THE TOMATO INDUSTRY IN PUERTO RICO AND CUBA

A Short List of References

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GENERAL


Following a brief history of the tomato, the writer discusses the soil, crop rotation, varieties for market, seed production, preparation of the soil, sowing, cultivation, tying up of the vines, irrigation, insect control, diseases, harvesting and marketing, storage, cost of cultivation and profits, and preservation. The point of view from which the study was written was that of preparation for the United States market, although it was written for Latin American use.

This pamphlet was summarized under the title "A los Cosecheros de Tomate" in El Agricultor Puertorriqueño 20(2): 19. Feb. 1940. 8 Ag333


Contains a brief paragraph giving for tomatoes the varieties, dates at which they should be shipped, production per acre in Cuba and the need for careful selection and packing. Information is given from the point of view of exporting to the United States. Another paragraph (p. 19) brings out prices obtained and states that although Cuban and Puerto Rican tomatoes are equal in quality, the former are better packed. The writer feels that there is no reason why Puerto Rico should not equal Cuba in this respect.

Bibliography, p. 50.

"This investigation was undertaken primarily to provide information for the transport of this commodity from West Indian Islands to Canada." Methods of refrigeration are included. The study is from the Imperial College of Tropical Agriculture at Trinidad.


The last two installments take up tomatoes, pp. 325-328, 342-348.

Although this article is very general and broad in scope, consideration is given to the West Indian tomato. General market considerations, pre-storage factors and quality, harvesting maturity, packing-shed treatment, transport by rail, interruption of cold storage, storage and ripening temperatures, and types of storage and ripening are considered.

A bibliography of 64 items is appended, pp. 348-349.

**PUERTO RICO**


A brief summary of a report (Mimeoographed Report, no. 15) recently published by the Agricultural Experiment Station of the University of Puerto Rico, entitled "Costo de Producción de Tomates en Jayuya, Puerto Rico, 1939." The Report gives the results of a study of the cost of production of tomatoes in the municipality of Jayuya, Puerto Rico, for the crop harvested at the beginning of 1939, presenting in detail the hours and costs of human and animal labor used in the individual operations, and information on production, receipts and profits per cuerda of land. There is also an analysis of the factors which influence the cost of production per cuerda.

Figueroa, Carlos A. Nuevo tratado de reciprocidad cubano-amerикano de 1934 y el negocio de exportación de legumbres de Puerto Rico. El Agricultor Puertorriqueño 14(11): 4-8. Nov. 1934. 8 Ag833

A discussion of the Cuban-American reciprocity treaty of 1934 and the Puerto Rico vegetable export trade. A table includes U. S. customs duties on tomatoes, and another shows Cuban tomato exports to the

*Although these articles do not deal specifically with tomatoes in Puerto Rico or Cuba, they have been included because they relate to the West Indian product and nothing comparable in scope has been found for Puerto Rico or Cuba.
United States (quantity and value) for 1932. It is pointed out that competition is very keen on the tomato market. Cuba is the chief source of supply for New York during the winter and exports thence an average of 1094 cars annually.

Pt. I. Carolina-Trujillo Alto; Pt. II. Isabela.
Some of the tables include statistics relating to tomato production in the Carolina-Trujillo Alto, 1934/35 as follows: area devoted to tomatoes on various types of farms, and average yield per cuarda of tomatoes (p. 15); sales of tomatoes on the different types of farms (p. 17); total value of marketable tomato production and percent sold (p. 18).

Gives general directions for raising tomatoes, such as varieties to plant, seed, planting, appropriate soil, preparation of the land, cultivation, diseases and pests and harvesting. Classes of tomato and brief directions for preparing them for export are included.

Includes notes on the cultivation of tomatoes.

