

Feature

100 years of The Journal of Agriculture of the University of Puerto Rico 1917 – 2017

Lorelei Albanese¹ and Wanda I. Lugo²

J. Agric. Univ. P.R. 101(1):159-165 (2017)

Part I – The first 50 years

In 2017, The Journal of Agriculture of the University of Puerto Rico celebrates its centennial — 100 years dedicated to the dissemination of knowledge of scientific agriculture. The Journal's illustrious history is closely intertwined with that of the Experiment Station, founded seven years earlier, in 1910. Spearheaded by a booming sugar industry, the experiment station was established by the Sugar Producers' Association of Porto Rico to further their economic interests through research. (The name "Porto Rico" had been used frequently in public documents since 1898, when Spain ceded the island to the U.S. The island officially became "Puerto Rico" in the early thirties.)

The Journal grew out of the need to disseminate the results from vital research performed at the experiment station, dominated by studies on the problems of the sugar industry, primarily controlling white grubs and other insect pests and diseases that thwarted production. It also published studies on improving cane varieties. After all, sugar was Puerto Rico's No. 1 cash crop and remained its main crop into the 1970s.

According to Cook and Otero (1937)³, John A. Stevenson, the station's plant pathologist, was the Journal's founder and first editor, serving as editor for less than two years. Afterwards, the station director and

¹English-language Editor, Agricultural Experiment Station, University of Puerto Rico-Mayagüez Campus.

²Editor, Agricultural Experiment Station, University of Puerto Rico-Mayagüez Campus.

³Cook, M.T. and J. I. Otero, 1937. History of the first quarter of a century of the Agricultural Experiment Station at Río Piedras, Puerto Rico. University of Puerto Rico, College of Agriculture and Mechanic Arts, Agricultural Experiment Station, Bulletin 44.

