automates the deposit of funds and facilitates electronic reporting. A new method of payment for sales has been added, including wireless systems for debit and credit cards, as well as the mobile ATH system. This aims to facilitate and automate the payment process for seed and product sales at the substation.

G. To strengthen research and competitive creative endeavors

Faculty of Agricultural Sciences

1. Number of research collaboration agreements and brief description (FAC, AES and PRAES)

Organization	Effective Date	Purpose
Escuela Agrícola Panamericana, Inc.	12/05/22 – 09/30/23	Agricultural Experiment Station - 'Development and Release of bean cultivars for Central America and the Caribbean having multiple virus and bruchid resistance.' Prof. Abiezer González Vélez and Dr. James Beaver - Project Leaders
Fondo para el Fomento de la Industria Lechera	01/13/23 – 01/13/24	Agricultural Experiment Station - Analysis of milk samples from dairy farms in operation in Puerto Rico Dr. Esbal Jiménez Cabán and Dr. Jaime E. Curbelo – Project Leaders
Talam Biotech Holdings, Inc.	01/27/23 – 01/27/24	Agricultural Experiment Station – Rice cultivation trials in the EEA-Lajas. The proposed test is of interest and benefit

		for the rice cultivation projects that are developed in the substation. Prof. Anthony Rivera – Project Leader
World Coffee Research	03/01/23 – 08/31/25	Agricultural Experiment Station - 'Research Agreement between World Coffee Research and UPR-Agricultural Experiment Station' – Evaluation of high production coffee varieties provided by the company World Coffee Research. Dr. Fernando Gallardo - Project Leader
Department of Agriculture FIDA	02/10/23 – 09/30/23	Agricultural Experiment Station - "Protecting the fruit sector of Puerto Rico from the fruit fly" - Sampling of traps and fruits and monitoring of the fruit fly. Prof. Irma Cabrera Asencio - Project Leader

2. Publications, presentations, periodic letters, and circulars

To strengthen formal teaching, non-formal teaching and research, the Faculty of the College of Agricultural Sciences submitted several submissions to journals, magazines and articles to different entities for publication. This includes publications in refereed journals, non-refereed journals, periodical letters and circulars. The researchers also made presentations in different forums related to agriculture. Attachment III contains the publications, Attachment IV shows the presentations and Attachment V breaks down the periodic letters and circulars.

3. Graduate assistantships for research, teaching and extension (Faculty of Agricultural Sciences, Agricultural Experiment Station and Agricultural Extension Service)

	First Semester 2022-2023			Second Semester 2022-2023		
	Graduate	Undergraduate	Amount	Graduate	Undergraduate	Amount
Research (AES)	82	17	\$280,261.00	78	21	\$329,783.00
Teaching (FAC)	78	0	\$179,716.60	61	0	\$156,116.67
Total	160	17	\$ 459,977.60	139	21	\$ 485,899.67

A total of 69 assistantships were awarded by the Agricultural Extension Service, totaling \$295,711 for the specified period.

Department of Agroenvironmental Sciences

1. Origin of graduate students

- Haití- 3
- Costa Rica – 1
- República Dominicana- 1
- Honduras – 1
- Colombia – 3
- Puerto Rico -62

Department of Agricultural Economics and Rural Sociology

1. Impact results in research projects and creative work

- Sustainable Risk Management and Insurance Benefits in the Agricultural Business
- Training Property Administration (PAF) – Lares, Aguada, Maricao
- Third Congress of Applied Economics in Puerto Rico

2. Initiatives to involve students in research projects and creative work

- ECAG 4991-001# y ECAG 6991-001#:
 - ✓ Summer Internship 2022 Censo Agrícola (USDA-NASS: 2022 Puerto Rico Census of Agriculture Agreement Number 58-3AEU-0048)
Dras. Alexandra Gregory y Gladys M. González
- ECAG 4993-001#:
 - ✓ Comparison between locally produced food prices and imported food prices.
Dr. Julio C. Hernández Correa
- Course ECAG 6997-096H:
 - ✓ Topics in Applied Economics: Agricultural Economics, Natural Resources, and Health
Dra. Alicia V. Barriga
- ECAG 6998-001#:
 - ✓ Food System Resilience in Puerto Rico
Dr. Robinson Rodríguez

3. Number of research collaboration agreements and brief description

- USDA-NASS: 2022 Puerto Rico Census of Agriculture
- Project Seeding Food Resilience Through Anchor Institutions (UPRM-UVM)

4. Origin of graduate students

- Haití
- Puerto Rico

Department of Agricultural Education

1. Initiatives to involve students in research and creative work projects

Dr. Janitza Saavedra contributed as collaborator for the participation of student Bryan Hernández in Research Symposium 2023 held on May 17, 2023 at the RUM. The student presented the poster: Attitudes of high school students participating in the RUM Open House 2022 regarding alternatives to learn about a career in Agricultural Sciences. Drs. Janitza Saavedra and Edly Andino were the advisors in the study presented.

2. Origin of graduate students

A student of Haiti, in general graduate students come from different municipalities of the Island.

Department of Agricultural and Environmental Systems

1. Quantity of external funds received, by source and creative work – 7

2. Total number of proposals submitted and approved by department – 7

proposals submitted as PI and 7 proposals submitted as Co-PI

3. Number of new research and creative work projects - 3 projects as PI and 4 projects as Co-PI

4. Number of ongoing research and creative work projects – 5 projects as PI and 11 projects as Co-PI

5. Brief description of new and ongoing projects with significant impact

- Through projects associated with soil erosion research (PI: Dr. Salvador F. Acuña-Guzman), laboratory experiments were developed to engage students into a more scientific approach of studying soil erosion processes in the course of Soil and Water Management (SAGA 4335). A rainfall simulator and an erosion plot were used to assess water losses and compare the results with hydrological models.
- Dr. Luis Perez Alegria is working on a collaborative project with the University of Illinois that brings together graduate and undergraduate students from both institutions to work with problems identified in special communities to propose solutions and implement them through community and participatory work.
- The NOAA RISA project aims to develop resiliency under increasingly severe weather in the Caribbean Region (PI Harmsen). Our department's contribution to this project will be to adapt the Geostationary Operational Environmental Satellite-Puerto Rico Water and Energy Balance (GOES-PRWEB) model to the islands of St. Croix, St. John, and St. Thomas, USVI. The model provides 27 hydro-agro-climate map products to the public each day. Monthly and annual

averages and totals are also provided to the public via the website <https://pragwater.com>. Several model products are especially valuable for evaluating drought impacts, including the volumetric soil moisture saturation fraction, potential and actual evapotranspiration, and the crop water stress factor. The four models (PR, St. Croix, St. John, and St. Thomas) will be run under future climate conditions to evaluate future drought impacts on agriculture and water resources. Various meetings will be conducted with water resource stakeholders in the four islands to promote the use of the new products for drought and water resource evaluation.

- Dr. Francisco M. Monroig Salter is working on a project to evaluate two commercially available alternative methods for harvesting coffee in Puerto Rico. Once the evaluation is completed, it is expected to be able to make recommendations and offer workshops on the correct use of these alternative harvesting methods.

6. Impact outcomes of research and creative work projects

The NSF CREST project, which is in its final year, has produced various impacts, including recommendations for the strengthening of the electrical infrastructure to enhance the resilience of the electric and water infrastructure under hurricane conditions.

7. Initiatives to involve students in research and creative work projects

There are three graduate students being supported by and involved in soil erosion research under the supervisory of Dr. Salvador F. Acuña-Guzman. The students are enrolled in the MSc in Soils program.

The projects of Dr. Harmsen (NSF CRISP, Hatch-402, and NOAA RISA) have involved the training of numerous students, including students from the City University of New York (CUNY).

8. Number of research collaboration agreements and brief description

NSF CREST is a collaboration with the City University of New York, New York University, and Arizona State University. We are also collaborating with the University of Alabama-Huntsville, Department of Atmospheric Sciences. The focus of the project is enhancing the resiliency of infrastructure in PR.

NOAA RISA is a collaboration with the University of Puerto Rico Medical Campus and numerous other universities including: CUNY, NYU, University Albany, University of the Virgin Islands, UPR-Medical Campus, and the University of Texas-Austin. The focus of this project is to enhance resilience to extreme weather hazards (flooding, drought, heat, landslide, etc.) within communities in the Caribbean Region.

Food Science and Technology Program

1. Quantity of external funds received, by source, for research and creative work

Total funding from projects approved during 2022-23: \$1,650,000.

2. Total number of proposals submitted and approved by department.

Three (3) of the six (6) proposals submitted were approved.

3. Number of ongoing research and creative work projects.

Aside from the recently approved projects, FST faculty worked on 18 projects as PI or Co-PI.

4. Brief description of new and ongoing projects with significant impact

- Projects H-495 and H-523 (Dr. Chavez through the Ag. Experimental Station) study the nutritional and value-adding characteristics of root and tuber flours. Furthermore, she strives to develop bread, pasta, and extruded products from the resulting flours.
- Projects H-512 and H-518 (Dr. Huertas through the Ag. Experimental Station) seek to establish controlled fermentation methods for specialty coffees and develop value-added products from the resulting fermented coffee beans.
- Projects RIIA-22 and HIS-23 (Dr. Domenech through the Ag. Extension Service) seek to develop formal and non-formal education curricula to prepare the next generation of farm-to-retail professionals for the meat industry.
- Project H-501 (Dr. Ponce de León through the Ag. Experimental Station) studies the manufacturing and marketability of value-added products using goat milk (and cow-goat milk blends).
- Project Z-330 (Dr. Pérez through the Ag. Experimental Station) converted in-classroom CITA courses to online versions, enabling the establishment of the online master's degree.

5. Number of research collaboration agreements and brief description (purpose, validity period, and agency name).

A 4-year collaboration agreement is being processed with the University of Virgin Islands at Saint Thomas and Saint Croix. The agreement is part of a USDA-NIFA-funded project to develop a professional workforce for the meat processing industry.

6. Graduate assistantships for research and teaching (quantity and amount awarded).

	Fall	Spring
Number of teaching assistantships	17	14
Total value of granted teaching assistantships	\$69,700	\$45,784
Number of research assistantships	9	13
Total value of granted research assistantships	\$33,100	\$66,012

7. Origin of graduate students (OPIMI)

A total of 42 students participated in the graduate program during the academic year 2022-23. This number includes nine (9) admitted students, four (4) graduated, and 29 returning students.

Agricultural Extension Service

1. Quantity of external funds received, by source, for research and creative work

During the reporting period, a total of 15 proposals were generated, amounting to \$1,339,213 in requested funds. Out of these, 11 proposals (73%) were approved (\$1,366,188), 1 proposal (7%) was denied (\$49,999), and 3 proposals (20%) are still in the evaluation process (\$254,998).

2. Total number of proposals submitted and approved by department

Amount	Status	Sponsoring Agency	Title of the proposal
\$13,500	Approved	USDA-NIFA	RREA FY2021
\$14,919	Approved	USDA-FS	Promotion of Pollinator in The Rio Piedras Botanical Garden
\$71,843	Approved	USDA-FS	Integrated Pest and Pollinator Management in Forests (IPPM)
\$45,449	Approved	2023 Southern Research & Education	Education and Conservation Practices for a Sustainable Agriculture in Puerto Rico
\$474,999	Approved	USDA-NIFA	PRAES ARP Technical Assistance Investment Program: A Collaborative Project Between USDA and PRAES Extension Faculty as Cooperators to Increase Accessibility to Opportunities
\$237,358	Approved	USDA-FS	Enabling climate-smart decisions for agriculture and forestry in Puerto Rico
\$5,000	Approved	CORTEVA	4-H Bug Camp 2023

\$13,500	Approved	USDA-NIFA	Caring for Puerto Rico's urban trees
\$299,383	Approved	USDA-NIFA	Rehabilitation of disturbed urban soils for vegetable production in Tropical regions
\$149,070	Approved	SubAward University of Florida	TomSPOT - an integrated toolbox for managing tomato bacterial diseases in North America.
\$45,000	Approved	National Agricultural Statistics Service	Data Collection of 2022 Census of Agriculture
\$49,999	Denied	USDA-NIFA	Reaching Food Security Through Urban and Indoor Agriculture in Puerto Rico: New Era, New Alternative
\$149,999	Pending	USDA-NIFA	Empowering Socially Disadvantage Meat and Dairy Ruminant Farmers
\$33,000	Pending	2023 Southern Research & Education	Puerto Rico 2023-2024 MSP - Program Assistant
\$22,000	Pending	2023 Southern Research & Education	2023 Puerto Rico's Sustainable Practices Outreach

3. Brief Description of new and ongoing projects with significant impact

- a. Project H505: Automated Feeding of Hairless and Non-Hairless Calves
- b. CIAN 4026/4027: 12 undergraduate students conducting research
- c. CIAN 6999: 6 graduate students conducting graduate research projects

4. Number of ongoing research and creative work projects

The total number of research projects managed by the Agricultural Extension Service during fiscal year 2022-2023 is 19.

5. Impact outcomes of research and creative work projects

- a. Project: Use of Artificial Light and Nutrient Solutions for Off-Season Flower Induction in Dragon Fruit.
 - Artificial light produced with solar energy for 5 hours per day in winter stimulates dragon fruit flowering in 27 to 28 days. Flowering and harvest were advanced by 6 weeks (from early April to mid-February).

- During the natural flowering season, 5 hours of artificial light increased the number of flowers by 27 to 32 percent. Application of nutrient solutions high in potassium before flowering increased fruit size by 21 to 24 percent.
- b. Project: The effect of the TeatScrubber on teat condition, teat hygiene, and milking efficiency in a tropical dairy farm.
 - The TeatScrubber improved teat condition and teat hygiene compared to traditional milking methods.
 - The use of the TeatScrubber significantly reduced the occurrence of delayed milk ejection, resulting in an economic benefit of \$60,108 per 100 cows annually.

6. Publications, presentations, periodic letters, and circulars

As part of the H505 project, 4 publications were made:

- a. Characterization of rumen and hindgut microbial communities in Holstein Slick and wild-type calves in a tropical climate.
- b. Effect of space availability on health, weight gain, and skeletal development in Holstein calves.
- c. Average daily gain and skeletal growth of Holstein slick and wild-type heifers raised in a semi-intensive rotational grazing system.
- d. Effects of an accelerated growth feeding protocol on body weight, skeletal development, and health score in Holstein slick and wild-type calves from birth to weaning.

Poster publications at the Sociedad Puertorriqueña de Ciencias Agrícolas (SOPCA) and the 3rd UPRM Research Fair included:

- a. Effect of a semi-automatic teat washing system on the condition, cleanliness, and milk flow in dairy cattle
- b. Association between the facial thermal profile, rectal temperature and respiratory rate in Holstein bovine neonates
- c. Association between facial thermal profile and milk production level in Puerto Rican Holstein hairless dairy cows.

To strengthen formal teaching, non-formal teaching and research, the Faculty of the College of Agricultural Sciences submitted several submissions to journals, magazines and articles to different entities for publication. This includes publications in refereed journals, non-refereed journals, periodical letters and circulars. The researchers also made presentations in different forums related to agriculture. Attachment III contains the publications, Attachment IV shows the presentations and Attachment V breaks down the periodic letters and circulars.

7. Graduate assistanships for research and teaching

The faculty members of the PRAES served as chairs (n=25) or members (n=36) of graduate thesis committees, impacting approximately 75 graduate students. They also supervised 6 undergraduate special projects. A total of 69 assistantships were awarded, totaling \$295,711 for the specified period.

Agricultural Experiment Station

1. Quantity of external funds received, by source, for research and creative work

Agency/Entity Name	Amount
National Institute of Food and Agriculture (USDA-NIFA)	\$10,281,443
Department of Natural & Environmental Resources/EPA	\$2,904,999
Department of Agriculture – USDA	\$1,020,170
Forest Service Research & Development	\$995,591
Other	\$575,722
Department of Agriculture - Puerto Rico	\$80,998
TOTAL	\$15,858,923

2. Total number of proposals submitted and approved by department

Department	Number of proposals submitted	Number of proposals approved	Number of proposals pending
Animal Science	4	2	2
Agroenvironmental Sciences	37	29	4
Food Science and Technology (CITA)	1	1	---
Agricultural Economics and Rural Sociology	7	1	4
Agricultural Education	1	1	---
Agricultural and Environmental Systems	6	2	3

3. Number of new research and creative work projects

The Agricultural Experiment Station has 31 new research and creative work projects for fiscal year 2022-2023.

4. Number of ongoing research and creative work projects

The total number of research projects managed by the Agricultural Experiment Station during fiscal year 2022-2023 is 120.

5. Impact outcomes of research and creative work projects

- a. H-94C - Plant Genetic Resource Conservation and Utilization of Banana and Plantain Dr. Martha C. Giraldo Zapata USDA Hatch \$1,500 (2022-2023)
- b. H-094D - Plant Genetic Resource Conservation and Utilization of Root Crops Dr. Martha C. Giraldo Zapata USDA Hatch \$1,200 (2022-2023)
- c. H-372 - Integrated Pest Management Technology for Specialty Crops and Specialty Uses Dr. Wilfredo Robles USDA Hatch \$3,000 (2022-2023)
- d. H-488 - Implementation of novel reproductive biotechnologies and genomics for the multiplication and commercialization of genetically superior Slick cattle Dr. Melvin Pagán USDA Hatch \$200,000 (2017-2022)
- e. H-502 - Fertility, yield, quality, and persistence of tropical improved grasses Dr. Alfredo Aponte USDA Hatch \$200,000 (2019-2023)
- f. H-503 - Evaluation of selected crop varieties and weed management practices for organic farming systems: integrating environmental, social, and economic dimension impact assessments Dr. Alfredo Aponte Zayas USDA Hatch \$200,000 (2019-2023)
- g. H-505 - Effects of using an automated milk feeder to deliver an accelerated growth feeding protocol on weight gain, feed efficiency, skeletal development, health status, plasma proteins, rumen microbiome Dr. Guillermo Ortiz USDA Hatch \$200,000 (2019-2023)
- h. H-507 - Reproductive Endocrinology and Liver Physiology of Slick Hair Holstein Cows Dr. Esbal Jiménez USDA Hatch \$200,000 (2020-2024).

Project Objectives: To determine estrus and pregnancy rates after estrus synchronization in slick hair and wild-type cows. To determine concentrations of ovarian steroids (estradiol 17-B and progesterone) after estrus synchronization and during pregnancy in slick hair and wild-type cows. To determine if there are gene expression differences in the liver of slick hair and wild-type heifers.

- i. H-509 - Fertility and embryo characterization of slick hair Holstein cattle. Dr. Verónica Negrón Pérez USDA Hatch \$200,000 (2020-2024)

Project Objectives: The main objective of this study is to compare the fertility of slick hair Holstein cattle with wild-type cattle. This will be achieved by comparing differences in hormone concentrations, ovarian structures, and embryo development between slick hair and wild-type Holstein cattle.

- j. ZDA-032 - Model dairy cattle program adapted to the tropics (Puerto Rican Slick Hair Holstein) and the creation of the Research, Reproduction, and Genetic

Propagation Center for Tropical Livestock. Dr. Verónica Negrón ADEA \$750,000 (2019-2023)

Objectives: Develop a research, reproduction, and genetic propagation center for tropical livestock at the former facilities of the Gurabo Dairy Farm. (1) Replacement of wild-type Holstein cows with Puerto Rican Slick Hair Holstein cows. (2) Generation of Puerto Rican Slick Hair Holstein bulls with different genetic profiles. (3) Establishment of model dairy farms with Puerto Rican Slick Hair Holstein cattle tolerant to heat stress. (4) Distribution of semen straws from the SINBA-PELON bull to 25 selected dairy farms to increase the number of slick hair cows through artificial insemination in heifers.

k. C-517 - Experimental Organic Farm. Dr. Alfredo Aponte USDA \$11,000 (2011-Present)

Objectives: Demonstrate the certification processes for organic agriculture through USDA to interested farmers, improve crop management techniques under the organic system, and promote organic agriculture through publications, demonstrations, validations, field days, and sale of certified organic seeds.

l. A-021 Experimental - Sales of Products from the Gurabo Experimental Farm. Agro. Ramón A. Couto Marrero Gurabo Experimental Farm (2018-Present)

Objectives: Generate funds for the maintenance and sale of varieties, crops, and seed propagation material.

m. A-021 Livestock - Breeding and Management of Cattle. Agro. Ramón A. Couto Marrero Gurabo Experimental Farm (2019-Present)

Objectives: Management of slick hair heifers from RUM to promote their development and genetic improvement of the herd.

n. Florida Organic Growers - Southeast Regional Center For Organic Transition Dr. Julia O'Hallorans USDA NIFA \$75,000 annually Gurabo Experimental Farm (2023-2028)

Project Objectives: Build a collaborative infrastructure in the Southeastern US to support and assist transitional organic producers.

o. We also mention that a project with Extreme Weather has recently been approved, led by Dr. Daniel Bair and in collaboration with Dr. Julia O'Hallorans, who will be working on the purchase and construction of a High Tunnel valued at

\$60,000.00 for the development of indoor agricultural products in a controlled and protected area.