Season and methods of sowing, transplanting and pruning, tying up the vine, training the tomato plant, and fertilizers are discussed. It is pointed out that tomatoes of select quality should be produced for shipment and Puerto Rico would then be in a position to enter into competition with United States producers with the advantages of climate in its favor. The need for small producer cooperatives and the advantages of cooperation in this industry are shown. A canning factory would be a genuine help, and if these factories offered credit, many small producers would give up growing cane and plant vegetables.

"The 1938-39 issue of the Book on Statistics resumes this series of annual compilations of data about Puerto Rico previously published by the Department of Agriculture and Commerce." - Preface.
Tables include figures for 1938/39 on quantity and value of shipments of tomatoes, tomato paste and tomato juice from the United States to Puerto Rico (p. 20); quantity and value of exports of tomatoes, tomato paste and tomato juice from Puerto Rico to foreign countries (p. 34
quantity and value of tomatoes imported into Puerto Rico from foreign countries (p. 48); shipments of tomatoes from Puerto Rico to the United States, 1936/37 to 1938/39 in number of containers and pounds (p. 150).


In English and Spanish.

Table 22 (p. 122) gives statistics on tomatoes harvested for sale in 1935 by municipalities. This section of the report (Part 3. Agricultura. Capítulo 3, Fincas, propiedad agrícola, cultivos y animales en fincas (Reimpresión del Boletín de Agricultura)) is also published separately. (173.2 P962Ca)


A discussion of some of the defects in Puerto Rico's vegetable exportation, under the headings of classification and uniform packing, present selling procedures, transportation with adequate temperature or refrigeration for each type of fruit, frequency of shipments to the North, and organization of the canning and refrigeration industry. Tomatoes are included.


Includes results of experimental work on tomatoes, pp. 124-125. The statement is made that "For several years 'Marglobe' has been the standard commercial variety for exportation during winter. A variety test of comparative production was run this year to find out if there was any strain or variety which could surpass the standard variety of the region."


The report of work on vegetables under Mr. Arturo Riollano includes discussion of an experiment in tomato pruning and staking, pp. 156-157. It is recommended in conclusion "for the farmers of this region to grow tomatoes without staking and without pruning. These practices have been shown to be detrimental to production, besides increasing the expenses of labor operations."

Results are given (p. 157) of a tomato (organic matter) test which was held "to determine the effect on production of applying organic matter in the form of filter press cake at the rate of 12 tons per acre."
Memorandum


This is a study on the production of vegetables for export in the irrigated districts of Isabela, Aguadilla and Moca, Puerto Rico, dealing particularly with cucumbers, peppers and tomatoes. It includes tables showing average prices per case on the New York market for tomatoes at various periods; detailed figures on cost of production per cuerda; cost of transportation, packing and selling per case; average monthly prices on the New York market 1931/32-1935/36; area in cuerdas, number of cases sold, gross value, cost of packing, transportation and sale, net value, cases obtained per cuerda and net value per cuerda. Instructions are given (pp. 49-56) for production of tomatoes in the region, including varieties, time of sowing for export, preparation of the soil, transplanting, stacking, gathering, pests and diseases and their control, and classing and packing.

Serrano, Luis A. Memorandum sometido al Comisionado de agricultura por el Superintendent de la Sub-estación de Isabela sobre el cultivo de vegetales en aquella zona. Revista de Agricultura de Puerto Rico 26(8): 98, 121. Mar. 1930. 8 E325

Text of a memorandum submitted to the Commissioner of Agriculture by the Superintendent of the Isabela sub-station on the cultivation of vegetables in that zone. Data are given relating to cultivation under the author's supervision of tomatoes and peppers on the estate of Mr. Pedro Amador of Isabela, including costs of production, harvesting, transportation and sale for export to New York. Profits are shown and the possibilities of producing fresh vegetables for the United States are indicated. The importance of good presentation of products, the establishment of standards by a central organization and packing and shipping under its direction are pointed out.