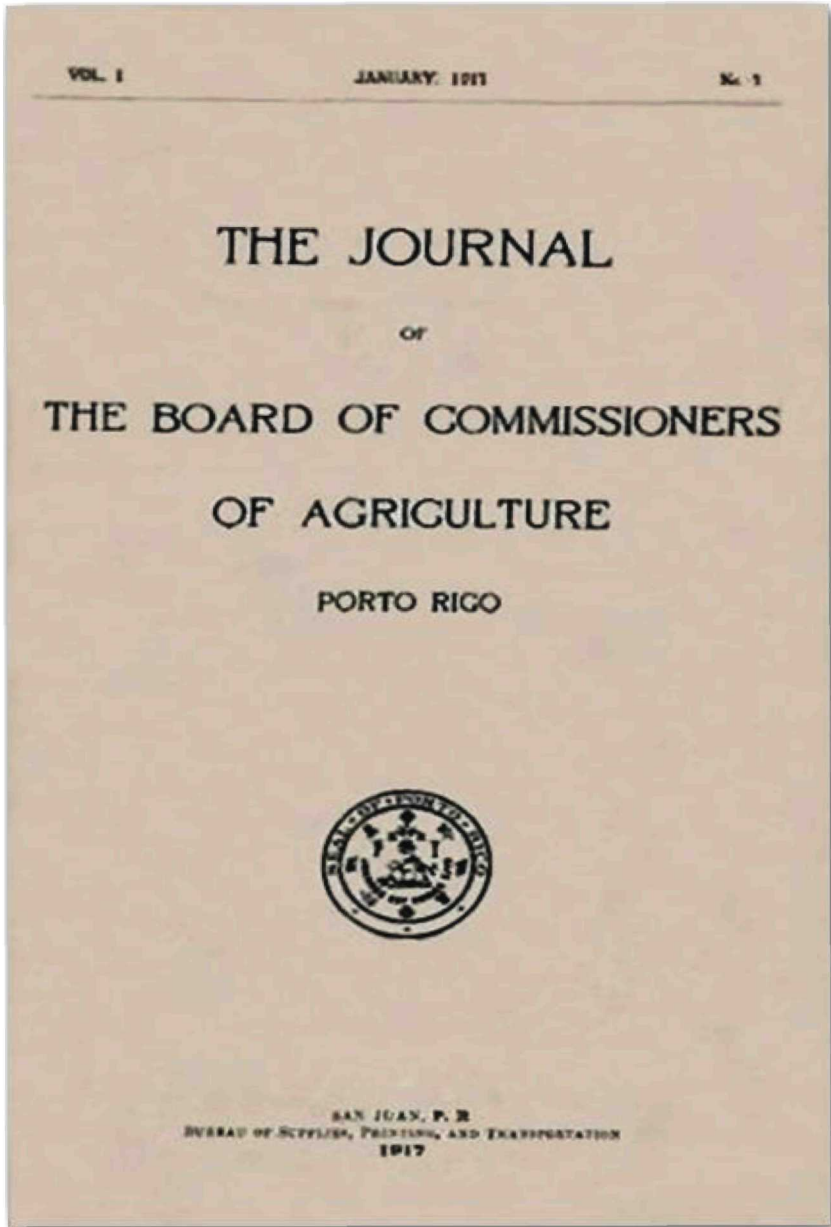


FIGURE 1. First issue of *The Journal of The Board of Commissioners of Agriculture of Porto Rico*, dated January 1917, now *The Journal of Agriculture of the University of Puerto Rico*.

librarian filled in as editors until 1928, when Melville T. Cook, plant pathologist and expert in cane diseases, became editor.

The station's staff prepared most of the research papers, "but papers by other workers have been published provided they had a bearing on the scientific work of the West Indies. The papers of the Journal have been almost entirely in the nature of research," according to the station's 25-year history.

In January 1917, the initial publication carried the imprint "The Journal of The Board of Commissioners of Agriculture of Porto Rico." The same year the name was changed to "The Journal of the Department of Agriculture of Porto Rico." Thereafter, the quarterly journal would change its name several times corresponding to the reorganization of the Insular Government. By the end of 1921 (Vol. 5, No. 4), the publication was called "The Journal of the Department of Agriculture and Commerce of Porto Rico."

In 1933, the Insular Experiment Station became the Agricultural Experiment Station of the College of Agriculture of the University of Puerto Rico, and the Journal became "The Journal of Agriculture of the University of Puerto Rico," as it stands today. Clearly the UPR imprint was a turning point for the re-christened publication. Under UPR, a land-grant college, the experiment station became eligible for additional federal appropriations and achieved academic stature.

From the beginning, the Journal benefited from the transfer of the experiment station from the sugar producers to the Insular Government because research was expanded to other important crops, such as citrus, and later, tobacco, vegetables and coffee. That first issue in January 1917, contained two articles: the first describing the scale-insect pests that attack citrus trees, papaya, and a long list of other food-plants, as well as sugarcane, by Thomas H. Jones; and the second, regarding rind disease related to cane, by John R. Johnston. In all, half the 10 articles that made up Volume 1 were related to sugarcane. Nonetheless, one study focused on diseases of vegetables and garden crops and another on the eggplant lace-bug. The entire April 1918 issue (Volume 2, No. 2) was devoted to "Citrus Diseases of Porto Rico" by John A. Stevenson, while the October issue was devoted to "Insects attacking vegetables in Porto Rico" by R.T. Cotton. The first article by a Puerto Rican scientist was published in 1919, Volume 3, No. 1: "A pineapple fertilizer experiment" by Policarpio González-Ríos, who later worked in sugarcane breeding and contributed to the develop-

ment of the PR-980 cultivar. The October issue of that year included articles on cane diseases by C.A. Figueroa, E. D. Colón and F. A. López Domínguez, who later became director of the station.