6. Number of research collaboration agreements and brief description

Isabela Substation has a collaborative agreement with the Medical Sciences Campus (Dr. Nicolas Linares) to offer therapies to children at the AES-Isabela through Agrotherapy. It also has an agreement with JoscoBravo for crop planting and educating farmers about ecological cultivation.

7. Publications, Presentations, Periodic Letters and Circulars

To strengthen formal teaching, non-formal teaching and research, the Faculty of the College of Agricultural Sciences submitted several submissions to journals, magazines and articles to different entities for publication. This includes publications in refereed journals, non-refereed journals, periodical letters and circulars. The researchers also made presentations in different forums related to agriculture. Attachment III contains the publications, Attachment IV shows the presentations and Attachment V breaks down the periodic letters and circulars.

H. To impact our Puerto Rican society

Faculty of Agricultural Sciences

Department of Agricultural Economics and Rural Sociology

1. Participation in community initiatives

Community service is an integral part of the work of our department staff. Again, during 2022-2023, the teaching staff continued to work on training and research initiatives to serve the most disadvantaged sectors with support from institutions such as NIFA, HATCH, Smith-Lever, PRPH Trust, OPPE, SARE, Women in Agriculture Initiative, among others. Our department offers different services for the benefit of the community through the Agricultural Extension Service by promoting the economic development of communities and the development of leadership and sustainable self-management initiatives.

100% of all faculty affiliated with CCA departments working in the Community Resource Development Programmatic Area (including the current Program Area Leader) come from our department. In collaboration with the Institute for Community Development of the RUM, we work integrated initiatives that pursue community development through service-learning initiatives.

Department of Agricultural Education

1. Participation in community initiatives

To offer the best of services to our university community, Mrs. Marie L. Rodríguez, participated along with other colleagues from the College of Agricultural Sciences in a Sign Language Training offered by the Dean of Students and the Office of Liaison with the Staff of the Mayagüez Campus, from May 16 to June 27, 2023, culminating one of the most important challenges, providing inclusion to the deaf community of Puerto Rico in university life, with the professional resource of Yamilette Luciano.

2. Projects developed to address community needs

As an initiative of the graduate student and his direction, the Agro. Bryan J. Hernández Aquino, proposed to the Faculty of Agricultural Sciences the creation of the Pre-University Program "Agriculture Week Challenge" with the objective that high school students explore and can consider as an alternative of study one of the 12 academic programs offered by the College of Agricultural Sciences; was held from June 12 to 16, 2023 and was attended by 57 high school students from 31 municipalities throughout Puerto Rico. Of these students, 46% of them had completed tenth grade and 54% eleventh grade.

- The format of the program was a hybrid one using practical, creative and fun activities.
- Faculty, non-teaching staff and undergraduates and graduates participated; uniting all the staff in one of the most successful camps the College of Agricultural Sciences has ever had.

3. Initiatives to promote an entrepreneurial mindset and leadership among students

a. Agro. Bryan Hernández as teaching assistant; motivated the students of the laboratory of HORT 4005-010L, to participate in Horticulture Exhibition: Art and Science, carried out in the second semester 2022-2023, where they exhibited their end-of-course works in MUSA, motivating the students to participate in activities in the university community.

b. Information and Photos in <https://www.facebook.com/edaguprm/>;

4. Activities aimed at students and young people of school age

The AgyTu Visita tu Salón program, led by Dr. Edly Santiago, carried out activities in different public and private schools in the country and extracurricular activities for the promotion of the department. In the courses offered in the department, public schools are visited where students acquire knowledge and leadership.

During this academic semester 2022-2023, the students practicing the Agricultural Education Program, worked on the AGYTÚ Project, offering classes both face-to-

face and online. The project is coordinated by Dr. Edly Santiago Andino, Professor of the Department of Agricultural Education; it seeks to publicize everything related to the agricultural industry, its interrelations with humanity and natural resources. The educational activities developed by the practitioners integrated various academic areas such as: science, mathematics, history, among other subjects. AgyTú practitioners worked for eight weeks, presenting live agricultural literacy lessons to varying degrees. The material used was prepared by the students of Teaching Practice; reviewed and supervised by Dr. Santiago Andino. The lessons developed are creative and interactive so that participants learn without realizing it, because they work interacting and playing in the activities.

5. Dissemination of the institution's achievements and initiatives that benefit the community.

Through the official website of the department: uprm.edu/edag/; Instagram, Facebook and Twitter are promoted, the achievements, activities and work done in the department are presented. Through community leaders, identify, train and educate them, that they be that bridge to education in the field.

Department of Agricultural and Environmental Systems

1. Participation in community initiatives

- Dr. Eric Harmsen maintains and has improved the Geostationary Operational Environmental Satellite-Puerto Rico Water and Energy Balance ES-PRWEB. GOES-PRWEB provides daily values of thirty hydro-climatic variables in Puerto Rico (1-km spatial resolution) to the public at the web site: <https://pragwater.com/goes-puerto-rico-water-and-energy-balance-goes-web-algorithm/>.
- Dr. Eric Harmsen serves on the Puerto Rico Drought Scientific Committee. Estimates of soil moisture saturation, plant water stress, and rainfall deficit maps are provided to the Committee on a weekly basis to help assess the impact of drought in Puerto Rico.

2. Projects developed to address community needs

- Z-384 - Identification of critical contaminant sources and determination of nutrient import loads into the Carraízo Reservoir (CO-PI: Dr. Luis R. Pérez Alegría)
- Z-369 - Project based education via community engagement for disaster relief and resiliency. (Sub-contract: Dr. Luis R. Pérez Alegría)
- Z-355 - Implementation of a Water Quality Restoration Strategy at the San Juan Bay Estuary Watershed and the Río Loíza (below dam) Estuary Contributing Zone (CO-PI: Dr. Luis R. Pérez Alegría)
- CRISP 2.0: Integrated Socio-Technical Modeling Framework to Evaluate & Enhance Resiliency in Islanded Communities (CO-PI: Dr. Eric W. Harmsen)

Agricultural Extension Service

1. Projects develop to address community needs

- a. Project: Under the Community Gardens, 7 grants were awarded totaling \$56,000 to community organizations for the construction, organization, and implementation of community gardens, food conservation and preservation, and training on solidarity economy.
- b. Project: Socially Disadvantaged Farmers & Ranchers
 - Provided non-formal education and outreach in Spanish for farmers, ranchers, and fishermen.
 - In the period from 2020 to 2023, the following individuals were impacted:
 - ✓ Agribusiness - 3,646 people impacted and 127 hours of workshop contact
 - ✓ Grantmanship - 2,863 people impacted and 105 hours of workshop contact
 - ✓ USDA Programs - 1,489 people impacted and 24 hours of orientation contact
 - ✓ Provided technical assistance to approximately 100 farmers and fishermen to complete proposals such as the Re-Grow Program and Writing Business Plan.
- c. Projects - Soil Resource (USDA NIFA)
 - Rehabilitation of disturbed urban soils for vegetable production in tropical regions.
 - Rapid response program to extreme weather events in food and agricultural systems.
 - Protecting urban Puerto Rican communities from food scarcity during and after hurricanes by facilitating urban garden development.
- d. Project: Divided by water, united by need: IPM programs for PR & USVI
 - Integrated Management Guide for Sweet Potato and Comics for schools.
 - Presentations at SOPCA, APS.
 - Sweet Potato IPM Field Days.
 - Use of drones to estimate forage biomass in dairy farms.
 - Identification of whitefly species in ornamental nurseries.
- e. Project: Integrated pest and pollinator management
 - Sampling of beetles in state forests.
 - Seed exchange fair.
 - Training for Forest Service personnel.
- f. Project "Harvesting Our Future" Banco de Alimentos de Puerto Rico
 - Zero Hunger Initiative
 - Grant: \$164,000
 - Completed kitchen and food storage area rehabilitation.
 - Purchased a transportation truck.
 - Distribution of over 17,000 hot meals to vulnerable families.
 - Distribution of over 3,600 boxes of agricultural products from farmers in the western region.
- g. Project: "Food Systems Resilience in Coastal Communities: Fisheries and Aquaculture in PR" NOAA - SEA Grant

- Grant: \$150,000
 - Collaboration with the University of Vermont.
 - Completion of consumer interviews on willingness to consume and pay for underutilized fish species and aquaponic products.
 - Interviews with leaders of fishing villages on challenges and opportunities for establishing a non-formal education program on product and brand creation ("branding"), distribution, marketing, resilience planning, and support networks in the fisheries and aquaculture system.
- h. As part of the educational strategies offered by PRAES, such as the workshop for the Pro Bienestar Association in Bo. Marías de Aguada
- Participants had the opportunity to see the cooking process and taste healthy recipes based on the foods from the "green box."
 - This educational process led to the creation of 3 different recipe books.
- i. Urban agriculture project developed by the "Centro Paso" in Aibonito
- 18 volunteer leaders were certified to develop the work plan and build the project.
- j. Through the Agricultural Agents and Community Resource Development Educators participating in the Community Resource Development Education Program, the following achievements were reached:
- 78 leaders actively participated in designing and developing community projects.
 - 23 communities took actions to meet their needs and improve their quality of life through community empowerment and self-management.
 - 21 government agencies or other organizations collaborated in community development and organization.
 - 204 individuals volunteered their time.
 - 245 hours dedicated to voluntary work as community leaders.
 - 2 communities organized for the preservation and conservation of coastal resources and other natural resources.
 - 10 action plans developed and updated by community members to address a problem.
 - 10 coalitions or support networks established in the community.
- k. Project: Composting and Agricultural Water Management according to FDA's FSMA Law:
- 40 farmers, 34 agronomists from the Department of Agriculture, and 15 agricultural agents were trained in compost management according to the FSMA law.
 - 90 farmers, 47 agronomists from the Department of Agriculture, and 15 agricultural agents were trained in agricultural water management according to the FSMA law.
 - 13 friendly audits were conducted on participating farmers' farms.
 - Participants were provided with 36-inch compost thermometers, water sampling equipment, pH meters for water, and other materials.

2. Initiatives to promote an entrepreneurial mindset and leadership among students

Career Exploration and Entrepreneurship:

- a. 82 4-H members were trained in career exploration. These experiences were coordinated by teaching staff from the program units.
- b. Through the Explora Project, 56 participants were trained. This project was created by extensionists to empower young people in making decisions related to education and the world of work.
- c. Vive y Convive: First Volunteer Day of the Agricultural Extension Service with the participation of over 15 communities, a keynote conference through Facebook Live, and the edition of the PRAES magazine dedicated to our volunteers.

3. Activities aimed at students and young people of school age

- a. Equity and Social Responsibility Training:
106 young people were trained in leadership and community service.
- b. 3rd Edition 4-H Bug Camp 2022:
 - Mission: To educate young people about the importance of insects and their ecological role on the planet, creating awareness about the importance of conserving and protecting nature.
 - 15 young people from different parts of the island participated.
- c. Educational event "Together... for the greater well-being of our communities" in Patillas:
75 families benefited from hot meals and essential items.
- d. Service at Hogar Padre Vernard:
75 homeless individuals received essential items, youth leaders offered a handwashing workshop as a preventive measure, and volunteered time to serve food and organize the pantry.
- e. Project: "Harvesting the well-being of our childhood, Barrio Marías de Aguada Community":
 - Puerto Rico Food Bank:
 - ✓ Zero Hunger initiative and a grant of \$10,000.
 - 15 family gardens were established, led by children from the Aguada community.
- f. Painting for Others:
10 young people completed a course in interior design with the aim of putting their skills into practice in social responsibility initiatives, particularly in homes for the elderly, child care centers, blind and deaf populations.
- g. DropBox 4-H:
Drop boxes were established in various municipalities. The collected items were shared with homeless individuals and other vulnerable audiences.
- h. Teen Leading Change:
 - Food Access and Wellness: 4-H College Students Working Together on Health Equity:

- ✓ National Council approved \$1,500.
- Health Access for Homeless People: Response to COVID-19.
- i. Equity 4-H Challenges:
The Programmatic Area is invited to validate a guide for national equity, diversity, and inclusion work.
- j. 4-H Open House:
 - Participation of 125 4-H members and young people. This activity provided an opportunity to learn about the academic offerings of the PRAES.
 - University students and university partner members are recruited during the open house to support various mentoring initiatives, peer education, and vocational exploration.
- k. 4-H Science, Engineering, and Technology Educational Program:
 - 1,274 participants acquired knowledge in food safety systems.
 - 697 participants in the plant curriculum area.
 - 303 participants in the animal curriculum area.
- l. 4-H Participation in STEM Events:
 - Educational Program at the Eco-Exploratory, Science Innovation Week.
 - Bug Camp, Bee Team.
 - Ignite 4-H.
 - 4-H visits to innovative agricultural technology companies.
 - International Day of Forests - El Yunque.
- m. Pollinators Garden
4H Youth participated in the fair as educators in the community
- n. 4-H Bee Team
 - 15 youth completed 45hrs of non-formal education in beekeeping
 - This initiative is supported by a multidisciplinary team of specialists from the PRAES, agricultural agents, CFC educators, and volunteers from the beekeeping company.
- o. 4H Bug Camp
Fifteen young people completed non-formal education in entomology, and two students decided to continue their studies at university in fields related to this field.
- p. Career Exploration and Entrepreneurship
 - 82 4-H members were trained in career exploration. These experiences were coordinated by teaching staff from the program units.
 - Through the Explore Project, 56 participants were trained. This project was created by extensionists to empower young people in making decisions related to their studies and the world of work.
- q. 4-H Open House
 - Participation of 125 4-H members and youth, this activity offered the opportunity to learn about the academic offerings of the SEA.
 - During the open house, university students and 4-H university members are recruited to support various mentoring, peer education, and vocational exploration initiatives.
- r. Healthy Lifestyles

- This educational area includes topics such as early prevention of alcohol and drug use, and personal hygiene: 944 participants.
 - Nutrition and Physical Activity: 1,196 participants.
 - Food production for individual and family consumption: 414 participants.
- s. 4-H Pathway:
- 1,294 participants completed non-formal education in healthy lifestyles.
 - 35 youth leaders were trained to expand educational outreach in healthy lifestyles.
 - Five (5) youth leaders represented Puerto Rico at the 2022 Healthy Living Summit.
 - Three (3) youth leaders (4-H Pathway) participated in the 2023 Ignite 4-H event in Washington, DC.
 - Two "Farm to Table" events were held with the 4-H Pathway.
- t. OYE...Opportunity for Youth in Equity
- This initiative was created to include the deaf community in 4-H educational work.
 - The OYE-PR teams have participated in the True Leaders Equity Institute (TLEI), sponsored by the National 4-H Council. The 2022 team received \$1,500 to develop an inclusion project within 4-H. Amanda Pérez, a member of the OYE team, was invited to deliver a motivational presentation at TLEI 2022.
 - Currently, 7 new 4-H members are undergoing certification in a basic sign language course.
 - OYE Projects:
 - ✓ OYE Filmmaking team
 - ✓ OYE+...more than signs
 - ✓ OYE...Kids, teens, and more

Agricultural Experiment Station

Adjuntas Substation

In the Adjuntas Substation, since the opening of the Experimental Stations in July 2020, and throughout the year, the Substation is accessible to be visited by students and the general public, who are provided with guidance on various matters related to coffee and citrus cultivation in the mountain region. Two workshops on coffee cultivation for farmers have been held. Additionally, we have received groups of 4H students who have been oriented on beekeeping methods.

Corozal Substation

In the Corozal Substation on February 9, 2023, more than 90 people from various universities in the United States and South America gathered at the Corozal Agricultural Experimental Station.

During February 7-9, 2022, the "2023 National Education Conference" was held at the Embassy Suites Hotel in San Juan. The IR-4 program was part of the conference. As part of the conference, a guided tour of the Corozal Agricultural Experimental Station was organized by Dr. Wilfredo Robles in coordination with Agro. Luis Almodóvar, the station's administrator. The guided tour included educational interventions by Dr. Edda Martínez, Dr. Dania Rivera, Dr. Sofia Macchiavelli, Prof. Delvin Fernández, and Prof. Salvador Baiges from the Agricultural Extension Service.

- a. USDA PPQ technicians visit us throughout the year to monitor pests in the area, and the Corozal Agricultural Experimental Station is a strategic location where traps are undisturbed, allowing them to continue monitoring pests.
- b. USDA TARS has a presence at the Corozal Agricultural Experimental Station for evaluating tropical crops in the mountain region, such as breadfruit, rambutan, and cocoa, among others.
- c. The Mayagüez University Campus Seismic Network maintains new sensors for the seismograph located at the Corozal Agricultural Experimental Station.
- d. NRCS maintains a satellite meteorological station at the Corozal Agricultural Experimental Station, where the soil in the area is characterized.

Juana Díaz Substation

In the Juana Díaz Substation, initiatives were carried out to promote values of ethics, justice, and honesty, such as:

- a. The use of our facilities for workshops, talks, and training for farmers and extension agents.
- b. The Disease Diagnosis Clinic continues to provide important services by conducting tests for the benefit of farmers throughout the island.
- c. The Disease Diagnosis Clinic, the Entomology Laboratory, and the experimental farm at the Agricultural Experimental Station continue to receive graduate and undergraduate students to conduct research and fulfill semester and summer internship requirements.

Gurabo Substation

In the Gurabo Substation, Project ZDA-032 involves three important components: faculty, the Agricultural Experimental Station, and the Agricultural Extension Service of UPRM, to address the needs of students, researchers, and farmers. This project includes activities aimed at benefiting the community. In April 2023, the 2023 Dairy

Cattle and Forage Companies Meeting was held, organized by PRAES at the Gurabo AES facilities, where students and researchers presented their findings from substation projects. Discussions were held with farmers and members of the Puerto Rican Dairy Industry. Additionally, Dr. Alfredo Aponte and Dr. Verónica Negrón attended and participated in the aforementioned meeting held in Hatillo and San Sebastián to impact other regions. Furthermore, Station researchers presented their projects at the Select Seed activity held at UPRM. As an informative method for showcasing achievements and research carried out at the Gurabo AES, pamphlets and informational materials were distributed. Also, as part of this activity, fruits and seeds produced at the substation were sold. We are working on the "Center for Disaster and Philanthropy," the Habichuelas Seed Validation and Increase Project, and the Sustainable Agriculture Course for agricultural agents and farmers. These are collaborative projects between AES and PRAES, directed by Prof. Nicolás Cartagena and Dr. Alfredo Aponte.

To promote values of ethics, justice, and honesty, and to engage in activities with students and young people of school age, the Gurabo AES collaborates with the Boy Scouts of America organization and the 4H Agricultural Extension Service Group, lending its facilities and offering workshops (Sponsored by Troop 432 - Gurabo; Collaboration with Pack 241 Bayamón - Pack 591 Caguas - Troop and Pack 317-San Juan). Various Eagle Projects, such as the installation of signs and garbage cans in different areas, have been carried out as leadership activities. Additionally, handwashing stations have been installed in work areas such as the dairy, workshop, and activity ranch, among others.

Isabela Substation

In the Isabela Substation on January 11, 2023, we hosted a group of agrotherapy led by Dr. Nicolas Lynares. On February 2, 2023, we hosted a group of students from the Juan Lino Santiago School 4H Club in Aguada, led by teacher Kaila Ruiz. On February 7, 2023, we received the President of the University of Puerto Rico, Dr. Luis Riau. We had the opportunity to visit different experiments and explain our goals. On February 10, 2023, we conducted a tour of the ongoing experiments with participants from the agrotherapy workshop. On March 8, 2023, we received around 75 farmers from all over Puerto Rico and offered a workshop on bean cultivation from the Hortalizas y Granos Básicos company. We had the opportunity to visit the bean research plots. On March 24, 2023, a workshop related to the cultivation of taro was held, impacting dozens of farmers. The use and implementation of the "Sign Request" program is a highly useful process for our institution. Using this platform helps us acquire the necessary signatures without having to send documents through mail or deliver them in person.

It translates into efficiency and, combined with other technological methods such as email, has reduced the need to focus and utilize fewer resources in these aspects.

Lajas Substation

In the Lajas Substation, the following activities were carried out, impacting the community:

- July 8-10, 2022 - Camp of Boy Scouts Crew 276.
- August 1 - activity of the College of Agronomists - recognition of women agronomists.
- December 16-18 - camp of Troop 276 from Sabana Grande.
- February 8 - visit from students of the Inmaculada Concepcion Academy in Mayagüez, 19 students.
- February 13, 2023 - Visit from professionals and professors from Cornell, New York, to learn about our facilities, 25 people.
- February 24, 2023 - visit from students of the Bautista College in Yauco.
- March 17, 2023 - visit from students of the Ponce School.
- May 5, 2023 - visit from students of the Segundo Ruiz Belvis School in Hormigueros, 40 students from ninth and tenth grade.
- May 24, 2023 - Visit from Ramon Olivares School in Lajas, where students aged 8 to 12 with an interest in agriculture and livestock visited. A tour and talk were offered to 50 students that day.
- On June 9, we will have a visit from 20 people from the Department of Justice, from the Mayaguez Court, where we will attend young people who have been released from prison and are in a community restoration program. The visit includes the Judge, prosecutor, social worker, and other professionals from the project.