The writer points out that in the semi-arid regions of Puerto Rico that have been irrigated the vegetable-growing industry promises to become established permanently and to make good use of the great possibilities offered by the markets on the American continent. To illustrate the importance of this type of business, he shows figures on imports into the United States of vegetables, including tomatoes, from Cuba, Mexico and the Bahamas, and their total value. The tariff paid under the Fordney McConner and the Hawley-Smoot Tariff Acts is also given. Isabela is said to have begun to grow vegetables for export in 1929/30 with good results, and the idea spread the following year. Tables show recommendations for planting for 1932/33: varieties, quantity per cuerda (3.93 square meters), time of sowing, number of days from sowing to harvesting, distance between furrows, distance between plants,
and depth of planting; the most important insects attacking vegetables in Puerto Rico and methods of controlling them; analysis of cost of production for vegetables grown in the northeastern region of Puerto Rico, 1929/32 average (this includes transportation costs); prices obtained 1928/29 to 1929/30; average production per acre, 3-year average and highest amount produced. Tomatoes are included in all of these tables.

Se trata de evitar que se rebaja la tarifa sobre tomates, pimientos y otros vegetales. Una carta de la Asociación de Agricultores al efecto. El Agricultor Puertorriqueno 10(10): 17. Nov. 30, 1930. 8 Ag833

Text of a letter from the Asociación de Agricultores de Puerto Rico to Theodore Roosevelt, Governor of Puerto Rico, urging that the tariff on tomatoes, peppers and other vegetables should not be lowered again, since low prices in the United States consuming markets formerly did not cover costs of production. Production has been stimulated by the new tariffs.

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**CUBA**


Outlines the steps in the cultivation of tomatoes. Detailed statements of costs are included for the plantation and for one hectare, and comparative results obtained with different varieties and under different conditions.

Agete, Fernando. Estudio económico de una explotación de tomates. Revista de Agricultura [Cuba] 14(53, i. e. 237): 37-46. May 1934. 8 Ag88Re

An economic study of a tomato ranch in San Cristóbal. Equipment and labor costs of preparing the land, sowing, transplanting and fertilizing the crop, harvesting, packing, cost of transporting to wharves for the United States market, customs expenses, costs in the United States and in Cuba are worked out. The whole is summarized for one hectare of land on p. 45, and for one case on p. 46.


Gives results obtained with demonstration gardens, showing (pp. 14-15) what was produced with 10 cents! (diez centavos) worth of seed for each of the plants, including tomatoes.


8 Ag88Re

This is a report of the work done by the Horticulture Department of the Agricultural Station of Santiago de las Vegas, July 1932-June 1933.
Tomatoes are reported (pp. 30-34) showing results of seed disinfection, varietal and seed treatment studies, fertilizing, irrigation, and obtaining of native seeds. Cost and production figures are included.

Arango, Rodolfo. La clasificación y presentación de los productos vegetales que exportamos. Revista de Agricultura [Cuba] 19(5-6): 20-30. May-June 1936. 8 Ag88Re

A talk delivered at the last National Agricultural Exposition on the classification and presentation of vegetable products for export. The author offers a plan of classification, including one for tomatoes (pp. 24-25).


This is an account of methods of cultivating and handling tomatoes for export and includes directions for time of sowing, transplanting and harvesting, preparation of the soil, seedbeds, the seed, cultivation, harvesting, packing, classing, standard container for export as ruled upon by the Secretary of Agriculture, general appearance of the case and methods of utilizing tomatoes not fit for export.

Asociación de cosecheros-exportadores de frutas y vegetales de Cuba.


Reply to an article in the February-March 1938 issue of the Revista, pointing out that the lack of credit is the cause of all the Cuban farmer’s misfortunes. The financial backers, when they handle, as in the last three seasons, a volume of 1,400,000 lugs of tomatoes, only advance the small farmers $100,000.