For years to come, the Journal would continue to focus on insect pests and diseases that threatened crops from an economic standpoint. George N. Wolcott, considered the Father of Puerto Rican Entomology, published in the Journal his classic "Insectae Portoricensis" (later titled "Insectae Borinquenses" and "The Insects of Puerto Rico") over a span of 25 years, from 1923 to 1948. Before him, Eugene G. Smyth published several studies on cane insects, the first of which were on the white-grubs injuring the sugarcane in Puerto Rico (Vol. 1, Nos. 2 and 3). The first record of biological control appeared on January 1922 Vol. 6: "Insect-parasite introduction in Porto Rico" by Wolcott. Francisco Seín, Jr., the first Puerto Rican entomologist, published an article on the sugarcane root caterpillar in the July 1930 issue. In 1932, Mortimer D. Leonard published "The initiation of an insect pest survey in Porto Rico." Extensive work on insects, "A survey of the forest insects of Puerto Rico - Part 1 and 2," was published in 1945 by Luis F. Martorell, while José A. Ramos published "The insects of Mona Island (West Indies)" in 1946.

The 1920s and 30s appear to have been active decades for research, as prominent stateside scientists were attracted to the tropical experiment station. Some contributed to the Journal. Among them was Henry Allan Gleason, noted ecologist and plant taxonomist of the New York Botanical Garden. According to Cook and Otero (1937), Gleason spent nearly four months on the island in 1926, collaborating with Melvin T. Cook on an Ecological Survey of the Flora of the Island. The results were published as part of the seminal Scientific Survey of Porto Rico and the Virgin Islands by the New York Academy of Sciences. In 1928, the Journal published what was described as "a semi-popular edition" of the Ecological Survey of the Flora of Puerto Rico, by Cook and Gleason (January-April 1928, Vol. 12, Nos.1-2, 137pp.).

Stuart Danforth published multiple ornithological studies, beginning in January 1926 with "Birds of the Cartagena Lagoon, Porto Rico." Over a span of 13 years, Danforth published 13 articles on birds of Puerto Rico and other Caribbean islands. Nina G. Spaulding in 1937, and Harry A. Beatty in the 1930s and 1940s, also published articles on birds; the latter also reported on other fauna from St. Croix, V.I.

Entomological studies were carried out by Dr. Herbert Osborn, of Ohio State University; his research on Homoptera was published in the

Journal in 1929. Likewise, Dr. W. T. M. Forbes, of Cornell University, made a special study of the Lepidoptera, and the results appeared in 1931. Chapman Grant, a zoologist from New York and grandson of President Ulysses T. Grant, published 25 articles on herpetology in 1931 and 1932. His studies of reptiles in the Caribbean led to the discovery of many unclassified species, some of which he reported in the Journal.

In April 1933, James Throp and Leslie Rockwell Smith were the first to publish an article dealing with the mineralogy of soils of Puerto Rico: "Concerning the origin of the white quartz sands of northern Puerto Rico." In the same issue, A. D. Shamel, physiologist of the USDA, and E. H. Twight published "Puerto Rico seedless orange selections."

Puerto Rico's first mycologist, Carlos E. Chardón, contributed articles on tropical American Dothideales (an order of fungi), cane varieties, disease, and mycological explorations of Colombia, the last-mentioned with experiment station colleague, Rafael Toro. Chardón, who later became UPR Chancellor (1931-35), also co-authored with New York Botanical Garden scientist Fred Jay Seaver "Mycology of Porto Rico and the Virgin Islands" Part 1, Vol. 8 of the Scientific Survey of Porto Rico and the Virgin Islands. From the mid-1920s to the mid-1930s, J.A.B. Nolla reported on plant diseases, including many affecting tobacco. In the 1930s and 1940s, Bernardo G. Capó, biometrician, published articles on statistical methods and on how to interpret the results of field trials.

In the early 1930s, investigations related to the use of waste molasses in the production of acetone and butanol were carried out at the experiment station and published in the Journal, leading to rum-making, one of Puerto Rico's most successful exports. Chemists Rafael Arroyo, in the 1930s, and Herminio Brau, in the late 1950s, contributed to the Journal with papers about rum.