I. To strengthen school spirit, pride, and identity

Faculty of Agricultural Sciences

Freshman Week 2022-2023. On Friday, August 5, 2022, in P-213, the students participated in various academic and university student life orientations. They had the opportunity to meet the board of directors of the College of Agricultural Sciences, directors of academic departments, academic advisers, and staff. Following that, the students were grouped by departments to receive tailored academic orientation with the specifics of each academic program.

Recruitment activities. As part of the promotional and recruiting efforts of the University of Puerto Rico at Mayagüez (UPRM), the Faculty's Student Affairs Officer

actively participated in orientations and school visits with the UPRM Admissions Office during the first semester of 22-23.

Seniors EXPO Portal del Sol. The event, targeting high school students, took place on November 2-3, 2022, at the Mayaguez Sports and Recreation Coliseum. Coordinated by Central Administration, the activity involved various universities within the system. The UPRM Admissions Office facilitated the participation of the faculties of ADEM, INGE, ARCI, and CIAG. Over the course of the two-day event, professors, students, and staff from the Faculty of Agricultural Sciences provided information about the academic programs offered by the College of Agricultural Science.

UPRM Open House. This event took place on November 10, 2022, and attracted approximately 3,200 visitors, including 2,900 students. The Faculty of Agricultural Sciences was well-represented with its five departments and 13 academic programs. High school students had the opportunity to engage with and receive guidance from directors, professors, graduate students, and staff regarding the faculty's programs, extracurricular activities, employment opportunities, and graduate studies.

The SUMM: Students Experience Summit 2022. This special event was held on November 30 and December 1, 2022, at the Puerto Rico Convention Center. The Faculty of Agricultural Sciences actively participated with representatives from the departments of Agricultural Economics and Rural Sociology, Agricultural and Biosystems Engineering, and Animal Science. The primary objective of the activity was to offer students dynamic experiences where they could interact with professionals from various careers related to their interests and academic aspirations.

Honor Students 2022-2023. On January 26, 2023, the Faculty of Agricultural Sciences held an event to acknowledge and honor 157 students who had fulfilled the requirements set by the Academic Senate to be recognized as honor students at the conclusion of the 2021-2022 academic year.

Associations

Associations Fair. On February 2, 2023, an initiative led by the Student Council of the Faculty of Agricultural Sciences (CEFCA) aimed to promote awareness of the various student associations within the faculty. The primary objective was to highlight the benefits and extracurricular experiences these associations offer to the students.

Open House-4H Clubs. In collaboration with the Agricultural Extension Service, the Faculty of Agricultural Sciences organized an open house on February 10, 2023, specifically aimed at young individuals affiliated with 4-H Clubs. The objective of the event was to provide guidance to high school students regarding potential career paths

in the field of agricultural sciences. Approximately 170 students from elementary, middle, and high schools attended the open house.

Graduate Studies Fair. On March 17, 2023, in coordination with the UPRM Graduate Studies Office directors, professors, graduate students, and staff from the Faculty of Agricultural Sciences provided comprehensive information about the master's programs and opportunities (internships, financial aids, among others) offered by the faculty of the College of Agricultural Science.

Graduating Class 2022-2023 Faculty of Agricultural Sciences. On June 8, 2023, the Faculty of Agricultural Sciences will hold a ceremony to honor and recognize the achievement of 231 students who have successfully fulfilled the requirements to obtain their bachelor's and master's degrees.

Agriculture Week Challenge. An interactive summer camp for high school students is scheduled to take place from June 12 to 16, 2023. Approximately 55 students from both public and private schools will be participating in the camp. The primary objective of this program is to provide students with the opportunity to explore the vast diversity and various career opportunities within the field of agricultural science.

1. Collaboration Agreements with government agencies, the private sector, and various entities (FAC, AES and PRAES)

Name of the Agency	Effective Date	Purpose
Department of Agriculture (ADEA)	07/28/22 – 06/30/23	Agricultural Extension Service – Certified Course for the Application of Restricted Use Pesticides Prof. Raúl A Pérez Rivera – Program Coordinator
Fondo de Innovación para el Desarrollo Agrícola de Puerto Rico (FIDA)	12/14/22 – 06/30/23	Agricultural Experiment Station – Initiative for training farmers on issues of compost and water use. Prof. José Zamora – Project Leader
Centro Parroquial de Ayuda Social (PASO), Incorporado	12/05/22 – 06/24/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader
Producir, Inc. Una Corporación de Desarrollo Comunal y Económico para Cubuy y Lomas	12/05/22 – 06/24/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader
Fundación Ana Dalila Burgos Ortiz, Inc.	12/20/22 – 06/24/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader

Name of the Agency	Effective Date	Purpose
Ministerio Rescatadores Sin Banderas – Guerreras de Cristo, Inc.	01/18/23 – 06/24/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader
Haser, Inc.	01/25/23 – 06/24/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader
Mujeres de Islas, Inc.	01/27/23 – 06/24/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader
Asociación Probienestar Barrio Marías de Aguada, Inc.	02/06/23 – 06/24/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader
Academia Cristiana de Manatí, Inc.	05/22/23 – 05/29/24	Agricultural Extension Service - 'Community Gardens Project 2022' USDA, NRCS Dr. German Ramos Cartagena – Project Leader

Department of Agroenvironmental Sciences

1. Activities of student organizations

Horticulture Student Association and Crop Protection Student Association conducted their Initiation ceremony. In addition, the students for both associations were involved in the organization and participation of the 2023 Seed Exchange Fair. The Seed Exchange Fair is open to the community and was in the Pollinator Garden Located at the Alzamora Farm, University of Puerto Rico at Mayaguez. The Horticulture Student Association organize a conference open to the university community on Recycling and Residues Management.

Department of Agricultural Economics and Rural Sociology

1. Improvement in services offered to students.

- Enrollment process: orientation and academic counseling through different platforms: Google Meet, TEAMS, email, phone, etc. Enrollment settings through ajustes@uprm.edu.
- Other platforms and assistive technology: Institutional Moodle, Facebook Live

- We continued to update the information on our website so that the academic curricula for agricultural economics and agribusiness are up-to-date and serve as a guide for students.

2. Activities of Students organizations

▪ Third Congress of Applied Economics

The Department of Agricultural Economics and Rural Sociology and the Association of Agricultural Economics and Agribusiness (AECAG) organized the **Third Congress of Applied Economics**, on Friday, May 5, 2023, in the Tarzan Room of the Student Center, Mayagüez University Campus. Under the theme: "Fiscal Crisis: Challenges and Opportunities in Family Markets", the congress provided a meeting place for academics, students and other professionals to share and present recent research in applied economics.

Prensa RUM shared the following report:

<https://www.uprm.edu/portada/2023/05/25/celebrantercercongresodeeconomiaplicada/>

- Workshops coordinated by the Association of Agricultural Economics and Agribusiness
 - ✓ Taller de Permisos Básicos Agrícolas – November 22, de 2022
- RUM Open House - November 10, 2022
- Open House 4 – H – February 10, 2023
- Initiation Ceremony and New Board Election – Agricultural Economics and Agribusiness Association - April 19, 2023
- Graduate Studies Fair 2023 - March 17, 2023
- Agriculture Week Challenge - June 12-16, 2023

3. Activities to promote links with alumni

- Through the Association of Students of Agricultural Economics and Agribusiness we try to maintain links with alumni in different educational activities.
- Through Summer Internship, we contact alumni who are currently working in agricultural agencies or companies.
- Through our website, several alumni have called us to ask about departmental projects and initiatives.
- We maintain contact and communication with graduates who are currently working in the United States.

4. Donations received from alumni

- Agro Services – Agro. Peter Vivoni - \$200
- Brain Freeze LLC. – Agro. Samuel Pérez - \$200

- Agro. Linda Rodríguez – Agricultor - \$150

5. Collaboration agreements with government agencies, private sector and various entities

- Supermercado Selectos donates \$10,000 to UPR-RUM to promote Selected Seeds and research

As part of the commitment of Supermercados Selectos has established a campaign to strengthen the food security of the people of Puerto Rico and support the College of Agricultural Sciences University of Puerto Rico, Mayagüez Campus in several strategic projects that will contribute to the health and well-being of the population in general. The projects supported were the following:

- ✓ Agricultural Experimental Station Select Seed Project: \$10,000.
- ✓ The Third Congress of Applied Economics under the slogan "Challenges and Opportunities of Family Markets: \$3,000.
- ✓ The research "Food Security in Puerto Rico" by Dr. Julio César Hernández, Professor Attached to the Agricultural Experimental Station: \$7,000.
- ✓ Review by Press RUM:

<https://www.uprm.edu/portada/2023/05/25/selectosofrecedonativoalrum/>

- Agricultural Census 2022 (UPRM, SEA, NASS)

Dr. Gladys M. González Martínez and Dr. Alexandra Gregory Crespo Collaborative agreement between the USDA- National Agricultural Statistics Service and the University of Puerto Rico-Mayagüez, related to the 2022 Agricultural Census. This agreement includes the process of enumerating an extended "area frame" to be used in the 2022 Census.

- Risk Management and Emergency Preparedness in Puerto Rico, Phase II

Dr. Alexandra Gregory Crespo, PI, \$99,998, 04/01/2022 09/30/2023

Collaborative agreement between UPRM SEA y USDA_RMA. Accounting, financial, skills, and tools for the target audience so they can have up-to-date accounting information reduce financial risks and prepare for the next events. Hybrid workshops will be conducted to two groups of at least 75 participants' per-group with at least 16 contact hours per group. The second objective is to coordinate a live conference for with presentations so they can manage financial risk and be prepared before a natural disaster or emergency occurs.

- Meeting with Representatives USDA NRCS – May 15-19, 2023

Under the initiative of Dr. Alicia V. Barriga Burgos, a meeting was held with representatives of USDA NRCS to begin the discussion and the possibility of carrying out a joint project to develop a compensation model that farmers in

Puerto Rico and the Virgin Islands should receive after implementing conservation practices. There is a need for these values to be more real and consider Puerto Rico's idiosyncratic factors. The results were very favorable and the possibility of working on a pilot plan in Puerto Rico was opened, with a view to scaling to the rest of the territories and perhaps in the future at the national level. In addition to Dr. Barriga, Dr. Julio César Hernández and Dr. Héctor Tavárez participated. From NRCS Nacional we were visited by Sheila Scott Boykin and Douglas Vik with their working group (3 to 5 officials) and from NRCS PR, Mario Rodríguez and Francisco Rivera. Also present was Julian Lamadrid, graduate student of Agricultural Economics.

- Professional Practices in Agricultural Economics and/or Agribusiness

Thirteen (13) undergraduate students did professional internships in private companies and/or agencies.

- Project Z-373: Using Distance Education to Enhance Aquaponic Production in PR's Model
- Project Food Systems Resilience Coastal Communities: Fisheries & Aquaculture.
- Project Seeding Food Resilience Through Anchor Institutions (UPRM-UVM)

Department of Agricultural Education

Activities of student organizations

- FFA:
 - ✓ The FFA Alumni Collegiate chapter the New Members Initiation 2023, on Friday, May 19, 2023, at 5:30 pm, at the San Romualdo Community Activities Center in Hormigueros. The activity had the purpose to motivate new members and that active members renew their commitment to the organization.
 - ✓ On April 16, the CAAM Parents Association (APCAAM) received the members of the Collegiate Chapter of the Future Farmers of America, FFA Collegiate UPRM, where they demonstrated how the FFA chapter contributes on being a the positive influence on the members and the community, contributing to the development of skills, leadership, academic and professional development through agricultural education.
 - ✓ They participated on February 2 on the Agricultural Sciences Association Fair with the purpose that students discover all the opportunities and benefits that the chapter has for them.

Department of Agricultural and Environmental Systems

1. Activities of student organizations

- During the second semester, Prof. Héctor O. López began the reorganization of the departmental student association AESA (“Asociación de Estudiantes de Sistemas Agroambientales”)
- A confraternization was organized with the students and professors of the department on the occasion of Valentine's Day.

2. Activities to promote links with alumni

A meeting was organized with alumni Ramón A. Rodríguez and the College of Agricultural Sciences directors to discuss employment opportunities in the Nationals Appeals Division of the USDA.

3. Activities aimed at the community in general

- Participation in the “Feria Seniors” at the Puerto Rico Convention Center on September 28, 2022 to promote College of Agricultural Sciences academic programs.
- Participation in the UPRM Open House on November 10, 2022 to promote the academic program.
- Participation in the 4H Open House held at the Jesus T. Piñero Building on November 29, 2022.
- Orientation to a group of 19 high school students from the Inmaculada Concepción Academy about the academic program at the Department of Agricultural and Environmental Systems.

4. Activities aimed at the university community

The Department participated in the College of Agricultural Sciences Honors Students Recognition Activity on Thursday, January 26, 2023.

5. Improvements to infrastructure and buildings

- Replacement of illumination in classrooms, offices and laboratories.
- Roof temporary impermeabilization repair (leaks)
- Department exterior painting including windows and doors (interior/exterior).
- Replacement and upgrade of internet infrastructure (wired and wireless) from 400 Mbps to 1 Gbps.
- Replacement of 21 computers in the computer center
- Floor tile replacement in classroom and professors' offices.

Food Science and Technology Program

1. Improvement in services offered to students

Continued facilitating access to facilities and technology in support of students' research projects. Establish a distribution list to facilitate the dissemination of jobs, internships, and other opportunities, as well as administrative information.

2. Activities of student organizations

At least one confraternization event per semester at the FST facilities to close bonds between the FST community (i.e., students, faculty, and other personnel).

3. Activities to promote links with alumni

Maintain a Facebook page to post FST events, achievements, and job opportunities.

4. Improvements to infrastructure and buildings.

Refurbishing of the food chemistry laboratory located at the Chemistry Building.
Replacement of A/C unit on the second floor.

Agricultural Experiment Station

Corozal Substation

At the Corozal Substation, the staff is kept informed about the protocols to follow during the COVID-19 pandemic, and the necessary safety materials and equipment are provided.

Juana Díaz Substation

At the Juana Diaz Substation, a Thanksgiving lunch was held, involving all staff members following the COVID-19 protocol. The sale of fruit trees, fruits, and seeds to the general public continues.

Gurabo Substation

In the Gurabo Substation, to promote a sense of belonging and to work directly with UPRM students, a visit and tour of a group of students from the Animal Science Program was organized in March 2023. As an activity aimed at the general community, we share examples of activities, meetings, and projects carried out at the AES Gurabo on our social media platforms on a weekly basis. Gurabo AES members have also participated in other activities and forums where they have presented their projects and achievements, fostering their college pride. Weekly, members of the community visit seeking information on various agricultural topics and the work carried out at the AES. Additionally, as part of promoting and strengthening local agricultural pride, sales of agricultural products harvested at the Gurabo AES are conducted. We collaborate with the Boy Scouts of America, specifically with Troop 432, based at the Gurabo Substation. To maintain connections with alumni, they are kept informed and contribute their ideas to the research staff at the substation. Some of the AES customers and buyers are alumni who choose us because they are familiar with the quality of the Gurabo Substation's products. We maintain active collaboration with the Department

of Agriculture of Puerto Rico through Project ZDA-032, which promotes the genetic improvement of tropical dairy cattle through the use of the identified and studied "pelona" cow by professors and researchers from the Animal Science Program at UPRM. We work with the NRCS through the Improved Tropical Forage Validation and Production Project. We also have the Certified Organic Farm of the University of Puerto Rico (Project C-517) where different varieties of agricultural products are developed.

As part of infrastructure and building improvements, two air conditioning units were acquired for the Conference Room in the Administration Building. The office of the Reproduction Laboratory was furnished. The roof of the Sample Processing Laboratory was waterproofed, and the area was optimized for more efficient operation. Additionally, as recent improvements, a project with Extreme Weather, led by Dr. Julia O'Hallorans with Dr. Daniel Bair, has been approved. They will be working on the construction of a \$60,000.00 "High Tunnel" for the development of indoor, controlled, and protected agricultural products.

Isabela Substation

In the Isabela Substation on February 2, 2023, we attended a group of students belonging to the 4H club from Juan Lino Santiago School in Aguada, led by teacher Kaila Ruiz. On February 7, 2023, we received the president of the University of Puerto Rico, Dr. Luis Riaú. We had the opportunity to visit the different experiments and explain our goals to him. On May 3, 2023, we received a visit from the 4H club led by Professor Yolanda Muñoz Guevara from Castillo Bilingual School with volunteer Mrs. Maricruz Roig Bernardi.

Lajas Substation

At the Lajas Substation, the "High Tunnel" greenhouse, which was affected by Hurricane Fiona, was repaired. It is used for vegetable projects in our substation. The polypropylene roof of the plant and tree nursery, used for seedling propagation for sale and plants for seed extraction in the Select Seeds program, was reconstructed. The automated system of the milking room in the Dairy Farm was updated, including its software program.

J. International Activity**Faculty of Agricultural Sciences****1. Number of international students in the department/faculty**

Department/Program	Undergraduate	Graduate
Agroenvironmental Science		17
Food Science and Technology		4
Agricultural Economics		3
Agricultural Education		4
Animal Science	5	

*Data collected from OPIMI

2. Number of international faculty in department/faculty

Department/Program	International faculty
Agroenvironmental Science	3
Agricultural Engineering	2
Agricultural Economics	1

*Data collected from OPIMI

Department of Agroenvironmental Sciences**1. Number of international students in the department**

- Graduate students from Colombia, Costa Rica, Haití, Honduras and Dominican Republic - 9

2. Number of international faculty in department - 8**Department of Agricultural Economics and Rural Sociology****1. Number of international students in the department - 2 international students (Haiti)****2. Number of international faculty in department – 1****3. Publications with international co-authors**

- Barriga A. (2023). **Does environmental conservation have unintended consequences in public health?** Oxford Development Studies

- Barriga A. & Dunn R. (2023). **The Effect of Mass Migration on Disease Transmission: Evidence from the Venezuelan Refugee Crisis**, *Journal of Policy Analysis and Management*
- Barriga A., Fiala N., Ferguson N. & Leroch M. (2023). **Ethnic Cooperation and Conflict in Kenya**, *Journal of Behavioral and Experimental Economics*

4. Collaborations resulting in internships or exchanges in other countries

- Project Seeding Food System Resilience in Puerto Rico

As part of the work scheduled in this Project, on Wednesday, June 7, 2023, in room 216 of Building C at UPRM, the visit of R. Leah Pryor, Executive Chef Manager and Co-Founder of the Culinary Medicine Program at the University of Vermont Medical Center, was coordinated. Leah was sharing her experiences as a manager of "Farm to Table" and "Farm to Institution" initiatives. Under these initiatives, UVM Medical Center has become a leader not only in an institutional food model based on food as a source of well-being, but also as the main precursor of agroecological agriculture in the State of Vermont through supporting local food production.

5. Participation in international conferences, symposiums, forums, or seminars

- Conference: "Overcome the emergency by protecting your agribusiness"
The Project "Risk Management and Emergency Preparedness in Puerto Rico Phase II" sponsored this conference, which was held on Wednesday, June 14, 2023, at the Holiday Inn facilities in Mayagüez.
Several Faculty personnel from our department participated.
- Population Association of America (PAA) Annual Meeting 2023.
Dr. Alicia V. Barriga made presentation entitled "The Brazilian Health Care Reform and Malaria in the Amazon"
12-15, April 2023, in New Orleans, Luisiana
- Development Studies Association (DSA) Annual Conference 2023, University of Reading, Reading, UK.
Dr. Alicia V. Barriga made presentation entitled "The role of community energy projects post-disaster"

6. Study trips to other countries organized by the department

- Study trip to the Republic of Mexico

Ana Sofia Torres Sifre, an undergraduate student of Agribusiness, she was participating in a study trip to the Republic of Mexico as part of the CIAN 4027

course. The trip took place from May 3 to 7, 2023. The activity was part of an educational project funded by USDA-NIFA.

- National Competition *Future Farmers of America* (FFA) – Oct. 27, 2022

Paola M. Santiago Santiago, an undergraduate student of Agribusiness, she was participating and accompanying the student delegation of Puerto Rico at the 95th National Convention and Exposition of the student organization Future Farmers of America in Indianapolis, Indiana. In the Dairy Cattle Evaluation and Management competition they won silver as a group and individually, Paola won gold. In addition, he represented the chapter of the Soller Agricultural Vocational School. I attach the link of the two reports:

- ✓ <https://www.metro.pr/noticias/2022/11/03/se-destacan-estudiantes-de-escuelas-publicas-en-competencia-de-futuros-ganaderos-en-estados-unidos/>
- ✓ <https://wipr.pr/educacion-reconoce-a-estudiantes-ganadores-de-competencia-de-futuros-ganaderos-en-eeuu/?fbclid=IwAR16o0qwyCb0-b80g20eh-sre8clxbRjWi4Xrprh6710SnIKiqlLctD38hU>

- Official trip project closure enhancing food resilience as disaster preparedness

Trip of Dr. Robinson Rodríguez, Drs. María C. Rodríguez and Alexandra Gregory, graduate students Neishaly Serrano Cortés and Valéry Desravins, as well as the farmer advisors of the project, Ms. Vanessa Ramirez and Eng. Neftalí Lluch to the conference mentioned in the matter, which was held in the cities of Burlington and Montpelier, Vermont from July 9 to July 16, 2022.