This is the text of a memorandum submitted on the planned revision of the Reciprocity Treaty between the United States and Cuba. The section (pp. 18-19) which deals with fruits and vegetables, points out the need for concessions in the fruit and vegetable industry. Figures compiled on tomato production for the past season and submitted by the Asociación de Cosecheros-Exportadores de Frutas y Vegetales de Cuba are given. These show that the price received in New York allows a margin of only about 26¢ per lug for sowing, rent, and other expenses of producing the crop, after the costs incurred in putting the product on the American market are deducted. These costs are listed, and the way the Cuban farmer has managed to export under these conditions is explained. Suggestions are made for reduction of the tariff.

Shows (p. 134, schedule 260-D) quantity and value of tomatoes imported into Cuba, 1938, and (p. 179, schedule 120) quantity and value exported, by countries, 1938, with comparative figures for 1937.

Cuba and Florida join hands. Market Growers Jour. 60(3): 80. Feb. 1, 1937. 6 M34

"Considerable disturbance has arisen at different times over imports of vegetables from Cuba, Mexico and Puerto Rico...

"Southern Florida and even some greenhouse men have tomatoes about the same time that they are coming from Cuba...

"As reported in Florida Foods Journal, Senators Tupper and Andrews of Florida, have interested themselves in this problem. Realizing that laws, rules and regulations could hardly solve it, they arranged for a meeting early in December between representatives of the Cuban government and Cuban growers, U. S. D. A. officials and some Florida growers."

The ideas developed in the conference are reported.


Chiefly on the cultivation of tomatoes for export, bringing out, as well, the possibility of sowing tomatoes among the sugar cane plants.

Díaz Albertini, Oscar, and Guerra, Ramiro. Commercial relations between Cuba and the United States of America: excerpts. Market Growers Jour. 60(9): 244-245. May 1, 1937. 6 M34

"Shipments of tomatoes increased to 50,941,909 pounds compared with 39,950,000 pounds... What will the farmers of Florida, who produce large quantities of tomatoes, peppers and cucumbers say when they see the above mentioned figures, ask the opponents of the Treaty."

Estadística de huacales de frutas y vegetales exportados a los Estados Unidos, por Cuba, durante el mes de abril de 1938. Cuba Agrícola 5(5): 46. May 1938. 8 C894

Gives figures, compiled by the statistical office of "Cuba Agrícola," of tomatoes exported to the United States, April 1938.

Similar figures are given for March in the Cuba Agrícola 5(4): 19. Apr. 1938.

Estadística de huacales de vegetales y frutas, exportados a los Estados Unidos por Cuba durante el periodo denoviembre 1 de 1935 a abril 30 de 1936. Hecha por la Oficina de estadística de "Cuba Agrícola."
Cuba Agrícola 3(5): 22. May 1936. 8 C894

Table showing exports in crates of fruits and vegetables (including tomatoes) exported monthly to the United States from Cuba, November 1935 to April 1936.

Exportación de frutos y vegetales por los puertos de la República, durante el mes de diciembre de 1930, de acuerdo con los datos suministrados por las aduanas. Revista de Agricultura, Comercio y Trabajo ¿Cuba¿ 12(9): 45-47. Mar. 1931. 8 A98Re
This is a table, published by the Sección de Fomento y Expansión Comercial, giving exports of fruits and vegetables, including tomatoes, from Cuban ports, December 1930 with comparative figures for December 1939 and for the years 1930 and 1929.


Reprinted from an article published by the Cuban Chamber of Commerce in New York.

Points out Cuba's suitability for this type of business, and the improved agricultural, packing and transportation methods. Although this article is quite general, tomatoes are mentioned.

Kent, James A. Impressions of Cuba. Market Growers Jour. 46(9): 351-353, 354. May 1, 1930. 6 M34

Contains a paragraph describing the winter tomato district at Guines and the procedure through which the green tomatoes pass at the packing house.


A brief note bringing out the importance of the Canadian market for Cuban tomatoes which was opened three years prior to the writing of this article. Canada prefers the small tomatoes which do not have a sale in the United States. Differences in method of serving are given as a reason for this difference in demand.