José Adsuar was a prolific researcher who, from the early 1940s to the early 1960s, authored or co-authored 39 articles on plant pathology. He and his colleagues reported about diseases not only on sugarcane but also on vegetables, fruits and root crops. In the same time frame, Luis Rivera Brenes, animal husbandman, authored or co-authored 20 articles on grasses, nutritive value of forage crops, silage and cattle feeding. José A. Arroyo Aguilú collaborated with Rivera Brenes in the early 1960s and also published on the digestibility of some grasses. From the 50s to the 60s, José Vicente Chandler and Rubén Caro Costas, of the USDA, also published numerous articles on grasses (fertilization and

other agronomic aspects); while, plant physiologist George Samuels authored or co-authored 56 articles dealing mostly with fertilization trials on sugarcane and other crops, and with nutrient deficiencies.

Soil scientist Juan A. Bonnet and colleagues in the Soils Department earlier reported multiple fertilization and soil studies in the *Journal*, from the mid-1940s through the 1950s. Miguel A. Lugo López and Fernando Abruña (USDA) also contributed with articles on these topics, along with agronomic studies on several crops, in the 1950s and 1960s.

Operation Bootstrap brought big changes to the island as well as to the agricultural sector. During the 1950s, the infrastructure project to drain and irrigate the Lajas Valley captured the attention of the soil scientists at the station and the university. Some soil science studies at the Lajas Valley were published in the *Journal*, while others were published in bulletins of the Agricultural Experiment Station. At the same time, studies previously conducted by the Chemistry Department of the Experiment Station led to the establishment of the Rum Pilot Plant and the Food Technology Laboratory in the 1950s. These facilities were created to further improve the quality of Puerto Rican rums and to diversify agricultural products. Numerous studies on processing and canning different agricultural products were published in the *Journal* in the 1950s and 1960s by F. Sánchez Nieva and his team. In 1955, Rafael Santini, chemist, and J. Nevárez first published in the *Journal* on the ascorbic acid from “acerolas” (West Indian cherry), a topic also studied and reported in the *Journal* by A. Del Campillo and C. F. Asenjo, of the UPR School of Medicine.

In the 1960s, Alex G. Alexander contributed more than 30 papers on different topics of sugarcane physiology. The 1960s also welcomed the publication of studies on cytology by Niilo Virkki. In this decade, several articles were published by Alejandro Ayala and Jessé Román on the nematodes attacking sugarcane and other economically important crops.

Over the first 50 years, the *Journal* published research on a plethora of diseases, insects, birds from Puerto Rico and Caribbean Basin countries, and even a report on a hearing that preceded the federal prohibition to bring most fruits and vegetables from Puerto Rico into the United States.⁴ That report appeared in January 1924, a year and a

⁴Locke, C. A., 1924. Report of hearing held by the Federal Horticultural Board to consider the advisability of restricting or prohibiting the entry from Porto Rico of fruits and vegetables into the United States. Vol 8 No. 1.

half before the regulation restricting transport of most fruit and vegetable from Puerto Rico into the United States was issued.

The diversity of topics covered is astounding. By 1968, a little more than half a century after the initial issue, 993 research reports had been published. "Of these, 228 concern various phases of zoology (183 entomology, 28 herpetology, 28 nematology, 34 faunistic studies of crustaceans, arachnids, fishes, mammals, etc., 23 ornithology and 2 parasitology.) A total of 191 reports concern plant pathology, 143 agronomy, 96 soils and fertilizers, 96 chemistry including food technology and biochemistry, 67 animal husbandry, 18 genetics, 14 cytology, 11 herbicides, 7 radiation, 7 statistics, 5 botany, 4 rum chemistry, and the remainder miscellaneous agricultural subjects," according to the July 1971 issue of Volume 55.⁵

To be continued

⁵Martorell, L. F., S. Medina-Gaud and E. Jordán-Musa, 1971. Indexes to The Journal of Agriculture of the University of Puerto Rico, Volumes 1-47 (1917-1963); and Volumes 48-52 (1964-1968). *J. Agric. Univ. P.R.* 55(3): 275-385.