7. Courses with international collaborators

- INTD 4000-001P: CONGRESSIONAL INTERNSHIP CORDOVA PROGRAM
- INTD 4010-001P: ACADEMIC SEMINAR - WASHINGTON CENTER

Jean L. Rodríguez Ruiz, an undergraduate student of Agribusiness, was selected to participate in the Córdoba y Fernós Congressional Internship in Washington DC, during the Second Semester 2022-2023. The Internship lasted fifteen (15) weeks, during the Second Semester 2022-2023. The three (3) main components of the program are: a work experience of four (4) days of the week, seminars one (1) day of the week and an academic course that met once a week. In addition, the student performed social service hours during the semester and presented a Wellness Project for Puerto Rico at the end of the Internship.

Department of Agricultural Education

1. Number of international students in the department – one graduate student from Haiti.

2. Participation in international conferences, symposiums, forums, or seminars

a. Dr. Ivys Figueroa participated in EFNEP Annual Conference, *Expanded Food Nutrition Education Program* in Washington DC. 2023.

b. Dr. Roberto Rigau Llorens attended the 2022 Society of Research Administrators International (SRAi) Annual Meeting, an annual conference held from October 31 to November 5, 2022 in Las Vegas, Nevada.

- The External Resources Unit of the Agricultural Extension Service (SEA) is an active part in obtaining and administering competitive funds in the SEA. In addition, he advises the office of Dean Director of the College of Agricultural Sciences, the Office of Research of the Agricultural Experiment Station and administrative offices among others on matters related to federal funds.
- The trip is based on the Work Plan submitted to USDA-NIFA that includes from 2022 to 2026 where the administration of the College of Agricultural Sciences incorporates not only the administration of the "Capacity Grants" but also of competitive proposals being USDA-NIFA the main source of these external funds.
- The conference provided an opportunity to participate in presentations, workshops, roundtable discussions, and share management best practices in the areas of budgeting, finance, proposal management, human resource management, civil rights, and diversity; Professional development, guidance and information shared by resources and participants from different institutions of higher education in and outside the United States.

Department of Agricultural and Environmental Systems

Participation in international conferences, symposiums, forums, or seminars

ASABE Soil Erosion Research Symposium, Dr. Eric Harmsen, Dr. Salvador F. Acuña-Guzman

Food Science and Technology Program

- 1. Number of international students in the department/faculty - 3**
- 2. Number of international faculty in department/faculty - 1**
- 3. Participation in international conferences and similar events - 2**

Agricultural Experiment Station

Corozal Substation

At the Corozal Substation, a poster titled "Approaches to support new herbicide tolerances and registration on tropical fruits and vegetables" was presented at the HDD 2023 2nd Herbicide Discovery & Development conference at Curtin University in Perth, Australia. Additionally, courses were conducted with international collaborators. A Good Laboratory Practices (GLP) course was organized for professors from the University of Bogota in Colombia. They visited us for a week and received intensive training on equipment calibration, handling of test substances, handling, and processing of samples after harvest, and shipment of samples with dry ice.

Isabela Substation

At the Isabela Substation, on January 7, 2023, we received a visit from the Farm Bureau. Conferences were offered to the participants, and we conducted a tour of the ongoing experiments. On January 11, 2023, we received another group of participants from the Farm Bureau. On February 28, 2023, we received a visit from researchers from Ag New Hampshire, and a tour was provided of the different research areas.

Attachment I – Training on online educational methodologies in which the teaching staff participated (includes AES, PRAES and FAS)

Training on online educational methodologies in which the teaching staff participated			
Academic Year 2022-2023			
Professor's Name	Training Title	Date	Contact hours
Department of Agroenvironmental Sciences			
Alfredo Aponte	Identidad Gráfica del SEA	28-Feb-23	2
José P. Morales Payán	Transitioning back to campus (Innovative educators)	16-Aug-22	1
José P. Morales Payán	Conéctate con tu Ciudadanía Digital	23-Aug-22	1.5
José P. Morales Payán	The learning ecosystem - what role technology plays and doesn't play (Intertek)	21-Oct-22	1
José P. Morales Payán	Tableau: Intuitive, visual analytics for academia (CEDIBI, RUM)	22-Nov-22	1.5
José P. Morales Payán	La telaraña como método educativo probado que mejora las discusiones en clase (CEP RUM)	6-Dec-22	1.5
José P. Morales Payán	Listening To Students: Creative Strategies To Connect & Engage (Innovative Educators).	20-May-23	1
José P. Morales Payán	Using Online Videos To Help Learners Recover From Pandemic Learning Habits (Innovative educators)	20-May-23	1
Oscar J. Abelleira Martínez	Manejo de Pagina Laboratorio de Silvicultura, Wordpress-Sr. José Bencosme, CTI-RUM	21-Feb-23	2
Edda L. Martínez Cález	Cloud Storage: One drive for Business and Share	25-Aug-22	1
Edda L. Martínez Cález	Yam diseases in Puerto Rico	9-Sep-22	.5
Edda L. Martínez Cález	Fusarium Tropical race 4: Current situation	9-Sep-22	.5
Edda L. Martínez Cález	Prevention of Moko Diseases	9-Sep-22	.5
Edda L. Martínez Cález	Yautia Diseases	9-Sep-22	.5
Edda L. Martínez Cález	Research in sweetpotatos	9-Sep-22	.5
Edda L. Martínez Cález	Travel Regulations	11-Oct-22	1
Edda L. Martínez Cález	"Conceptos básicos de catación y degustación de café"	16-Dec-22	2
Edda L. Martínez Cález	"Expedientes para Acción de Personal"	16-Feb-23	1.5
Edda L. Martínez Cález	Workshop on Extension Service Graphic Identity	28-Feb-23	1.5
Edda L. Martínez Cález	Workshop on Digital Accessibility	7-Mar-23	1.5
Edda L. Martínez Cález	Ag Pest Management	8-Mar-23	1
Edda L. Martínez Cález	IR-4 Project Research Symposium: Food Crops	11-Apr-23	3
Edda L. Martínez Cález	"Neuroliderazgo"	28-Apr-23	1
Edda L. Martínez Cález	Reasearch Program in Tai Hay Farm and PR-GOSHEPI	19-May-23	3
Edda L. Martínez Cález	New frontiers in nutrition and calves management	19-May-23	2
María L. Plaza	Explorando el uso de la Inteligencia Artificial y ChatGPT en la Educación a Distancia	27-Jan-23	3
María L. Plaza	Engaging Students in Learning: Effective Teaching Practices	15-Feb-23	1.5

Training on online educational methodologies in which the teaching staff participated			
Academic Year 2022-2023			
Professor's Name	Training Title	Date	Contact hours
María L. Plaza	La calidad de los materiales educativos para cursos en línea	24-Feb-23	2
María L. Plaza	Conociendo sobre la Propiedad Intelectual	21-Mar-23	1.5
María L. Plaza	Diseño de documentos digitales accesibles para entornos virtuales	24-Mar-23	2
Department of Agricultural Economics and Rural Sociology			
Dr. Eliut Flores Caraballo	Educational Practices: Learning Measurement and Data Collection with Microsoft FORMS	17-Mar-23	2
Dra. Leticia Gayol Santana	Access to online courses and effective communications	5-Aug-22	1
Dr. Alwin J. Jiménez Maldonado	Microsoft Training: Calling and Meetings in Teams	16-Sep-22	3
Dr. Germán Ramos Cartagena	Participatory maps	8-May-23	1.5
Dr. Germán Ramos Cartagena	Mission and Vision	10-Apr-23	2
Dr. Germán Ramos Cartagena	Success stories	3-Mar-23	2.5
Dr. Germán Ramos Cartagena	CRD Programs	13-Feb-23	2
Dr. Germán Ramos Cartagena	What is CRD? North Central Region	18-Nov-22	6
Dr. Germán Ramos Cartagena	Street reading	14-Nov-22	2.5
Dr. Germán Ramos Cartagena	What is CRD? Southwest Region	20-Sep-22	6
Dr. Germán Ramos Cartagena	What is CRD? Virtual	14-Oct-22	2.5
Dr. Germán Ramos Cartagena	What is CRD? Southwest Region	14-Sep-22	6
Dr. Germán Ramos Cartagena	What is CRD? Northeast Region	7-Sep-22	6
Department of Agricultural Education			
Dra. María del C. Rodríguez Rodríguez	Traer la Finca a la Escuela: Producción de Pescado y	1-Ffeb-23	3
Dra. María del C. Rodríguez Rodríguez	Productos de Pescado para las Escuelas		
Dra. María del C. Rodríguez Rodríguez	(Food & Nutrition Service, USDA)		
Prof. Gloriselle Negrón	Digital accesibility	23-Feb-23	1.5
Prof. Gloriselle Negrón	Designing effective poster presentations	23-Mar-23	1.5
Prof. Gloriselle Negrón	Technological assistance for labor inclusion	6-Dec-22	1.5
Dra. Ivys Figueroa Sánchez	Monkeypox prevention	8-Sep-22	3
Dra. Ivys Figueroa Sánchez	Healthy habits for flu prevention	16-Nov-22	3
Dra. Ivys Figueroa Sánchez	Safe cleaning during emergencies	2-May-23	2

Training on online educational methodologies in which the teaching staff participated			
Academic Year 2022-2023			
Professor's Name	Training Title	Date	Contact hours
Dra. Lorna Campos Muñiz	Certification on effective supervision	Sep-22	20
Dra. Lorna Campos Muñiz	Certification on SMART Objectives	Sep-22	20
Dra. Lorna Campos Muñiz	Certification on GROW model	Nov-22	20
Dra. Lorna Campos Muñiz	Spiderweb as a educational method.	Nov-22	2
Dra. Lorna Campos Muñiz	Annual EFNEP Meeting 2023 - Power of the past - Force of the future coordinators meeting- Washington DC	Mar-23	30
Dra. Lorna Campos Muñiz	Desing of digital educational materials accesibles for distance education.	Apr-23	2
Dra. Lorna Campos Muñiz	Quality of educational materials for virtual education.	Mar-23	2
Dra. Lorna Campos Muñiz	Google arts and culture From Museum to the classroom.	Apr-23	2
Dra. Lorna Campos Muñiz	ReDesConecta: The relationship between mental health and social media.	Apr-23	2
Dra. Lorna Campos Muñiz	Certification How to be more creative.	May-23	20
Dra. Lorna Campos Muñiz	Webinar New Youth cuestionary of EFNEP (9-12)	May-23	4
Dra. Ircha Martínez Rodríguez	The web as a proven educational method that improves class discussions	6-Dec-22	1.5
Dra. Ircha Martínez Rodríguez	Virtual Conference: Brain-Based Learning: From Theory to Practice	26-Apr-23	2
Roberto Rigau Llorens			
Dr. Roberto Rigau Lloréns	Nuevos Formularios de Viaje	17-Jul-22	2.5
Dr. Roberto Rigau Lloréns	Using Census Data for Grant Writing	9-Aug-22	1
Dr. Roberto Rigau Lloréns	Talleres NEA NEH IMLS UAGM Gurabo	17-Aug-22	3.5
Dr. Roberto Rigau Lloréns	Reunión Annual Society of Research Administrators International	31-Oct to 4-Nov-22	32
Dr. Roberto Rigau Lloréns	Seminario PEAN-EFNEP 2022	12-Dec-22	7.5
Dr. Roberto Rigau Lloréns	Taller: "Increase collaboration with MS Teams"	28-Feb-23	1.5
Dr. Roberto Rigau Lloréns	Presentación Identidad Gráfica del SEA	28-Feb-23	2
Dr. Roberto Rigau Lloréns	Taller: Control Biológico y Microbiológico de Plagas Agrícolas	14-Apr-23	4
Dr. Roberto Rigau Lloréns	2023 National Extension and Research Administrative Officers Conference (NERAOC)	29-Apr to 4-May-23	31
Department of Agricultural and Environmental Systems			
Eric A. Irizarry Otaño	Cloud Storage	25-Aug-22	1

Training on online educational methodologies in which the teaching staff participated			
Academic Year 2022-2023			
Professor's Name	Training Title	Date	Contact hours
Eric A. Irizarry Otaño	Teams EDU	30-Aug-22	1
Francisco M. Monroig Saltar	Online Learning Assessment	18-May-23	2

Attachment II – Professional Development at the Center for Professional Enrichment (CEP) and others (includes AES, PRAES and FAS)

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
Department of Agroenvironmental Sciences			
Irma Cabrera	Microsoft Team, how to use this tool	Nov-22	1
Alfredo Aponte	El Dilema de Proyectos Industriales de Energía Solar en Terrenos Agrícolas		2
José P. Morales Payán	The tantalizing challenge of agrovoltaics (ASHS)	31-Aug-22	1
José P. Morales Payán	Breaking down biologicals for in-field benefits (Crop Life)	15-Sep-22	1
José P. Morales Payán	Staying ahead of pesticides residue analysis challenges (ThermoFisher)	16-Sep-22	1
José P. Morales Payán	Fall Back to basics- Part 1: Chemistry	29-Sep-22	1
José P. Morales Payán	Environment Office Hours Live: Weather data (Meter)	29-Sep-22	1
José P. Morales Payán	Biopolymer advantages vs synthetic chelates (CropLife)	30-Sep-22	1
José P. Morales Payán	The global diversity trust: Conserving crop diversity forever (ASHS)	6-Oct-22	1
José P. Morales Payán	Sample prep and IC-MS/MS workflows for anionic and cationic pesticides (ThermoFisher)	18-Oct-22	1
José P. Morales Payán	Protecting N with thiosulfates (CropLife)	28-Oct-22	1
José P. Morales Payán	Taller de manejo de ansiedad (OSEIRUM)	1-Nov-22	1
José P. Morales Payán	How to create an Ag imagery pipeline (CropLife)	3-Nov-22	1
José P. Morales Payán	Combining soil amendments and varietal developments to prevent pathogens and heavy metal uptake	10-Nov-22	1
José P. Morales Payán	Soil tests (eOrganic)	16-Nov-22	1
José P. Morales Payán	Understanding laboratory soil health test (eOrganic)	17-Nov-22	1
José P. Morales Payán	Crisis climática en PR- Donde estamos y a donde vamos?	18-Nov-22	1
José P. Morales Payán	Tomato variety trends (Johnny's Seeds)	19-Jan-23	1

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
José P. Morales Payán	Sustainability 2100, day 2	24-Jan-23	6
José P. Morales Payán	Biochar for greenhouse nursery production	25-Jan-23	1
José P. Morales Payán	Sustainability 2100 day 3	26-Jan-23	5
José P. Morales Payán	Bereding in tune with nature (Danziger)	14-Feb-23	1
José P. Morales Payán	Recent dynamics and future drivers in the biostimulant market	22-Feb-23	1
José P. Morales Payán	Fluorescence-free Raman at 785 nm (Metrohm)	27-Feb-22	1
José P. Morales Payán	Advances in atomic spectroscopy virtual symposium day 1	1-Mar-23	3
José P. Morales Payán	Laying the groundwork for better yields	31-Mar-23	1
José P. Morales Payán	Rethinking developmental biology with cellular reprogramming (Bit.Bio)	4-Apr-23	1
Oscar J. Abelleira Martínez	Identificación de Briófitas en el Bosque Comunitario de Río Hondo, USDA-FS	1-Sep-22	2
Oscar J. Abelleira Martínez	Tree nursery and disaster management, USDA-FS	25-Oct-22	4
Oscar J. Abelleira Martínez	Estudiantes Internacionales-CEP	27-Oct-22	1
Oscar J. Abelleira Martínez	Terrenos Agrícolas y Placas Solares-CoHemis	27-Oct-22	1
Oscar J. Abelleira Martínez	Manejo de Ansiedad-Lcda. Jackeline Rios-CEP	1-Nov-22	1
Oscar J. Abelleira Martínez	IRB-Basic Training/Refresher in Social Sciences-CITI	19-21/Nov/22	22.5
Oscar J. Abelleira Martínez	Webinar: Destrezas Sociales para un Mejor Desempeño-Oficina de Ética Gubernamental, ELA-PR	15-Feb-23	2
Oscar J. Abelleira Martínez	Webinar: Redes Sociales: Convivencia Ética Virtual-Oficina de Ética Gubernamental, ELA-PR	21-Feb-23	2
Oscar J. Abelleira Martínez	Webinar: Casos y Resoluciones de la OEG: 2019-2023-Oficina de Ética Gubernamental, ELA-PR	22-Feb-23	2
Oscar J. Abelleira Martínez	Light scattering of forest-based materials; Dra. Nayomi Plaza-raduate Seminar in Materials Science & Engineering - CIIM 6027	1-Mar-23	1
Oscar J. Abelleira Martínez	Manejo de Terrenos Públicos, Lcda. Erica Fontanez-FEMA	29-Mar-23	2
Oscar J. Abelleira Martínez	Webinar: Oportunidades para bosques urbanos en Puerto Rico, ISA- Agro. Christian Torres Santana	4-May-23	2
Oscar J. Abelleira Martínez	Webinar: Agroforestry and USDA Webinar Series: USDA Forest Service Community Forest Program	5-May-23	1

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
Dania Rivera Ocasio	Social Networks: Virtual Ethical Coexistence	7-Feb-23	3
Dania Rivera Ocasio	Comercial production of beans	8-Mar-23	5
Dania Rivera Ocasio	Introduction to Microsoft Teams	18-Aug-22	1
Dania Rivera Ocasio	Citrus greening alternatives	19-Aug-22	4
Dania Rivera Ocasio	Briofites on the forests	1-Sep-22	4
Dania Rivera Ocasio	Starch Commodity Annual Meeting	9-Sep-22	3
Dania Rivera Ocasio	Puertorrican Society of the Agricultural Science Annual Meeting.	2-Dec-22	6
Dania Rivera Ocasio	Pollinator Conference	9-13/Oct/22	15
Yaniria Sánchez de León	Financial Conflict of Interest	27-Jun-22	5
Yaniria Sánchez de León	Institutional Responsibilities as They Affect Investigators	27-Jun-22	5
María de L. Plaza	PSA Advance Trainer Workshop	7-9/Feb/23	24
María de L. Plaza	Sensibilidad y Trato Digno a las personas con impedimento	16-Feb-23	1.5
Department of Agricultural Economics and Rural Sociology			
Dr. David Pérez Jiménez	Introduction to qualitative data analysis through the NVIVO program	29-Nov-22	2
Dra. Leticia Gayol Santana	Microsoft Cloud Storage: Onedrive for Business and Sharepoint	Aug. 25, 2022	1
Dra. Leticia Gayol Santana	Calling and Meetings in Microsoft Teams	Sept. 16, 2022	1
Dra. Leticia Gayol Santana	Get Started With Excel	Oct. 27, 2022	1
Dra. Leticia Gayol Santana	"Eso no fue lo que me enseñaron": Cinco mitos de puntuación y cómo combatirlos	Oct. 31, 2022	3
Dra. Leticia Gayol Santana	Microsoft Powerpoint	Nov. 11, 2022	1
Dra. Leticia Gayol Santana	Comunicación Efectiva Escrita en Español: Conciso, preciso y sencillo: técnicas del periodismo al servicio del texto académico	Dec. 9, 2022	3
Dra. Leticia Gayol Santana	Charla sobre Acomodo Razonable	Jan. 31, 2023	1.5
Dra. Leticia Gayol Santana	Adiestramiento sobre las leyes federales y estatales vigentes relacionadas a los acomodos razonables en el ambiente universitario	Feb. 7, 2023	1.5
Dra. Leticia Gayol Santana	Excel: Construcción de fórmulas y Estadísticas descriptivas	Feb. 14, 2023	1.5
Dra. Leticia Gayol Santana	Excel: Tablas de frecuencias y gráficas	Feb. 28, 2023	1.5
Dra. Leticia Gayol Santana	Grant Support Technical Assistance Workshop 2023 Resources/NIFA	May 8-12, 2023	15