Includes tables showing amount of crops harvested, including tomatoes, for 1933/34 and 1934/35 and the difference between them.


This is a brief notice to tomato exporters to clearly label their goods "Product of Cuba" in accordance with a ruling by the Customs Commission of the United States, July 4, 1935, which states that all goods must be marked with country of origin.


Briefly describes the system of growing tomatoes under glass in Cleveland, Ohio, and gives, for the benefit of Cuban growers, names of firms in Cleveland who import tomatoes.


Gives statistics for 1934/1935, of area, production, selling unit, unit value, and total value of vegetables, including tomatoes, by provinces.
Revista de agricultura (quarterly). (Published by the Secretaría de Agricultura, Habana, Cuba.) 8 Ag88Re

A number of the issues of this review, particularly those in volumes 20-21, contain tables showing current exports from the port of Havana of products, including tomatoes.


Tables compiled by the Inspección General de Agricultura showing the annual production of the chief Cuban crops, including tomatoes, for which there are given, by provinces, figures on area in caballerías, total production, return per caballería, average price and value of production (p. 177). A caballería is a unit of land measuring about 33 1/2 acres.


"The reciprocal trade agreements between the United States and Cuba, effective September 3, 1934, makes changes in the tariff rates on vegetables exported to Cuba and imported from Cuba." The rates as they affect tomatoes are given briefly, among other things.


Includes figures on imports of tomatoes, by countries, including Cuba, 1930/31-1937/38, p. 465.

See also earlier volumes of this publication.

U. S. Dept. of agriculture. Bureau of agricultural economics. Foreign crops and markets weekly, v. 4, no. 4-date, processed. Washington, D. C., 1922-date. 1.9 St2F

The indexes to the various volumes should be consulted for tomato crop conditions in Cuba, export prospects, exports, etc.


Tables show quantity and value of imports for consumption into the United States from Cuba, 1922/23-1926/27 (p. 18); and weekly carlot shipments from Cuba and the Bahamas (added together) 1925/26-1926/27 (pp. 31-32).
Sources Consulted

Card catalogue of the Library of the U. S. Department of Agriculture, Bureau of Agricultural Economics.

Indexes:

Agricultural Economics Literature, v. 4, 1930 to v. 14, no. 5, May 1940. Published by U. S. Department of Agriculture, Bureau of Agricultural Economics, Washington, D. C.

Agricultural Index, 1928/30 to Apr. 1940. Published by the H. W. Wilson Co., New York, N. Y.

Experiment Station Record, v. 62, Jan. 1930 to v. 82, no. 5, May 1940. Published by U. S. Department of Agriculture, Office of Experiment Stations, Washington, D. C.

Periodical Sets:

Cuba Agrícola; la revista rural. [monthly] v. 1, May 1934 to v. 5, June 1938. Published in Habana, Cuba.

El Agricultor Puertorriqueño [monthly] v. 9, 1930 to v. 20, no. 2, Feb. 1940. Published by the Asociación de Agricultores de Puerto Rico, San Juan, Puerto Rico.


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Revista de Agricultura de Puerto Rico; publicación oficial del Departamento de Agricultura y Trabajo, v. 24, Jan. 1930 to v. 26, June 1931; v. 27, May 1936 to v. 31, Dec. 1939. Published in San Juan, Puerto Rico.

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No. 2. The frozen food industry; selected references, January 1937 to March 1939. April 1939.

No. 3. High drafting in cotton spinning; selected references. April 1939.

No. 4. Egg auctions; selected references. July 1939.


No. 6. Periodicals relating to shipping. October 1939.

No. 7. Electrical properties of cotton; some references to the literature, 1931-date. November 1939.

No. 8. Sea island cotton; selected references. November 1939.

No. 9. Cotton picking machinery; a short list of references. March 1940.

No. 10. The tomato industry in Puerto Rico and Cuba; a short list of references. June 1940.