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
Dr. Alwin J. Jiménez Maldonado	LGBTQ+ Student' Rights	Sept. 1, 2022	3
Dr. Alwin J. Jiménez Maldonado	Law #130: "Labor Relations of PR and Illegal Work Practices	Sept. 9, 2022	3
Dr. Alwin J. Jiménez Maldonado	UPR Travel Expense Regulations and new Forms	Oct. 1, 2022	3
Dr. Alwin J. Jiménez Maldonado	Forum: The Dilemma of Industrial Solar Energy Projects on Agricultural Land	Oct. 27, 202	3
Dr. Alwin J. Jiménez Maldonado	Webinar: Technological Assistance for Labor Inclusion	Dec. 6, 2022	3
Dr. Alwin J. Jiménez Maldonado	Provisions of Certification 133 (2016) UPR Governing Board: POLICY OF REASONABLE MODIFICATIONS AND ACADEMIC SERVICES FOR STUDENTS WITH DISABILITIES ENROLLED AT THE UNIVERSITY OF PUERTO RICO, Art. IV. F.	Jan. 31, 2023	3
Dr. Alwin J. Jiménez Maldonado	Workshop: Academic Program and LD-T002	Feb. 2, 2023	3
Dr. Alwin J. Jiménez Maldonado	Graphic Identity Presentation	Feb. 28, 2023	3
Dr. Alwin J. Jiménez Maldonado	Workshop: Sensitivity and Dignified Treatment for People with Disabilities	Feb. 16, 2023	3
Dr. Alwin J. Jiménez Maldonado	Workshop : "Knowing about Intellectual Property".	Mar. 21, 2023	3
Dr. Alwin J. Jiménez Maldonado	Workshop: MSCHE - Accreditation Process	Apr. 14, 2023	3
Dr. Alwin J. Jiménez Maldonado	3 rd Congress of Applied Economics	May 5, 2023	7
Dr. Alwin J. Jiménez Maldonado	SOPCA Field Day	May 19, 2023	5
Dr. Germán Ramos Cartagena	13th Annual Meeting Nutrition Sensitive Extension, Santiago de Chile. Red Latinoamericana para Servicios de Extensión Rural. (RELASER). Global Forum for Rural Advisory Services	25 to 27 Oct. 2022	3 days
Dr. Germán Ramos Cartagena	Southern Region Program Leader Network (PLN) Joint Meeting, Fort Worth, Texas. Minnesota State University. Southern Region Program Leader Network (PLN)	22 to 25 Aug. 2022	4 days
Dr. Germán Ramos Cartagena	Puerto Rico Dam Safety CTA - La Plata Dam Earthquake Tabletop Exercise (TTX) (In-person). FEMA. Negociado para el Manejo de Emergencias Estatal	7-Jul-22	7.5
Department of Agricultural Education			
Janitza Saavedra Lugo	Donde publico? Factores a considerar antes de someter tu manuscrito (Ofrecido por el CEP)	15-Nov-22	1.5

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
Janitza Saavedra Lugo	Apéndice de Evaluación para Ascenso Permanencia (ofrecido por el CEP, Academia de Investigación)	16-Nov-22	1.5
Janitza Saavedra Lugo	La telaraña como método educativo probado que mejora las discusiones en clases (ofrecida por el CEP)	6 -Dec-22	1.5
Janitza Saavedra Lugo	Estrategias para el manejo asertivo del estrés (ofrecido por el CEP)	8-Dec-22	1.5
Janitza Saavedra Lugo	Acomodo Razonable (ofrecido por el CEP y OSEI RUM)	31-Jan-23	1.5
Janitza Saavedra Lugo	Leyes federales y estatales vigentes relacionadas a los acomodos razonables en el ambiente universitario (Ofrecido por el CEP y OSEI RUM)	7-Feb-23	1.5
Janitza Saavedra Lugo	Taller sobre Accesibilidad digital (ofrecido por el CEP)	7-Mar-23	1.5
Janitza Saavedra Lugo	Ética para Agrónomos (Ofrecido por el CAPR)	9-Dec-23	5
Janitza Saavedra Lugo	Introducción al Manejo de Equinos (ofrecido por el CAPR)	4-Feb-23	2
Janitza Saavedra Lugo	Introducción a la tecnología (Ofrecido por el CAPR)	25-Mar-23	2
Janitza Saavedra Lugo	Principios de Plantas Ornamentales (Ofrecido por el CAPR)	27-Mar-23	1
Janitza Saavedra Lugo	Introducción a Canva (Ofrecido por el CAPR)	3-Apr-23	2
Janitza Saavedra Lugo	Uso del equipo de Protección Personal en Tareas Agrícolas (Ofrecido por el CAPR)	20-Jun-23	2
Janitza Saavedra Lugo	Preparación de Propuestas federales para agricultores (ofrecido por UPR RUM Y CAPR)	8, 15, 22 y 29/Jun/23	12
Gloriselle Negrón Ríos	Congress of the state of the environment	25/Aug/22	8
Gloriselle Negrón Ríos	12th Annual Conference on Occupational and Environmental Health and Safety	18, 19, and 20/Oct/22	22.5
Gloriselle Negrón Ríos	The dilemma of industrial solar energy projects on agricultural land	27/Oct/2002	1.5
Gloriselle Negrón Ríos	Online training on Septic systems in Puerto Rico	14/Dec/2022	3
Gloriselle Negrón Ríos	CECIA-UIPR Biennial Symposium on Drinking Water Issues	16-17/Feb/2023	16
Gloriselle Negrón Ríos	Flooding and its impact on indoor air quality	2/May/2023	1
Dra. Lorna Campos Muñoz	Educational Seminar Kick- Off –“El poder que nos une”.	Oct. 2022	4
Dra. Lorna Campos Muñoz	Training on Food preservation.	Oct. 2022	4
Dra. Lorna Campos Muñoz	Social aspects of the elderly.	Nov. 2022	24

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
Dra. Lorna Campos Muñoz	Clinical aspects of the elderly.	Nov. To Dec.	24
Dra. Lorna Campos Muñoz	Planification for the elederly on health intervention.	Nov. To Dec.	24
Dra. Lorna Campos Muñoz	Budget and personal finances.	Dec. 2022	12
Dra. Lorna Campos Muñoz	Actividad de Especialistas de Extensión - Catación y degustación del café - Rancho AAA- Dra. Myrna Comas	Dec. 2022	4
Dra. Lorna Campos Muñoz	Training to Improve your welfare.	Dec. 2022	4
Dra. Lorna Campos Muñoz	Educational Seminar EFNEP 2022– "Guiados por la pasión de educar".	Dec. 2022	6
Dra. Lorna Campos Muñoz	Training techniques on "Vision Board" to achieve goals.	Jan. 2023	4
Dra. Lorna Campos Muñoz	Annual EFNEP Conference 2023 - Power of the past - Force of the future Coordinators meeting- Washington DC.	Mar. 2023	30
Dra. Lorna Campos Muñoz	Political and management aspects on the elderly.	Feb. 2023	24
Dra. Lorna Campos Muñoz	Health Intervention on the elderly.	Feb. 2023	24
Dra. Ircha Martínez Rodríguez	Webinar: Connect with your Digital Citizenship	Aug 23, 2022	1.5
Dra. Ircha Martínez Rodríguez	Webinar: Household and Community Resilience	Aug 24, 202	1
Dra. Ircha Martínez Rodríguez	Webinar: Cost of Living Index and Calculator	Oct 14, 2022	1
Dra. Ircha Martínez Rodríguez	Conferences Integrating Sustainability in the individual, the family and the community	Oct 19, 2022	6
Dra. Ircha Martínez Rodríguez	Webinar: Microsoft Forms	Oct 25, 2022	2
Dra. Ircha Martínez Rodríguez	Conference Economics and planning conference for 2023	Nov 10, 202	1
Dra. Ircha Martínez Rodríguez	Webinar: Microsoft Security Foundations	Nov 15, 202	1
Dra. Ircha Martínez Rodríguez	Webinar: Tips & Shortcuts en MS Teams	Nov 17, 2022	1
Dra. Ircha Martínez Rodríguez	Workshop: Coffee cupping and tasting basics	Dec 16, 2022	1
Dra. Ircha Martínez Rodríguez	Program Specializing in Spirituality	Jan 23, 2023	30
Dra. Ircha Martínez Rodríguez	Webinar: Exploring the use of Artificial Intelligence and ChatGPT in distance education	Jan 23, 2023	2

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
Dra. Ircha Martínez Rodríguez	Webinar: Social Networks: Virtual Ethical Coexistence	Feb 21, 2023	3
Dra. Ircha Martínez Rodríguez	Financial Security for All: Is Pet Insurance Worth the Price?	Mar 22, 2023	1
Dra. Ircha Martínez Rodríguez	Functional Diversity	Mar 28, 2023	6
Dra. Ircha Martínez Rodríguez	Helping Clients Inflation-Proof Their Budget	Apr 11, 2023	1.5
Dra. Ircha Martínez Rodríguez	Annual Conference on Financial Education	Apr 17- 19, 2023	1
Dra. Ircha Martínez Rodríguez	HHS- Equidad y Preparación para Huracanes	May 2, 2023	1
Department of Agricultural and Environmental Systems			
Salvador F. Acuña Guzmán	Assessment Appendix for Promotion and Tenure	Nov. 16, 2022	1.5
Salvador F. Acuña Guzmán	Soil erosion research under a changing climate	Jan. 13, 2023	20.5
Salvador F. Acuña Guzmán	Going places with spatial analysis	Mar. 15, 2023	18
Salvador F. Acuña Guzmán	Symposium of Strategies for Student Success	Feb. 16-17, 2023	9
Eric A. Irizarry Otaño	LGBTQ Student Rights,	Sept. 1, 2022	2
Eric A. Irizarry Otaño	Training Workshop in Food Preservation (Mylar Bags and Pailas)	Nov. 9, 2022	4
Eric A. Irizarry Otaño	Training on the procedure for renewal of lease contracts	Jan, 19, 2023	3
Eric A. Irizarry Otaño	Workshop Understanding the stigma of substance use disorders	Feb. 2, 2023	2
Eric A. Irizarry Otaño	Basic Neurobiology Workshop on addictive disorders due to the use of psychoactive drugs	Feb. 9, 2023	2
Eric A. Irizarry Otaño	Opioid overdose intervention workshop	Feb. 16, 2023	2
Eric A. Irizarry Otaño	Psychological first aid workshop	Feb. 23, 2023	2
Eric A. Irizarry Otaño	Academic Management Face-to-face - New Travel Forms	Aug. 5, 2022	4
Eric A. Irizarry Otaño	Monkey Pox Conference	Aug. 23, 2022	1.5
Eric A. Irizarry Otaño	Law No. 130, "Puerto Rico Labor Relations Law" and Illicit Labor Practices	Sept. 9, 2022	7.5
Eric A. Irizarry Otaño	Hierarchical Composite Porous Materials for the Adsorption of Contaminants of Emerging Concern from Water	March 7, 2023	2
Eric A. Irizarry Otaño	Functional Diversity workshop	March 28, 2023	6
Eric A. Irizarry Otaño	Regulations for the Design, Criteria for Operation and Maintenance of Storm Sewer Systems in Puerto Rico	Dec. 15, 2022	7.5

Professional Development at the Center for Professional Enrichment (CEP) and others			
Academic Year 2022-2023			
Professor's Name	Course Title	Date	Contact hours
Eric A. Irizarry Otaño	Engineering in the Solution of Thermal Problems of Buildings and Comfort due to the Effects of Climate Change and Global Warming	May 30, 2022	9
Luis R. Pérez Alegría	How to clean rivers and streams? Resilient strategies for river and stream management.	May 17, 2023	2
Luis R. Pérez Alegría	Third symposium on land-based sources of pollution. DRNA, The Nature Conservancy (TNC), DHS-FEMA	Feb. 1, 2023	2
Luis R. Pérez Alegría	PR Public Water Supply: Integrating Surface and Groundwater Resources.	Aug. 16, 2022	2
Francisco M. Monroig Saltar	Basic Concepts of Photovoltaic System Design and Construction	Aug. 26, 2022	8
Francisco M. Monroig Saltar	EXPO CUMBRE 2023: Excel for Engineers, Sargassum: causes and possible management and, Measuring for Management	May 19, 2023	6
Francisco M. Monroig Saltar	Workshop for Deans and Directors	April 14, 2023	3
Francisco M. Monroig Saltar	Workshop for Deans and Directors	May 5, 2023	3
Francisco M. Monroig Saltar	Symposium of Strategies for Student Success	Feb. 16-17, 2023	9

Attachment III – Publications (includes AES, PRAES and FAS)

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Morales-Payan, J. P. 2022. Biostimulants and nitrogen affect pomegranate flowering and fruiting. I International Symposium of Reproductive Biology of Fruit Tree Species. Acta Horticulturae. (H-480)		X	X	
Morales-Payan, J. P. 2022. Managing breadfruit yield with soil-applied nitrogen and biostimulants. IX International Symposium on Mineral Nutrition of Fruit Crops. Acta Horticulturae. (H-480)		X	X	
Linares, A.M., and Viteri, D.M. 2022. Monitoring the efficacy of biological and conventional insecticides to control fall armyworm larvae in Lajas, Puerto Rico. Poster Presentation. Annual meeting of the		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Entomological Society of America (Southeastern Branch). San Juan, Puerto Rico. March 2022. (H-484)				
Sarmiento, L., Viteri, D.M., Linares, A.M., and Cabrera. I. 2022. Bio-ensayos de insecticidas biológicos y orgánicos sintéticos en larvas del gusano de la mazorca del maíz [<i>Helicoverpa zea</i> (Boddie) (Lepidoptera: Noctuidae)]. Journal of Agriculture of the University of Puerto Rico. (H-484)	X			X
Viteri, D., and Linares, A. 2022. Timely application of four insecticides to control corn earworm and fall armyworm larvae in sweet corn. <i>Insects</i> . (H-484)	X		X	
Production and Postharvest Assessment of Tropical Pumpkin Flowers Harvested for Consumption. Kathina Toro-Velez, Rosa Chavez-Jauregui, Linda Wessel-Beaver, and Bryan Brunner. <i>HortTechnology</i> . April 2022: 32 (2). (H-454)	X			X
Cortez, M. (Host), (2022, February 10). Evaluación a corto plazo de cinco especies de plantas de cobertura sobre la calidad agrícola de un Ultisol. [Audio podcast episode] In Evaluación a corto plazo de cinco especies de plantas de cobertura sobre la calidad agrícola de un Ultisol by Yomaríes González. <i>Production desdelaeaa</i> . (Z-NRCS-023)		X		X
Gallardo-Covas F. and J. Pagán. 2022. <i>Cephalonomia stephanoderis</i> Betrem: natural parasitism of the coffee berry borer <i>Hypothenemus hampei</i> Ferrari in Puerto Rico. Submitted to Journal of Agriculture of Puerto Rico. (H-482)	X		X	
Pérez-Donado, C. E, Rosa N. Chávez-Jáuregui, Angela Linares-Ramírez. 2022. Effect of drought on nutritional composition, physical and cooking properties of common bean genotypes grown in Puerto Rico / Nutritional composition, physical and cooking properties of eleven common bean genotypes grown under non-stressed and drought-stressed conditions in Puerto Rico. <i>Journal of Food Chemistry</i> . (H-487)	X		X	
Ortiz-Urriarte, Bianca (June 2022) In part of UPR Mayagüez, Master's Thesis. (H-509)		Thesis Dissertation	X	

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Viteri, D.M., Angela M. Linares. 2022. Timely Application of Four Insecticides to Control Corn Earworm and Fall Armyworm Larvae in Sweet Corn. <i>Insects</i> 2022, 13, 278. https://doi.org/10.3390/insects13030278 . (H-484)	X			X
Cabrera I., R. Tirado, J. Salinas, C. Reyes. 2022. Outbreak of scale insect in <i>Mangifera indica</i> , <i>Annona muricata</i> and <i>Carica papaya</i> after atmospheric event. (Z-342)	X		X	
Lamboy, G., J.A. Dumas, J.A. Chong and C. Rivera. 2022. Simple method of coffee-shrub biochar-ozonolysis. <i>J. Agric. Univ. P.R.</i> (Z-329)	X			X
Chong J.A. and J.A. Dumas, 2022. Woodchip Pathogen Decontamination with a Beneficial Microbial Mixture. <i>J. Agric. Univ. P.R.</i> (Z-329)	X			X
Báez Rivera, G., A.R. Sanfiorenzo Gil de Lamadrid, Y. Sánchez de León. Estatus de suelos en Puerto Rico y retos de uso y manejo agrícola. (Status of the soils in Puerto Rico and challenges in their agricultural use and management). <i>Revista del Servicio de Extensión Agrícola</i> , Num, 2, Jun 2022, p. 36-37. (Z-332)		X		X
Báez Rivera, G., A.R. Sanfiorenzo Gil de Lamadrid, Y. Sánchez de León. Estatus de suelos en Puerto Rico y retos de uso y manejo agrícola. (Status of the soils in Puerto Rico and challenges in their agricultural use and management). <i>Agrotemas de Puerto Rico</i> , Abril 2022, p. 2 (Z-332)		X		X
Báez Rivera, G., A.R. Sanfiorenzo Gil de Lamadrid, Y. Sánchez de León. Indicadores observables de la salud de agroecosistemas (Observable indicators of agroecosystem health). <i>Revista del Servicio de Extensión Agrícola</i> , Num, 2, Jun 2022, p. 48-51 (Z-332)		X		X
Báez Rivera, G., A.R. Sanfiorenzo Gil de Lamadrid, Y. Sánchez de León. Indicadores observables de la salud de agroecosistemas (Observable indicators of agroecosystem health). <i>Agrotemas de Puerto Rico</i> , Abril 2022, p. 3 (Z-332)		X		X
Báez Rivera, G., A.R. Sanfiorenzo Gil de Lamadrid, Y. Sánchez de León. Retos del cambio climático para el manejo de suelos.		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
(Challenges of climate change for soil management). Revista del Servicio de Revista del Extensión Agrícola, Num, 2, Jun 2022, p. 28-29. (Z-332)				
Báez Rivera, G., A.R. Sanfioenzo Gil de Lamadrid, Y. Sánchez de León. Interpretación de análisis de suelos (Soil analysis interpretation). (Z-332)		X	X	
Báez Rivera, G., A.R. Sanfioenzo Gil de Lamadrid, Y. Sánchez de León. Manejo agroecológico de la fertilidad del suelo (Agroecological management of soil fertility). (Z-332)		X	X	
Paola M. Rodríguez Torres, Graduate Student, Department of Agro-environmental Sciences, University of Puerto Rico at Mayagüez. Thesis title: Evaluation of activated biochar versus organic amendments and its effect on soil health and growth of Phaseolus vulgaris in an Oxisol (Daguey series) of Puerto Rico. May 2022. (Z-332)		Thesis Dissertation		X
Keyser, T.L., Abelleira Martínez, O.J., Gould, W.A., González, G., Lugo, A.E. In Press. Chapter 4: Overview of the forest management related issues and opportunities in the Caribbean. In: Schuler, Thomas; Jain, Theresa; Day, Michelle; Patel-Weynand, Toral., eds. Pages 61-98 In: Active management for resilient and productive forests. USDA Forest Service General Technical Report: U.S. Department of Agriculture, Forest Service, Washington D.C. (Z-358)	X		X	
Abelleira Martínez, O.J., J. Rivera San Antonio, G. Túa Ayala, R. Cruz Aguilar, G. Báez Rivera, A. Marengo Casul, M. del R. Suárez, and A. Pérez Méndez. 2022. Towards a Forest Management and Products Laboratory in UPR, Mayagüez. Oral (on-line) presentation in the Forum on Forest Management and Social-Ecological Systems sponsored by the Environment and Extreme Climate Programmatic Area of the Agricultural Experiment Station, UPRM, held on May 5-6, 2022, via Zoom. (Z-358)		X		X
Abelleira Martínez, O.J. 2022. A Table of Attributes of Species for Silviculture and Agroforestry: Advances of a Best Management Practices Guide for Forests in Puerto Rico and		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
the US Virgin Islands. Workshop held in collaboration with USDA Forest Service International Institute of Tropical Forestry's Forest Stewardship Program in the Conference Room of the Company Hotel in Chrstianstead, St. Croix, U.S. Virgin Islands, from 9AM to 12PM on July 26, 2022. (Z-358)				
Sylvia Noriega Luciano.2022. Water quality in the western Puerto Rico's Dairy farms. Thesis. Department of Animal Science. University of Rio Piedras. Recinto Universitario de Mayaguez. (Z-359)		Thesis Dissertation		X
Hernández, E. and Estevez de Jensen C. 2022.Performance of Cherry Tomatoes and Miniature Sweet Peppers in High Tunnel Systems in Puerto Rico. HortScience 57 (9S) S35. https://doi.org/10.21273/HORTSCI.57.9S.S1 (H-492)	X			X
Cabrera I., Hernández E., y Obando M. 2022. Dinurothrips hookeri Hood (Thysanoptera: Thripidae: Panchaetothripinae) un nuevo record para Cucumis sativus en Puerto Rico. J Agric Univ PR. MS 22-12 (H-492)	X			X
Cabrera Asencio, I., Hernández, E., & Vélez, A. 2022. Guía de los Insectos y Ácaros más Frecuentes en Hortalizas Especiales y Asiáticas en Puerto Rico [Technical Report]. Retrieved from https://hdl.handle.net/20.500.11801/2941 (H-492)		X		X
Hernandez, E. Empresa de Hortalizas UPRM. (2022, September 29). Insectos vectores en plántulas de sandías y una guía de insectos en hortalizas especiales en PR [Video]. YouTube https://www.youtube.com/watch?v=qERJTSDGwhs (H-492)		X		X
Román Zea, D., Merari Feliciano Rivera. 2022. LOOP-MEDIATED ISOTHERMAL AMPLIFICATION FOR THE DETECTION OFPSEUDOCERCOSPORA FIJIENSIS. College of Agricultural Sciences, University of Puerto Rico, Mayagüez Campus. (H-486)		X		X
Román Zea, D. (2022). Identificación de Pseudocercospora fijiensis mediante amplificación isotérmica mediada por bucle (Master dissertation). University of Puerto Rico, Mayagüez Campus. URI		Thesis Dissertation		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
https://hdl.handle.net/20.500.11801/2906 (H-486)				
Negrón-Pérez, V.M. and Aponte, A. 2022. Developmental and Reproductive Performance Differences of the Slick Hair Holstein. J. Agric. Univ. P.R.; Brief Research Report (H-509)	X			X
Carro-Figueroa, Vivian. 2022. “Logros y desafíos en el desarrollo de un programa de investigación en agricultura orgánica en la Universidad de Puerto Rico: el caso de las fincas orgánicas de la Estación Experimental Agrícola”. Oral presentation in the 9th Latin American and Caribbean Social Science Conference, National Autonomous University of Mexico (UNAM), Mexico City, June 10. (H-503)		X		X
Beaver, J.S., Martínez Figueroa, H., Godoy Lutz, G., Estévez de Jensen, C., Porch, T.G., & Rosas, J.C. 2022. Breeding for resistance and integrated management of web blight in common bean. Crop Science. 62:20-35. (H-351 (FY 2020))	X			X
Sadohara, R. Izquierdo, P., Couto Alves, F., Porch, T.G., Beaver, J.S., Urrea, C.A. & K. Cichy. 2022. The Phaseolus vulgaris L. Yellow Bean Collection: genetic diversity and characterization for cooking time. Genet Resour Crop Evol (2022) 69:1627–1648. (H-351 (FY 2020))	X			X
Torres-González, Y., Estévez de Jensen, C., Beaver, J.S., T.G. 2022. Resistance of common bean lines to root rot caused by Fusarium solani. Ann. Rep. Bean Improv. Coop. 65:25-27. (H-351 (FY 2020))	X			X
Porch, T.G. and Beaver, J.S. 2022. Response of tepary bean breeding lines and entries of the tepary diversity panel (tdp) when infested with the common bean weevil (Acanthoscelides obtectus) Ann. Rep. Bean Improv. Coop. 65:117-118 (H-351 (FY 2020))	X			X
Vázquez, R., D.M., Viteri, A. Linares-Ramírez, and Z. Miranda. 2022. Reaction of Newly Developed Common Bean Germplasm to Natural Infections and Mechanical Inoculated of Two Macrophomina phaseolina Isolates. 44a Reunión Científica Anual de la Sociedad Puertorriqueña de Ciencias Agrícolas. Coamo, PR. (H-487)		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Viteri, D.M., A.M. Linares-Ramírez, Z. Miranda and A. Shi. 2022. Identification of a QTL Region for Ashy Stem Blight Resistance Using Genome-wide Association and Linage Analysis in a Common Bean Recombinant Inbreed Lines Derived from BAT 477 and NY6020-4. <i>Frontiers in Plant Sciences</i> . https://doi.org/10.3389/fpls.2022.1019263 (H-487)	X			X
Rodríguez Carías, A.A., M. Mas, A. Rivera Serrano y S. Duckett. 2022. Ganancia en peso y rendimiento de la canal y cortes mayoristas de corderos enteros y castrados alimentados con dietas altas en granos en condiciones de estrés por calor. Annual meeting, Latin American Association of Specialist in Small Ruminant and South American camelids. <i>Revista MVZ Cordova</i> . pp. 44 (H-490)		X		X
Rodríguez Carías, A.A., M. Mas, A. Rivera Serrano y S. Duckett. 2022. Calidad y perfil de ácidos grasos de carne de corderos enteros y castrados alimentados con dietas altas en granos en condiciones de estrés por calor. Latin American Association of Specialist in Small Ruminant and South American camelids. <i>Revista MVZ, Cordoba</i> , pp. 45 (H-490)	X			X
Romero N. y A. A. Rodríguez Carías. 2022. Días en alimentación para alcanzar el peso al sacrificio en corderos enteros y castrados alimentados con raciones totales y su efecto sobre parámetros productivos y el rendimiento de la canal. Latin American Association of Specialist in Small Ruminant and South American camelids. <i>Revista MVZ, Cordoba</i> , pp. 52 (H-490)	X			X
Bayne Hernández, A. G. (2022). Efecto del periodo de días en alimentación para alcanzar el peso al sacrificio sobre características productivas, rendimiento de la canal y cortes, calidad de la carne y parámetros de la salud de ovinos criollos alimentados con raciones totales [Thesis]. Retrieved from https://hdl.handle.net/20.500.11801/2912		Thesis Dissertation		X
Abelleira Martínez, O.J., J. Rivera San Antonio, G. Túa Ayala, R. Cruz Aguilar, G. Báez Rivera, A. Marengo Casul, M. del R. Suárez, y A. Pérez Méndez. 2022. Hacia un Laboratorio de Manejo de Bosques y		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Productos Forestales en el RUM. Presentación oral en-línea en el foro Manejo de Bosques en Sistemas Social-Ecológicos de Puerto Rico del Área Programática de Climas Extremos, Recursos Naturales y Energía Renovable de la Estación Experimental Agrícola de la UPR llevado a cabo el 6 de mayo de 2022 vía Zoom. (H-489)				
Noriega Luciano, S. "Calidad química del agua en vaquerías localizadas en el área oeste de Puerto Rico." May 18, 2022. [Online]. Available: https://hdl.handle.net/20.500.11801/2886 (AH-04)		X		X
Héctor Sánchez, Carolina Domínguez, Anthony Muñiz, Tatiana Tosado, Zully Contreras, Katherine Domenech, and Gladycia Muñiz, 2022. Visual assessment for hair coat type classification in Puerto Rica slick and wild type-haired Holstein cows. Reunión Científica y Asamblea Anual SOPCA 2022. Centro de Convenciones de Coamo, Puerto Rico. (H-496)		X		X
Ireliz Colón Rodríguez y Héctor L. Sánchez Rodríguez, 2022. Comparación y relación entre la temperatura rectal y tasa respiratoria durante las primeras 8 semanas de vida en becerras Holstein pelonas y de pelaje regular. Feria de Investigaciones UPRM 2022. 6 de abril de 2022. (H-496)		X		X
Robles, W. 2022. Addressing citizen concerns about glyphosate use in Puerto Rico. Poster presentation at the Weed Science Society Annual Meeting. Virtual on February 22-24, 2022. (H-372 (FY 2020))		X		X
Robles, W. 2022. Nuevos y Futuros Registros de Plaguicidas en Frutales. Oral presentation at the Reunion de Empresa de Frutales. Lajas, February 4, 2022. (H-372 (FY 2020))		X		X
Fact sheet related to Registered Pesticides on Coffee. Distributed to coffee growers at the Reunión de Empresa de Café. May 13, 2022. (H-372 (FY 2020))		X		X
Robles, W. 2022. Liaison Report 2022: Puerto Rico. Oral presentation at the IR-4 Southern Region Meeting. Atlanta, US. August 8, 2022. (H-372 (FY 2020))		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/ Published
Robles, W. and L. Almodovar 2022. Good Laboratory Practices for Pesticide Registration. Field Training Workshop to visiting professors from University of Colombia, Bogota. Corozal, PR. August 1-5, 2022. (H-372 (FY 2020)		X		X
Tavárez, H., Cortés, M., & Hernández, J. Consumer attitudes and behavior towards differentiated products in Puerto Rico: An assessment of text, logos and quick response (QR) codes. Economía Agraria y Recursos Naturales. (H-504)	X			X
Tavárez, H., Cortés, M., & Gregory, A. Preferencias de los consumidores por leche producida asegurando el bienestar animal en Puerto Rico. Journal of Agriculture of the University of Puerto Rico (H-504)	X		X	
Tavárez, H. Using cost-benefit analyses to determine the economic viability of developing recreational opportunities in the Rio Hondo Community Forest of Puerto Rico. Journal of Forest Economics (MS-025)	X		X	
Tavárez, H., & Abelleira, O. Environmental awareness and willingness to pay for increasing biodiversity in the Rio Hondo Community Forest of Puerto Rico. Ecological Economics (MS-025)	X		X	
Uriarte, B.P. (2022) Evaluation of gene expression in endometrial epithelial and immune cells and segregation of candidate gene polymorphisms in slick and non slick cattle. 2022. [Unpublished master's thesis]. University of Puerto Rico at Mayagüez. (H-488)		Thesis Dissertation	X	
Esparrá-Rivera, E.(2022). "Incidencia, severidad y viabilidad de la roya de la hoja del cafeto (Hemileia vastatrix Berk. et Br.) en la zona cafetalera de Puerto Rico" (Master dissertation). https://scholar.uprm.edu/handle/20.500.11801/2910 (H-498)		Thesis Dissertation	X	
Morales-Payan, J.P. (2022). Comparison of fruit yield, vine growth, and damage from Dione juno in three cloned passion fruit accessions. Acta Horticulturae 1349:19-22. (H-094 (2019)	X			X
Morales-Payan, J. P. 2022. Yellow passion fruit conservation for the fresh market as affected by postharvest wax and cytokinin	X			X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
treatments. <i>Acta Horticulturae</i> 1344: 245-248. (H-094 (2019))				
Lassalle Loperena, E. A. (2022). Evaluación del híbrido de banano FHIA-02, Musa AAAA Mona Lisa, en respuesta a nematodos fitoparasíticos en Puerto Rico [Thesis]. Retrieved from https://hdl.handle.net/20.500.11801/2884 (H-094 (2019))		Thesis Dissertation		X
Giraldo Zapata, M. C., Cortés, M., Chávez-Jáuregui, R. N., Ortiz, C. E., Alicea, C. M., Díaz, M., Matos, D. (2022). Conjunto Tecnológico para la Producción de Apio [Technical Report]. Agricultural Experiment Station. Retrieved from https://hdl.handle.net/20.500.11801/2873 (H-094 (2019))		X		X
Giraldo Zapata, M. C. (2022). Catálogo de variedades de apio <i>Arracacia xanthorrhiza</i> en Puerto Rico [Technical Report]. Agricultural Experiment Station. Retrieved from https://hdl.handle.net/20.500.11801/2871 (H-094 (2019))		X		X
Giraldo, M. C., Almodóvar, W., Soto-Torres, G., Macchiavelli-Girón, S., & Martínez-Cales, E. (2022). Plan de manejo integrado para el control del piche de la batata [Technical Report]. Agricultural Experiment Station. Retrieved from https://hdl.handle.net/20.500.11801/2888 (H-094 (2019))		Thesis Dissertation		X
Giraldo, M. C., Almodóvar, W., & Martínez-Cales, E. (2022). El piche de la batata <i>Cylas formicarius</i> . [Technical Report]. Agricultural Experiment Station. (H-094 (2019))		X		X
Giraldo Zapata, M. C. (2018, last updated 2022). Manejo integrado para el control eficaz de la "podrición del apio" [Technical Report]. Agricultural Experiment Station. Retrieved from https://hdl.handle.net/20.500.11801/2872 (H-094 (2019))		X		X
Tirado, R. Early Response of 'Mexican' Lime, 'Fina' Clementine Mandarin, and 'Campbell' Valencia Orange on Selected Rootstocks Grown under Fertigation Practices in an Oxisol in Puerto Rico. <i>Horticulturae</i> 2022 8(6), 513.	X			X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Viteri, D. M., & Linares, A. M. (2022). Screening a newly developed common bean germplasm with improved resistance to ashy stem blight in multiple environments. <i>Frontiers in Plant Science</i> , Vol 13: 1052398. https://doi.org/10.3389/fpls.2022.1052398 (H-094 (2019))	X			X
Viteri, D. M., Linares, A. M., Zoralys, A. M., and Shi, A. (2022). Identification of a QTL region for ashy stem blight resistance using genome wide association and lineage analysis in common bean recombinant inbred lines derived from BAT 477 and NY6020-4. <i>Frontiers in Plant Science</i> , Vol 13: 1019263. https://doi.org/10.3389/fpls.2022.1019263 (H-094 (2019))	X			X
Viteri, D. M., & Linares, A. M. (2022). Agronomic performance of common and tepary bean genotypes and their response to ashy stem blight in Isabela and Lajas, Puerto Rico. <i>Legume Science</i> , Vol. 4 (2): e118. https://doi.org/10.1002/leg3.118 (H-094 (2019))	X			X
Rivera-Camacho Carolina I., Cristian R. Perdomo-García, Verónica A. Rodríguez-Burgos, Mariela D. Torres-Rivera, Grecia D. Rosario-García, Angélica M. Silva-Perea, Verónica M. Negrón-Pérez, and Guillermo Ortiz-Colón. 2022. Average daily gain and skeletal growth of slick and wild-type Holstein heifers raised on a semi-intensive rotational grazing system. <i>Proceedings of the Annual Meeting of the Puerto Rican Society of Agricultural Sciences</i> . 47:38. (H-505)	X			X
Rosario-García Grecia D., Cristian R. Perdomo-García, Carolina I. Rivera-Camacho, Angélica M. Silva-Perea, Mariela D. Torres-Rivera, Génesis Agosto-Burgos y Guillermo Ortiz-Colón. 2022. Effect of space availability on health, weight gain and skeletal development in Holstein calves. <i>Proceedings of the Annual Meeting of the Puerto Rican Society of Agricultural Sciences</i> . 47:12. (H-505)	X			X
Ruiz-Cortés, Marieli, Natalie M. Meléndez-Vázquez, Mariela Torres-Rivera, Guillermo Ortiz-Colón, and Filipa Godoy-Vitorino. 2022. Characterization of rumen and hindgut microbial communities in slick and wild-type	X			X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/ Published
Holstein calves in a tropical climate. Proceedings of the Annual Meeting of the Puerto Rican Society of Agricultural Sciences. 47:11. (H-505)				
Torres-Rivera, Mariela, Marieli Ruiz Cortés, Cristian R. Perdomo-García, and Guillermo Ortiz-Colón. 2022. Effects of using an accelerated growth feeding protocol on body weight, 39 skeletal development and health score in slick and wild-type Holstein calves from birth until weaning. Proceedings of the Annual Meeting of the Puerto Rican Society of Agricultural Sciences. 47:39. (H-505)	X			X
Curcio, A., Wilfredo Robles, Fernando Gallardo and Alejandro Segarra. 2022. Potential of Using Wildland Weeds for Honeybee Health in Puerto Rico. Weed Science Society Meeting, February 2022. (H-499)		X		X
Ruíz Díaz, C.P., 2023. Impact of the Coffee Berry Borer on the Volatile and Semi volatile compounds; Qualitative Profile of Coffea arabica Berries- ScienceDirect. Food Chemistry Advances. Volume 2, October 2023, 100154 (Z-311)	X			X
Viteri, D.M., A.M. Linares-Ramírez, Z. Miranda and R. Vazquez. 2023. Registration of UPR-Mp- 34 and UPR-Mp-42 common bean germplasm with enhanced resistance to ashy stem blight. Journal of Plant Registrations. https://doi.org/10.1002/plr2.20273 (H-487)	X			X
Cabrera I.,C. Estevez.2022. Aculops cannabicola (Farkas) (Acari: Eriophyoidea) a new invasive pest of Cannabis sativa in Puerto Rico. J. Agric. Univ. P.R.	X		X	
Cabrera I, E. Melendez. 2022.INSECTS VISITORS ON THE FLOWERS OF FOUR CULTIVARS OF MANGIFERA INDICA IN THE AGRICULTURAL EXPERIMENT STATION OF JUANA DIAZ, PUERTO RICO. J.Agric.Univ.PR. (will be publish this semester)	X			X
Cabrera I.,E. Melendez.2022. Breeding System Evaluation of Four Mangifera indica L. (Anacardiaceae) Cultivars .Life: The Excitement of Biology 10(2)1:23	X			X
Vera J., I.Cabrera.2022.Hurricane and phytophagous insects: Disturbance effects on	X			X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
the abundance of an invasive insect. J.Agric.Univ.P.R.(saldrá en este semestre)				
Cabrera I. ,C. Estevez 2023. The bean flower thrip. Bull.no. 11- 3/14/2023		X		X
Alfredo Aponte. Developmental and Reproductive Performance Differences of the Slick-hair Holstein	X			X
Ebel, R., Shanks, C. B., Félix, G., & Morales-Payan, J. P. (2022). The significance of agrobiodiversity for sustainable diets. In Routledge Handbook of Sustainable Diets (pp. 58-68). Routledge. London, UK.	X			X
Ebel, R. Menalled, F.D. Morales-Payan, J.P. , Baldinelli, G.M., Berrios-Ortiz, L., & Castillo-Cocom, J. A. (2023). La agrobiodiversidad mas alla de los cultivos. En Agrobiodiversity Nourishes Us/La Agrobiodiversidad Nos Nutre: Action Research for Agroecological Transformations. Elementa.	X			X
Rivera San Antonio, J., and O.J. Abelleira Martínez. 2022. Response capacity of stakeholders in the forestry sector to the immediate effects of hurricane María: implications for community forest management. Acta Científica 33: 33-45	X			X
Tavárez Vargas, H.S., and O.J. Abelleira Martínez. 2022. Estudios multi/inter/trans disciplinarios: ¿Conoces las diferencias? EyBoricua (https://eyboricua.com/opinion/estudios-multi-inter-trans-disciplinarios-conoces-las-diferencias/)		X		X
Martínez-Calez, E.L. and Rivera, D. 2023. Manejo integrado de plagas en pascuas. Factsheet. Agricultural Extension Service.		X		X
Martínez-Calez, E.L. and Rivera, D. 2023. Muestreo para control de la mosca blanca. Factsheet. Agricultural Extension Service.		X		X
Martínez-Calez, E.L. and Rivera, D. 2023. Registro de plaguicidas. Factsheet. Agricultural Extension Service.		X		X
Martínez-Calez, E.L. and Rivera, D. 2023. Buenas prácticas agrícolas en pascuas. Factsheet. Agricultural Extension Service.		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Almodóvar, W., Martínez-Caléz, E.L., Rivera, D., Alvarado, A. N. and Osoria, R. 2022. Educando la comunidad sobre los beneficios del manejo integrado de plagas y polinizadores en bosques, áreas urbanas y fincas. Puertorrican Society of the Agricultural Science Annual Meeting Abstract and Poster.	X			X
Alvarado, A. N., Almodóvar, W. and Rivera, D. 2022. Guía curricular para la protección de los polinizadores. Puertorrican Society of the Agricultural Science Annual Meeting Abstract and Poster.	X			X
Rivera, D., Dreves, A. J. and Almodóvar, W. 2022. Plants for Pollinators and Natural Enemies in Puerto Rico and USVI communities. Puertorrican Society of the Agricultural Science Annual Meeting Abstract and Poster.	X			X
Martínez-Caléz, E.L., Rivera, D. and Dreves, A. J. 2022. Preliminary results for IPM implementation in specialty crops: Ornamentals and Vegetables. Puertorrican Society of the Agricultural Science Annual Meeting Abstract and Poster.	X			X
Dreves, A. J., Rivera, D. and Almodóvar, W. 2022. Integrated Pest Management in the USVI and PR backyard communities. Puertorrican Society of the Agricultural Science Annual Meeting Abstract and Poster.	X			X
Almodóvar, W., Dreves, A.J., Alvarado, A. N., Giraldo, M.C., Rivera, D., Martínez-Calez, E.L., Curbelo, J. and Robles, W. 2022. Divided by water united by need: IPM program for Puerto Rico and US Virgin Islands. Puertorrican Society of the Agricultural Science Annual Meeting Abstract and Poster.	X			X
Fernández-Soto, G. A., Rivera, D., Tirado-Corbalá, R. and Alvarado, A.N. 2022. Estudio del éxito de Fortunella margarita (kumquat) injertado en cuatro patrones y evaluación de dos formulaciones de fertilizante en distintas dosis para su producción como cítrico ornamental. Puertorrican Society of the Agricultural Science Annual Meeting Abstract and Poster.	X			X
Rivera, D. 2022. La polinización y la flor. Educational Poster. Agricultural Extension Service.		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/ Published
Martínez-Cález, E.D. and Rivera, D. 2022. Conoce a tus polinizadores. Educational Poster. Agricultural Extension Service.		X		X
Rivera, D. 2022. Pasos simples para atraer polinizadores y enemigos naturales. Educational Poster. Agricultural Extension Service.		X		X
Rivera, D. 2022. Síndrome de la polinización. Educational Poster. Agricultural Extension Service.		X		X
Rivera, D. 2022. Búsqueda de tesoros. Flyer. Agricultural Extension Service.		X		X
Rivera, D. and Ramos, A. 2022. Pasaporte al jardín. Coloring book. Agricultural Extension Service.		X		X
Santiago L.Y., M.J. Faldyn, E.L. Martínez-Cález , and B. Rivera-Marchand. 2023. The Invasion History of <i>Diaphorina citri</i> (Hemiptera: Liviidae) in Puerto Rico: Past, Present and Future Perspective. <i>Environmental Entomology</i> , Vol. XX No. XX: 1-11.	X			X
<u>Teran-Garcia Margarita, Amber J. Hammons, Norma Olvera, Kimberly Greder, Maria Plaza-Delestre, Flavia C. Andrade, Barbara Fiese and Angela R. Wiley. 2023. Randomized Control Trial of a Childhood Obesity Prevention Family-Based Program: “Abriendo Caminos” and Effects on BMI. <i>Front. Pediatr. Sec. Pediatric Obesity</i>. 11. doi: 10.3389/fped.2023.1137825</u>	X			X
Robinson Rodríguez-Pérez, Neishaly Serrano-Cortés, María C. Rodríguez, David Conner, and Jane Kolodinsky (2023). Building Food System Resiliency in Puerto Rico: Findings from Focus Groups with Food System First Responders. <i>Journal of Agriculture, Food Systems, and Community Development</i> .	X		X	
María C. Rodríguez & Robinson Rodríguez-Pérez (2022). Educación a Distancia para la Producción Acuapónica Comunitaria. <i>Revista del Servicio de Extensión Agrícola</i> , Número 4, diciembre 2022, pp 8-10.		X		X
Robinson Rodríguez-Pérez & María C. Rodríguez (2022). Asociación Pro-Bienestar Barrio Marías de Aguada: Una Historia de Éxito. <i>Revista del Servicio de Extensión Agrícola</i> , Número 4, diciembre 2022, pp 13-14.		X		X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
6 key questions about MPOX (Figuroa-Sánchez, I., SEA del Oeste, 27th edition)		X		X
Occupational profile of covid-19 deaths (Hernández, J., Figuroa, I., Fórum Empresarial).	X		X	
Campos, L. (agosto, 2022). Conoce nuestros logros. Revista Somos EFNEP vol. 2.		X		X
Campos, L. (septiembre, 2022). Sana alimentación mientras estudias ¿Conoces Mi Plato?		X		X
Campos, L. (septiembre, 2022). Sana alimentación mientras estudias ¡Cuida tu cerebro!		X		X
Campos, L. (septiembre, 2022). Sana alimentación mientras estudias ¡Anímate y prepara tus alimentos!		X		X
Campos, L. (mayo, 2023). Nutri-Tour 2023- Alimentación sostenible combustible para el futuro. Revista Somos EFNEP vol. 3.		X		X
Campos, L. (mayo, 2023). PSE: Cocino, aprendo y me divierto. Revista Somos EFNEP vol. 3.		X		X
Campos, L. (mayo, 2023). Alimentación vegetariana alternativa de ahorro y salud. Periódico El Oriental - Humacao		X		X
Campos, L. (mayo, 2023). Alimentación mediterránea un estilo de vida simple y saludable. Periódico El Oriental- Humacao		X		X
Martinez-Rodriguez, I. I. (2022). Personality and Financial Health. Revista SEA 27(1), 51-52. https://www.uprm.edu/sea/mdocs-posts/revista-del-sea-la-universidad-de-puerto-rico-a-tu-alcance-edicion-27/		X		X
Martinez-Rodriguez, I. I. (2022). Financial health and well-being: Influencing factors and how to develop. Boletín APCFC 2022, pp. 7-11. https://www.profesionalescfc.com/resources/Bolet%C3%ADn%20APCFC%202022%20OFICIAL.pdf		X		X
Martinez-Rodriguez, I. I. (2023). In times of inflation, do like the salmon. Revista SEA 29(1), 40-41. https://www.uprm.edu/sea/mdocs-posts/revista-sea-edicion-29/		X		X
Rigau-Lloréns, R. (2022). Análisis de las regulaciones en la administración de fondos externos en la Universidad de Puerto Rico:	X			X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Retos y oportunidades, [Doctoral dissertation, Universidad de Puerto Rico, Rio Piedras campus].				
Comás, M., Rigau-Lloréns & Velázquez, G. (2022). Manual para la redacción de propuestas federales, University of Puerto Rico, Mayaguez Campus.	X			X
Toro-Velez, K., Chávez-Jáuregui, R.N., Wessel-Beaver, L., Bryan Brunner. 2022. Production and Postharvest Assessment of Tropical Pumpkin (<i>Cucurbita moschata</i> Duchesne) Flowers Harvested for Consumption. <i>HortTechnology</i> 32(2):199-212.	X			X
Fernando Pérez-Muñoz, Caroline Ortiz-Bonilla, Carmen Elena Pérez-Donado, Rosa Nilda Chávez-Jáuregui. 2022. Non-Microbiological Shelf Life and Processing Parameters of Two Plantain (<i>Musa paradisiaca</i>) Cultivars. <i>Journal of Agriculture of the University of Puerto Rico</i> Vol. 106 No. 1	X			X
Bispo, D.F.A.; Guimarães, D.V.; Marques, J.J.G.S.M.; Beniaich, A.; Acuña-Guzmán, S.F. ; Silva, M.L.N.; Curi, N. 2023. Soil organic carbon as response to reforestation age and land use changes: A qualitative approach to ecosystem services. <i>Sustainability</i> , 15, 6863. DOI: 10.3390/su15086863	X			X
Lima, W. de; Mancini, M.; Avanzi, J.C.; Silva, S.H.G.; Acuña-Guzmán, S.F. ; Demattê, J.A.M.; Curi, N. 2023. Tracing the origin of deposited sediments: A study applying proximal sensing in a drainage subbasin. <i>Journal of South American Earth Sciences</i> , 123. DOI:10.1016/j.jsames.2023.104241	X			X
Acuña-Guzmán, S.F. ; Norton, L.D. 2023. Upcycling of FGD Gypsum into a Product to Reduce Interrill Erosion: A Study Assessing Methods of Soil Surface Application. <i>Sustainability</i> , 15, 1977. DOI:10.3390/su15031977	X			X
Silva, L.C.M.; Peixoto, D.S.; Azevedo, R.P.; Avanzi, J.C.; Dias Jr, M.S.; Vanella, D.; Consoli, S.; Acuña-Guzmán, S.F. ; Borghi, E.; Resende, A.V.; Silva, B.M. 2023. Assessment of soil water content variability using electrical resistivity imaging in an Oxisol under conservation cropping systems. <i>Geoderma</i>	X			X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/Published
Regional, e00624. DOI: 10.1016/j.geodrs.2023.e00624				
Beniaich, A.; Guimarães, D.V.; Avanzi, J.C.; Silva, B. M.; Acuña-Guzmán, S.F. ; dos Santos, W.P.; Silva, M.L.N. 2023. Spontaneous Vegetation as an Alternative to Cover Crops in Olive Orchards Reduces Water Erosion and Improves Soil Physical Properties Under Tropical Conditions. <i>Agricultural Water Management</i> , 279, 108186. DOI:10.1016/j.agwat.2023.108186	X			X
Irizarry-Ortiz, M.; Harmsen, E.W. Sensitivity of the Penman–Monteith Reference Evapotranspiration Equation to Meteorological Variables for Puerto Rico. <i>Hydrology</i> 2023, 10, 101. https://doi.org/10.3390/hydrology10050101	X			X
Tyson, A.F., E.W. Harmsen , M.J. Laituri, C.S. Stevens-Rumann, 2023. Analyzing Vulnerability by Integrating a Landslide Impact Assessment and Social Vulnerability Index Analysis: A Case Study of the Río Grande de Añasco Watershed Post Hurricane Maria, Proceedings of the Soil Erosion Research under a Changing Climate Symposium, Punta Borinquén Resort, Aguadilla Puerto Rico, USA. January 8-13, 2023, A Specialty Conference of the American Society of Agricultural and Biological Engineers, ASABE Symposium Paper # 23508 DOI: https://doi.org/10.13031/soil.23508		X		X
Barriga A. (2023). Does environmental conservation have unintended consequences in public health?, <i>Oxford Development Studies</i>	X		X	
Barriga A. & Dunn R. (2023). The Effect of Mass Migration on Disease Transmission: Evidence from the Venezuelan Refugee Crisis, <i>Journal of Policy Analysis and Management</i>	X		X	
Barriga A., Fiala N., Ferguson N. & Leroch M. (2023) Ethnic Cooperation and Conflict in Kenya, <i>Journal of Behavioral and Experimental Economics</i>	X		X	
Tavárez, H., & Cortés, M. (2023). Device effects: Results from choice experiments in an agritourism context.	X			X
Tavárez, H., & Elbakidze, L. (2023). Willingness to pay for ancillary water service improvements in Puerto Rico.	X			X

Reference	Publications		Status	
	Peer-reviewed (ej. Journal)	Non peer-reviewed (ej. Newspaper, PRAES Newsletter)	Submitted	Approved/ Published
Tavárez, H., Cortés, M., & Hernández, J. (2022). Consumer preferences for differentiated coffees in Puerto Rico: An assessment of text, labels and quick response (QR) codes.	X		X	
Tavárez, H., & Santiago-García, R.J. (2022). Resiliencia: Aplicaciones y Conceptos. Sin Comillas. Obtenido de https://sincomillas.com/resiliencia-conceptos-y-aplicaciones/	X			X
Comas-Pagán, M. & Rigau, R. (2021). Work Manual for the Drafting of Federal Proposals. UPR-RUM-CCA-SEA-MEI.	X			X
Arellano, J., Rodríguez, A. & Comas, M. (2021) Availability of products derived from goat's milk in supermarkets in Puerto Rico. J. Agric. Univ. P.R. 106(1):144-147 (2022). UPR-RUM-CCA-EEA.	X			X
Comas, M. & Hernández, E. (2021) Study of the potential market for specialty and Asian vegetables in Puerto Rico. J. Agric. Univ. P.R. 106(1):137-144 (2022). UPR-RUM-CCA-EEA.	X			X
Ramos Cartagena, G. (december 2022). Volunteers in times of crisis who live, coexist and illuminate. AES Magazine, (4). 17-19.		X		X

Attachment IV – Presentations (includes AES, PRAES and FAS)

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Department of Agroenvironmental Sciences			
Perez B.Y, I. Cabrera.2022. Abundance of Tephritidae in Mangifera indica in southern Puerto Rico	SOPCA	Dec. 2022	Coamo
Maldonado P.N., Cabrera I.,Relative Preference of Batocera rufomaculata (De Geer) (COLEOPTERA:CERAMBYCIDAE) in mango (Mangifera indica) Cultivars.	SOPCA	Dec. 2022	Coamo
Merced K., I. Cabrera. 2022.Insect Vector in Watermelon Seedlings.	Empresa Hortalizas (Vegetable Meet) UPRM	Dec. 2022	Virtual
Cabrera I. 2022. A Field Guide to Insects on Special Vegetables in P.R.	Empresa Hortalizas (Vegetable Meet) UPRM	Dec.2022	Virtual
Alfredo Aponte. Food Sovereignty	Course- Productores y promotores agroecológicos, AES	Feb. 10, 2023	AES Gurabo

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
	Gurabo, Collaborative Agreement AES and Josco Bravo		
Alfredo Aponte. Seed and Seed production	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	Feb. 17, 2023	AES Gurabo
Alfredo Aponte. Seed production	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	Feb. 24, 2023	AES Gurabo
Alfredo Aponte. Soils and soil preparation	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	Mar. 10, 2023	AES Gurabo
Alfredo Aponte. Soil properties	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	Mar. 17, 2023	AES Gurabo
Alfredo Aponte. Cultural Practices	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	Mar. 24, 2023	AES Gurabo
Alfredo Aponte. Cultural Practices in the field	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	April 14, 2023	AES Gurabo
Alfredo Aponte. Bio-fertilizers	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	May 5, 2023	AES Gurabo
Alfredo Aponte. Practice- bio-fertilizers	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	May 12, 2023	AES Gurabo

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Alfredo Aponte. IPM I	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	May 19, 2023	AES Gurabo
Alfredo Aponte. IPM II	Course- Productores y promotores agroecológicos, AES Gurabo, Collaborative Agreement AES and Josco Bravo	May 26, 2023	AES Gurabo
Alfredo Aponte. Enterprise of dairy cattle and forages	Enterprise of dairy cattle and forages Gurabo PR	April 13, 2023	AES Gurabo
Alfredo Aponte. Enterprise of dairy cattle and forages	Enterprise of dairy cattle and forages San Sebastian PR	April 27, 2023	San Sebastián PR
Alfredo Aponte, Prof. Nicolas Cartagena. Sustainable agriculture SARE Project	SARE Project Sustainable Agriculture	Feb. 8, 2023	AES Gurabo
Alfredo Aponte, Prof. Nicolas Cartagena. Seed Production and ancestral seeds SARE Project	SARE Project Sustainable Agriculture	Mar. 23, 2023	AES Gurabo
Abelleira Martínez, O.J., R. Cruz Aguilar, G. Túa Ayala, A. Marengo Casul, J. Rivera San Antonio, Y. Juan Morales, A. González Rosario and A. Pérez Méndez. 2023. Woods of Puerto Rico: Forest Enrichment with Valuable Tree Species and Uses for Super-abundant Species. Presentación oral en el "Graduate Seminar in Materials Science & Engineering - CIIM 6027" el 12 de abril de 2023 vía Zoom	Graduate Seminar in Materials Science & Engineering - CIIM 6027	Apr. 12, 2023	Zoom (on-line)
Abelleira Martínez, O.J. 2023. A Table of Attributes for Common Tree Species in Puerto Rico and US Virgin Islands. Presentación oral en la Reunión Mensual del Grupo de Trabajo de Agricultores y Custodios de Terrenos Privados; State and Private Forestry, USDA Forest Service, el 27 de abril de 2023 vía Zoom.	Reunión Mensual del Grupo de Trabajo de Agricultores y Custodios de Terrenos Privados; State and Private Forestry, USDA Forest Service	Apr. 27, 2023	MS-Teams (on-line)
Tavárez Vargas, H.S., and O.J. Abelleira Martínez. 2023. Conciencia Ambiental y Disposición a Pagar por Incrementar la Biodiversidad en el Bosque Comunitario de Rio Hondo, Puerto Rico. Afiche presentado en el Tercer Congreso de Economía Aplicada de Puerto Rico celebrado en el Salón	Tercer Congreso Economía Aplicada de Puerto Rico	May 5, 2023	Room Tarzán, Student's Center, UPRM

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Tarzán, Centro de Estudiantes, RUM, el 24 de mayo de 2023			
Abelleira Martínez, O.J. and M. del R. Suárez Rozo. 2023. Una Guía de Mejores Prácticas de Manejo Para Bosques en Terrenos Privados en el Archipiélago de Puerto Rico e Islas Vírgenes: Contenido y Aplicaciones. Presentación oral grabada para el proyecto SARE del Servicio de Extensión Agrícola el 16 de mayo de 2023 en el salón 213 del edificio B, Estación Experimental Agrícola, UPRM	Proyecto SARE, Servicio de Extensión Agrícola	May 16, 2023	Room 213, Building B, AES-UPRM
E. Martínez , D. Rivera and A. Devres. Preliminary Results for IPM Implementation in Specialty Crops: Ornamentals and Vegetables. Sociedad Puertorriqueña de Ciencias Agrícolas: 2 de diciembre de 2022	SOPCA	Dec, 2, 2022	Coamo, PR
Almodóvar, W., A. Devres, A. Alvarado, M. Giraldo, D. Rivera, E. Martínez , J. Curbelo and W. Robles. 2022. Divides by Water, United by Need: IPM Program for Puerto Rico and the US Virgin Islands. Sociedad Puertorriqueña de Ciencias Agrícolas: 2 de diciembre de 2022.	SOPCA	Dec. 2, 2022	Coamo, PR
Sánchez de León, Y. "Mujer en las Ciencias y la Academia" (Women in Science and Academia)	Discussion Panel	Mar. 9, 2023	University of Puerto Rico at Mayaguez
Alejandra Varela, María Plaza, Leyda Ponce de León, Abner Rodríguez. CARACTERIZACIÓN QUÍMICA DE LA LECHE DE CABRA PRODUCIDA EN DIFERENTES REGIONES DE PUERTO RICO	SOPCA, Afiche	Dec. 2, 2022	Convention Center-Coamo
Amarilys Velez, María Plaza. Desarrollo de bebida estimulante a base de Sandía [Citrullus lanatus (Thunb.) Matsum. et Nakai.]	SOPCA, Afiche	Dec. 2, 2022	Convention Center - Coamo
Michelle H. Álvarez Beauchamp, EVALUACIÓN DE VARIEDADES DE CÁÑAMO INDUSTRIAL (CANNABIS SATIVA L.) BAJO CONDICIONES DE CAMPO Y DE INVERNADERO	SOPCA, Oral	Dec. 2, 2022	Convention Center - Coamo
Department of Agricultural Economics and Rural Sociology			
Dr. Alwin J. Jiménez. Orientation for New Students (2021)	Student Week (New Admission UPRM)	August 5, 2022	Jesús T. Piñero Building, P-213

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Dr. Alwin J. Jiménez. Conference: Sustainable Risk Management and Insurance Benefits	SRMEC Project participants	September 7, 2022	Teams
Dr. Alwin J. Jiménez. Academic Orientation	Annual Open House	Nov. 10, 2022	RUM
Dr. Alwin J. Jiménez. Farm Management Project-Training (PAF, acronym in spanish).	North-Central Region- Agricultural Extension Service	August 5, 12, 19 and 26; September 2 and 9, 2022	Aguada (Municipal Library)
Dr. Alwin J. Jiménez. Farm Management Project-Training (PAF, acronym in spanish).	Northwest Region- Agricultural Extension Service	October 26; November 2, 9, 16, 23 and 30, 2022	Lares (Local Extension Office)
Dr. Alwin J. Jiménez. Farm Management Project-Training (PAF, acronym in spanish).	Maricao -Local Office - Extension Service	November 3, 10 and 17; December 1, 6 and 8, 2022	Maricao (Bucarabón Foundation)
Dr. Alwin J. Jiménez. Sustainable Risk Management and Insurance Benefits in the Agricultural Business	SRMEC Project participants	March 9, 2023	Teams
Dr. Alwin J. Jiménez. MS in Agricultural Economics (online); application and admission requirements	Graduate Studies Fair 2023 UPRM	March 17, 2023	Students Center-UPRM
Barriga A. (2022) Agricultural Economics for Development, presented at the Association of Puerto Rican Economists	Association of Puerto Rican Economists Annual Meeting, University of Puerto Rico, Rio Piedras, PR	Oct. 28, 2022	Rio Piedras, PR
Barriga A. (2023) The Brazilian Health Care Reform and Malaria in the Amazon	Population Association of America (PAA) Annual Meeting	Apr. 13, 2023	New Orleans, LA
Barriga A. (2023) The Brazilian Health Care Reform and Malaria in the Amazon	Applied Economics Congress, Third Edition	May 5, 2023	Mayagüez, PR
Barriga A. (2023) Finding the Joy in Academia	Ignite Talk	May 17, 2023	Mayagüez, PR
Barriga A. (2023) The Role of Community Energy Projects Post-Disaster	Development Studies Association (DSA) Annual Conference, University of Reading	TBD	Reading, UK
Tavarez, H., Cortés, M., Hernández, J. (2022). Preferencias de los consumidores por cafés diferenciados en Puerto Rico: Una evaluación de textos, logos y códigos de respuesta rápida. Oral presentation presented at SOPCA, Puerto Rico.	SOPCA	SOPCA	Coamo
Tavarez, H. (2022). Disposición a pagar por oportunidades recreativas en el Bosque Comunitario Rio Hondo de Puerto Rico. Oral presentation presented at SODIAF, Dominican Republic.	SODIAF	SODIAF	Rep. Dom.

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Tavarez, H. (2022). Preferencias de los consumidores por leche producida en cumplimiento con bienestar animal en Puerto Rico: Evaluando alternativas para informar al consumidor. Presentación oral. CCA, Empresa de Leche. San Sebastian.	Annual meeting (UPR), milk sector	Annual meeting (UPR), milk sector	San Sebastian
Tavárez, H. (2022). El valor de los bosques y sus beneficios a la Sociedad. Oral presentation presented at the Environmental Economics symposium, Puerto Rico Economists Association, online.	Symposium, Puerto Rico Economist Association	Symposium, Puerto Rico Economist Association	Online
Tavárez, H. (2023). Economía ecológica en Puerto Rico. Oral presentation presented at Tertulias del Puente, online.	Tertulias del Puente	Tertulias del Puente	Online
Tavárez, H., Cortés, M., & Gregory, A. (2023). Preferencias de los consumidores por leche producida en cumplimiento con bienestar animal en Puerto Rico: Evaluando alternativas para informar al consumidor. Presentación Oral. 3er Congreso de Economía Aplicada. Universidad de Puerto Rico, Mayaguez	3rd Congress of Applied Economics, Puerto Rico	3rd Congress of Applied Economics, Puerto Rico	UPR-Mayaguez
Tavárez, H., & Cortés, M. (2023). Device effects: Results from choice experiments in an agritourism context. Presentación Oral. Universidad de Puerto Rico, Mayaguez.	3rd Congress of Applied Economics, Puerto Rico	3rd Congress of Applied Economics, Puerto Rico	UPR-Mayaguez
Tavárez, H., & Abelleira, O. (2023). Environmental awareness and willingness to pay for increasing biodiversity in the Rio Hondo Community Forest of Puerto Rico. Presentación en afihce. Universidad de Puerto Rico, Mayaguez.	3rd Congress of Applied Economics, Puerto Rico	3rd Congress of Applied Economics, Puerto Rico	UPR-Mayaguez
Tavárez, H., Cortés, M., & Hernández, J. (2022). Consumer preferences for differentiated coffees in Puerto Rico: An assessment of text, labels and quick response (QR) codes.	Annual meeting (UPR), coffee sector	Annual meeting (UPR), coffee sector	Online
Tavárez, H. (2023). Disposición a pagar por mejoras en los servicios complementarios de agua en Puerto Rico. Poster presentation presented at Research Symposium for Faculty and Graduate Students. UPR-Mayaguez, Puerto Rico.			
Tavárez, H. (2023). Preferencias de los consumidores por cafés diferenciados			

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
en Puerto Rico: Una evaluación de textos, logos y códigos de respuesta rápida. Poster presentation presented at Research Symposium for Faculty and Graduate Students. UPR-Mayaguez, Puerto Rico.			
Comas-Pagán, M. (2022). Food Security in Puerto Rico. UPR-RUM-CCA-SEA.	Organization 5 Days with Our Land	Oct.18, 2022	P 212 RUM
Comas-Pagán, M. (2022). Technical and financial resources for the agribusiness. UPR-RUM-CCA-SEA.	Agro-entrepreneurship course for farmers - Assistance 117	Oct. 20, 2022	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2022). Plan de mercadeo de productos agrícolas. UPR-RUM-CCA-SEA.	Agro-entrepreneurship course for farmers - Assistance 138	Oct. 27, 2022	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2022). Business plan. UPR-RUM-CCA-SEA.	Agro-entrepreneurship course for farmers- Assistance 138	Nov.10, 2022	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2022). Agricultural financing. UPR-RUM-CCA-SEA.	Agro-entrepreneurship course for farmers- Assistance 138	Nov. 17, 2022	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2023). Technical and financial resources for the agribusiness. UPR-RUM-CCA-SEA.	Agro-entrepreneurship course for farmers- Assistance 99	Apr. 12, 2023	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2023). Agricultural Products Marketing Plan. UPR-RUM-CCA-SEA.	Agro-entrepreneurship course for farmers- Assistance 98	Apr. 19, 2023	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2023). Business Pla. UPR-RUM-CCA-SEA.	Agro-entrepreneurship course for farmers- Assistance 100	Apr. 26, 2023	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2023). Agricultural financing. UPR-RUM-CCA-SEA.	Curso Agroempresarismo para agricultores - Asistencia 100	May 10, 2023	Virtual Forum UPR RUM Zoom
Comas-Pagán, M. (2023). The Family Market. UPR-RUM-CCA-SEA.	Congress of Applied Economics	May 5, 2023	Business Adm. 242 RUM
Dr. Alwin J. Jiménez. Orientation for New Students (2021)	Student Week (New Admission UPRM)	August 5, 2022	Jesús T. Piñero Building, P-213
Dr. Alwin J. Jiménez. Conference: Sustainable Risk Management and Insurance Benefits	SRMEC Project participants	September 7, 2022	Teams
Dr. Alwin J. Jiménez. Academic Orientation	Annual Open House	10-Nov-22	RUM
Dr. Alwin J. Jiménez. Farm Management Project-Training (PAF, acronym in spanish).	North-Central Region- Agricultural Extension Service	August 5, 12, 19 and 26; September 2 and 9, 2022	Aguada (Municipal Library)
Dr. Alwin J. Jiménez. Farm Management Project-Training (PAF, acronym in spanish).	Northwest Region- Agricultural Extension Service	October 26; November 2, 9, 16, 23 and 30, 2022	Lares (Local Extension Office)

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Dr. Alwin J. Jiménez. Farm Management Project-Training (PAF, acronym in spanish).	Maricao -Local Office - Extension Service	November 3, 10 and 17; December 1, 6 and 8, 2022	Maricao (Bucarabón Foundation)
Dr. Alwin J. Jiménez. Sustainable Risk Management and Insurance Benefits in the Agricultural Business	SRMEC Project participants	March 9, 2023	Teams
Dr. Alwin J. Jiménez. MS in Agricultural Economics (online); application and admission requirements	Graduate Studies Fair 2023 UPRM	March 17, 2023	Students Center-UPRM
Dr. Germán Ramos. Sustainable consumption through waste reduction: Sustainable Consumption in the Family and Society.	Puerto Rican Association of Family and Consumer Sciences: Consumer Practices for a Sustainable Future	Mar. 21, 2023	Costa Bahia Hotel & Convention Center in Guayanilla, PR
Dr. Germán Ramos. ViveConvive: Coordinate Volunteer Day Event	International Volunteer Day	Dec. 5, 2022	Facebook Live SEA
Department of Agricultural and Environmental Systems			
Lima, W., Mancini, M., Avanzi, J.C., Silva, S.H.G., Acuña-Guzmán, S.F. , Demattê, J.A., and Curi, N. 2023. Usage of Proximal Sensing to Trace the Origin of Deposited Sediments in a Drainage Subbasin. In (Flanagan, D.C. and Thompson, A.M., eds.): Proceedings Soil Erosion Research Under a Changing Climate International Symposium, Paper No. 60. St. Joseph, Mich., ASABE. DOI: 10.13031/soil.23066	ASABE Soil Erosion Research Symposium	January 9, 2023	Aguadilla, PR
Acuña-Guzmán, S.F. 2023. Ignite talk. UPRM - Research Symposium for Faculty and Graduate Students. Mayagüez, PR.	Research Symposium for Faculty and Graduate Students	May 17, 2023	Mayagüez, PR
Irizarry Otaño, E.A. 2022. Workshop on Infiltration Tests and Water Table. Gurabo, PR	Extension Agricultural Agents Field day	August 9, 2022	Gurabo, PR
Irizarry Otaño, E.A. 2023. Associate Dean Achievement Report. Juncos, PR	Annual Meeting of Agricultural Extension Service Teaching Staff	April 28, 2023	Juncos, PR
Pérez Alegría, L.R. 2022. Technical adaptations and planning for rational water use in the face of climate change.	Agricultural Water Symposium. College of Agronomists of Puerto Rico (CAPR)	July 9, 2022	Online - CAPR
Monroig Saltar, F.M. 2023. Evaluation of Alternative Coffee Harvesting Methods in Puerto Rico	Agricultural Experimental Station Coffee Industry Meeting	May 30, 2023	Adjuntas, PR
Román Aponte, E.A. (Presenter) and F.M. Monroig Saltar. 2023. Evaluation of Alternative Coffee Harvesting Methods in Puerto Rico	SOPCA Annual Meeting 2022	December 2, 2022	Coamo, PR

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Harmsen, E.W. 2022.Recharge Estimates for Puerto Rico's South Coast Aquifer under Climate Change Conditions.	SOPCA Annual Meeting 2022	December 2, 2022	Coamo, PR
Mathanker, S.K. 2022. Reflections while Developing a Precision Agriculture Technology Course.	SOPCA Annual Meeting 2022	December 3, 2022	Coamo, PR
Harmsen E.W. , N. López Adames, N. Rivera Maldonado. Gridded Aquifer Recharge Estimates for the Puerto Rico South Coast Aquifer.	American Geophysical Union (AGU) 2022 Annual Meeting, Frontiers in Hydrology	June 21, 2022	San Juan, PR
Tyson, A.F., E.W. Harmsen , M.J. Laituri, C.S. Stevens-Rumann. 2023. Analyzing Vulnerability By Integrating A Landslide Impact Assessment And Social Vulnerability Index Analysis: A Case Study Of The Rio Grande De Añasco Watershed Post Hurricane Maria. (Presenter: Alicia Tyson)	Soil Erosion Research Under A Changing Climate International Symposium	Jan 8-13, 2023	Aguadilla, PR
Mejia Manrique, S., J. Montoya, E. Harmsen , R. Khanbilvardi, and J. Gonzalez. 2023. Correcting Precipitation from Weather Research and Forecasting model using Artificial Intelligence algorithms over Puerto Rico. (Presenter Said Mejia)	103rd AMS Annual Meeting	8 to 12 January, 2023	Denver, Colorado
Mejia Manrique, S., E. Harmsen , R. Khanbilvardi, and J. Gonzalez. 2023. Coupling Corrected Precipitation from Weather Research and Forecasting model with Hydrologic model for Añasco Watershed to predict streamflow. (Presenter Said Mejia)	103th AMS Annual Meeting	8 to 12 January, 2023	Denver, Colorado
Montoya, J., S. A. Mejia Manrique, S. Uddin al Azad, M. Ghandehari, E. Harmsen , R. Khanbilvardi, and J. E. Gonzalez. 2023. Socio-Technical Approach for the Assessment of the Critical Infrastructure System-Level Resiliency in Extreme Weather Events. (Presenter Juan Montoya).	103th AMS Annual Meeting	8 to 12 January, 2023	Denver, Colorado
Irizarry-Ortiz , Michelle M. (Presenter), John F. Stamm, David M. Sumner and Eric Harmsen , 2022. Estimation of Historical (1985–2005) and (2040–60) Future Agricultural Water Use for Puerto Rico Based on a Soil Moisture Model.	American Geophysical Union (AGU) Annual Meeting, Frontiers in Hydrology	June 21, 2022	San Juan, PR
Mejia, Said (Presenter), Eric Harmsen , Reza Khanbilvardi and Jorge Gonzalez., 2022. Predicting Streamflow and Coastal Flooding by Coupling Weather Research and Forecasting (WRF) Model	American Geophysical Union (AGU) Annual Meeting, Frontiers in Hydrology	June 21, 2022	San Juan, PR

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Output with a Hydrologic Model in the Añasco Watershed.			
Harmsen, Eric W. (Presenter). Water Resources in Puerto Rico: Selected case studies and future implications.	Puerto Rico Climate Services Summit	June 21, 2022	Carolina, PR
Harmsen, E. , 2023. Current and Future Water Resource Issues in the Caribbean Region.	Soil and Water Forum	April 27, 2023	Mayagüez, PR
Department of Agricultural Education			
Robinson Rodríguez, María C. Rodríguez, Neishaly Serrano. Producción Acuapónica Comunitaria (Comunidades Fundación Bucarabón, Maricao y Agrosairam, Las Marías)	Field day offered to students and teachers of the course CDAE 295, Food Systems Resilience in Puerto Rico de la Universidad de Vermont	Mar. 16, 2023	Maricao and Las Marías
Janitza Saavedra. Oral Presentation: Ignite Talks	Research Symposium for faculty and graduate students	May 17, 2023	Amphitheater ADEM UPR RUM
G. Negrón Ríos. Resilient solutions for water scarcity	"Ecoexploratorio" educational activity	Oct. 8, 2022	"Ecoexploratorio", San Juan
G. Negrón Ríos. NonPRASA aqueducts source water protection	NonPRASA water system operators and community leaders training	Mar. 29, 2023	"Terra Campestre", Guaynabo
Torres, L., Figueroa, I.. PA and obesity among children (urban vs. rural) in PR	7th Student Congress of Creation and Graduate Research	Feb. 21, 2023	UPR-RP Campus
Lorna Campos. Educational campaign for World Food Day 2022.	Presentation and promotion on CANVA for social media.	Oct. 2022	EFNEP State Office Caguas, PRAES
Lorna Campos. Professional competencies for EFNEP Public Health Assistant	Training for CFC Educators & EFNEP Public Health Assistants.	Oct. 2022	EFNEP State Office Caguas, PRAES
Lorna Campos. Educational series - Alternative Vegetarian Diet for Savings and Health	Educational Series (3 lessons) - Alternative Vegetarian Diet for Savings and Health.	Oct. 2022	EFNEP State Office Caguas, PRAES
Lorna Campos. Course - "Think, Eat, Reduce, and Activate." Lesson: Plan Your Meals: Let's Cook.	Training for CFC Educators & EFNEP Public Health Assistants.	Jan. 2023	EFNEP State Office Caguas, PRAES
Lorna Campos. Course - "Live Healthy and Active." Lesson: Let's Cook!	Training for CFC Educators & EFNEP Public Health Assistants.	Jan. 2023	EFNEP State Office Caguas, PRAES
Lorna Campos. Training on Food Intake and EFNEP Food and Physical Activity Questionnaire.	Training for CFC Educators & EFNEP Public Health Assistants.	Feb. 2023	EFNEP State Office Caguas, PRAES
Lorna Campos. PSE: Cook, Learn, and Have Fun - Review and Editing Lessons 1-4.	Training for CFC Educators & EFNEP.	Feb. 2023	EFNEP State Office Caguas, PRAES
Lorna Campos. Educational Series - Successful Recipe Demonstrations in the Community.	Educational Series (3 lessons) - Recipe Demonstrations.	Feb. 2023	EFNEP State Office Caguas, PRAES

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Lorna Campos. Educational Workshop - Sustainable Nutrition: Fuel for the Future.	Resource: ACUDEN Program Conference.	Mar. 2023	Hyatt Regency Río Grande
Lorna Campos. March Nutrition Month - "Sustainable Nutrition: Fuel for the Future."	Educational Workshop - CFC Educators & EFNEP Public Health Assistants.	Mar. 2023	Estación Experimental Agrícola en Gurabo & Arecibo
Lorna Campos. The Role of Nutrition in Community Programs: EFNEP in Puerto Rico.	Educational Resource - Students in the Master's Program in Public Health at R.C.M.	Mar. 2023	Caguas State Office, PRAES
Lorna Campos. New Dietary Guidelines for Americans & Changes to MyPlate.	Training for CFC Educators & EFNEP Public Health Assistants.	Nov. 2022 & Apr. 2023	Caguas State Office, PRAES
Lorna Campos. ESBA Course for Adults - Review and Offering of 9 Lessons.	Training for CFC Educators & EFNEP Public Health Assistants.	May 2023	EFNEP Unit Office in Toa Baja
Martinez-Rodriguez, I. I. [SEAUPRM]. (September, 24, 2022). Tips for Donating Smartly and Avoiding Charity Scams. [Images]. https://www.facebook.com/sea.uprm/photos/2041755482880102	Post on Facebook & Twitter	Sept. 24, 2022	Facebook & Twitter @SEA.UPRM https://www.facebook.com/sea.uprm/videos/855019498514146
Martinez-Rodriguez, I. I. [SEAUPRM]. (September, 26, 2022). In this time of recovery from a hurricane... avoid getting scammed. [Images]. https://www.facebook.com/sea.uprm/photos/2043257792729871	Post on Facebook & Twitter	Sept. 26, 2022	Facebook & Twitter @SEA.UPRM https://www.facebook.com/sea.uprm/photos/2043257792729871
Martinez-Rodriguez, I. I. [SEAUPRM]. (November 28, 2022). CFC/FCS Advisory Model for students/participants. [Presentación en Power Point]	Training for Educators CFC/FCS - SEA	Nov. 28, 2022	Teams
Martinez-Rodriguez, I. I. [SEAUPRM]. (December 13, 2022). Opportunities to continue growing financially. [Conference]	Achievement Day	Dec. 13, 2022	PRAES Corozal
Martinez-Rodriguez, I. I. [SEAUPRM]. (December 15, 2022). Towards the Happiness Zone. [Conference]	Christmas Activity of Staff of the Roberto Huyke Building	Dec. 15, 2022	Botanical Garden of Rio Piedras
Martinez-Rodriguez, I. I. [SEAUPRM]. (March 21, 2023). Recommended Basic Food Basket for PR: What it is and how we make it sustainable. [Power Point Presentation]	International Professional Day of Family & Consumer Sciences	March 21, 2023	Costa Bahía Hotel, Guayanilla
Martinez-Rodriguez, I. I. [SEAUPRM]. (April 3, 2023). Financial Capability:	Training for Educators CFC/FCS - SEA	Apr. 3, 2023	Teams

Presentations (oral or posters)			
Academic Year 2022-2023			
Reference	Forum	Date	Place
Actions to address personal finances. [Power Point].			
Martinez-Rodriguez, I. I. [SEAUPRM]. (April 10-28, 2023). Educational Series: Month of Financial Capability. [Images]. https://www.facebook.com/sea.uprm/photos/2204004513321864	16 Post on Facebook	Apr. 10-28, 2023	Facebook @sea.uprm https://www.facebook.com/sea.uprm/photos/2204004513321864
Martinez-Rodriguez, I. I. [SEAUPRM]. (April 26, 2023). Equipped to serve. [Presentación en Power Point]	Activity to Administrative Assistant	Aor. 26, 2023	Roberto Huyke Building
Martinez-Rodriguez, I. I. [SEAUPRM]. (May 10,2023). Rights, duties, responsibilities and consumer protection. [Presentación en Power Point]	Training for Educators CFC/FCS - SEA	May 10, 2023	Botanical Garden of Rio Piedras
Martinez-Rodriguez, I. I. [SEAUPRM]. (May 10,2023). Consumer Protection Legislation. [Presentación en Power Point]	Training for Educators CFC/FCS - SEA	May 11, 2023	Botanical Garden of Rio Piedras
Program of Food Science and Technology			
Chávez-Jáuregui, R.N., Natalie Rivera-Agosto. Development of extruded ready-to-eat snack based on unripe plantain flour and corn grits. Oral presentation	4th Edition of Euro-Global Conference on Food Science and Technology (Online Event)	Sept 11 -13, 2022	Paris, France

Attachment V - Periodic Letters and Circulars (includes AES, PRAES and FAS)

Periodic Letters and Circulars		
Academic Year 2022-2023		
Reference	Author	Office
Department of Agroenvironmental Sciences		
Martínez-Cález, E.L. 2023. Garden Fleahopper. Factsheet. Agricultural Extension Service.	Edda L. Martínez Cález	PRAES
Martínez-Cález, E.L. and Rivera, D. 2023. Manejo integrado de plagas en pascuas. Factsheet. Agricultural Extension Service.	Edda L. Martínez Cález	PRAES
Department of Agricultural Education		
Importance of the biodiversity	Profa. Gloriselle Negrón Ríos	PRAES
House Bill 474 of 2022: Environmental standing	Profa. Gloriselle Negrón Ríos	PRAES
About wind power	Profa. Gloriselle Negrón Ríos	PRAES
House Bill 1454 of 2022: Exclusion of the franchise payment for NonPRASA aqueducts that use groundwater, from the beginning of the extraction	Profa. Gloriselle Negrón Ríos	PRAES
Senate Joint Resolution 318 of 2022: Pet food as basic necessities	Profa. Gloriselle Negrón Ríos	PRAES

Periodic Letters and Circulars		
Academic Year 2022-2023		
Reference	Author	Office
NonPRASA Aqueducts: Low-cost solar systems to improve their operation	Profa. Gloriselle Negrón Ríos	PRAES
The maritime-terrestrial zone in Puerto Rico	Profa. Gloriselle Negrón Ríos	PRAES
NonPRASA Aqueducts: Shiga-toxin detection en drinking water sources in Puerto Rico	Profa. Gloriselle Negrón Ríos	PRAES
Law Number 81 of 2022: NonPRASA Aqueducts: Water Issues Committee participation and free access to drinking water systems	Profa. Gloriselle Negrón Ríos	PRAES
Senate Project 937 of 2022: Water reuse for non-agricultural purposes	Profa. Gloriselle Negrón Ríos	PRAES
Senate Project 939 of 2022: Rainwater harvesting	Profa. Gloriselle Negrón Ríos	PRAES
Desertification and the African green wall	Profa. Gloriselle Negrón Ríos	PRAES
Campos, L. (October 2022). Alternative Vegetarian Diet for Savings and Better Health. Periodic Letter No.1-2022-23. Food and Nutrition Education Program-Agricultural Extension Service.	Lorna I. Campos Muñoz	EFNEP State Office - PRAES- UPRM
Campos, L. (September 2022). Strategies for Offering PEAN/EFNEP Courses in Virtual Mode. Circular Letter No.1-2022-23. Food and Nutrition Education Program-Agricultural Extension Service.	Lorna I. Campos Muñoz	EFNEP State Office - PRAES- UPRM
Campos, L. (September 2022). Kitchen Equipment and Recommended Recipes for the ESBA Course. Circular Letter No.2-2022-23. Food and Nutrition Education Program-Agricultural Extension Service.	Lorna I. Campos Muñoz	EFNEP State Office - PRAES- UPRM
Campos, L. (February 2023). World Food Day 2022. Circular Letter No.3-2022-23. Food and Nutrition Education Program. Agricultural Extension Service.	Lorna I. Campos Muñoz	EFNEP State Office - PRAES- UPRM
Campos, L. (October 2022). Lessons and Educational Activities to Offer in PEAN-EFNEP Children and Youth Courses. Circular Letter No.4-2022-23. Food and Nutrition Education Program. Agricultural Extension Service.	Lorna I. Campos Muñoz	EFNEP State Office - PRAES- UPRM
Campos, L. (February 2023). Circular Letter. No.5-2020-21. Sustainable Nutrition: Fuel for the Future. Food and Nutrition Education Program-Agricultural Extension Service.	Lorna I. Campos Muñoz	EFNEP State Office - PRAES- UPRM
Campos, L. (April 2023). Mediterranean Diet: A Simple and Healthy Lifestyle. Periodic Letter No.2-2022-23. Food and Nutrition Education Program-Agricultural Extension Service.	Lorna I. Campos Muñoz	EFNEP State Office - PRAES- UPRM
Martinez Rodriguez, I. I. (2023). Actions to increase financial capacity. CC-1-2023, April 2023.	Ircha I. Martínez Rodríguez, EdD	PRAES
Martinez Rodriguez, I. I. (2023). Materials for Financial Education. CC-2-2023, April 2023.	Ircha I. Martínez Rodríguez, EdD	PRAES