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COFFEE

from

Puerto Rico

U. S. A.



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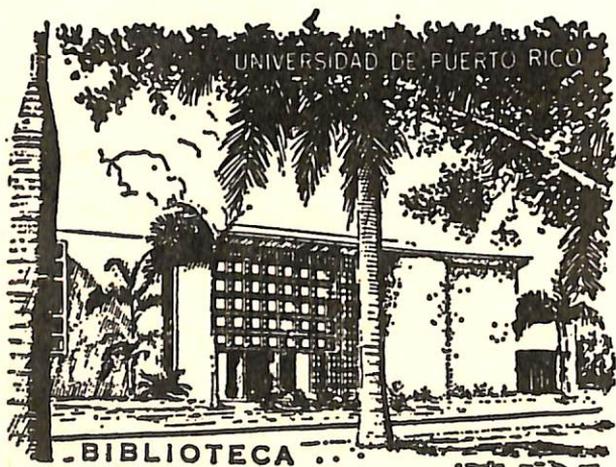
Coffee from Puerto Rico U.S.A.

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U. S. A.



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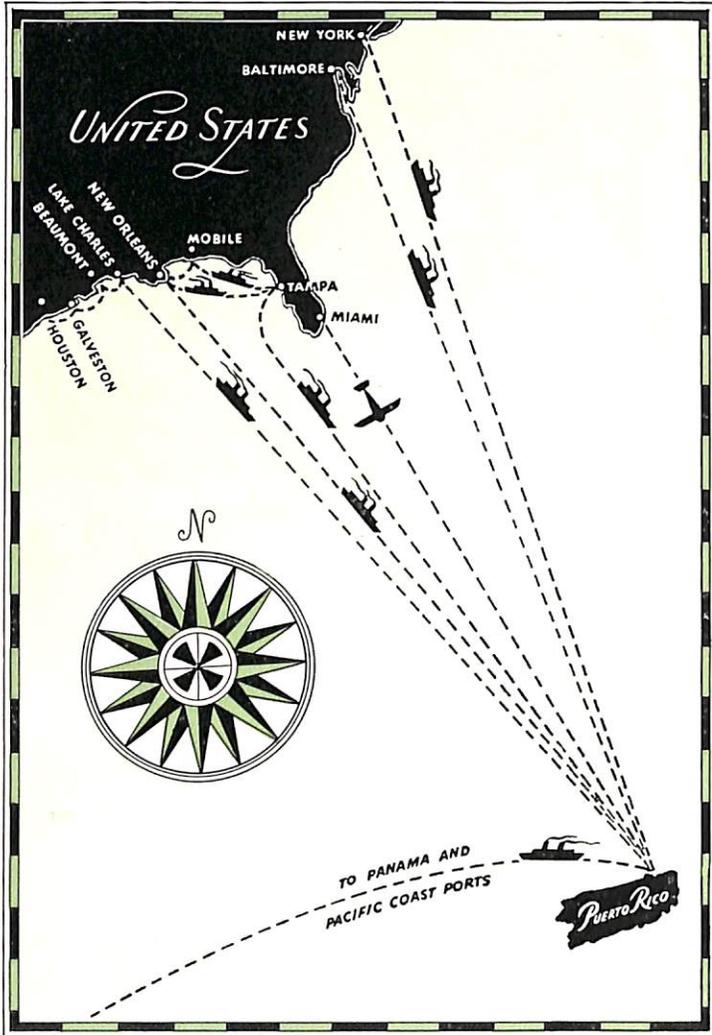
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Puerto Rico U.S.A

When the Treaty of Paris was signed nearly a half century ago, it marked the end of the Spanish Empire in the New World. It also marked the beginning of a new era for the United States because, under the terms of the Treaty, Puerto Rico became a part of the Union and two great cultures were united under one flag.

More than a hundred years before the Pilgrim Fathers landed at Plymouth Rock,



Puerto Rico became the connecting link between the New World and Europe. Merchants and financiers, as well as soldiers, met within the impregnable walls of San Juan. Here they made their plans and began their journeys to the mainland — or returned to Europe.

Later, as the white population of the New World increased, Puerto Rico became a clearing house for merchandise from all over the world. Here European products were sold to the “colonials”—and New World products to the mother countries.



Naturally, Puerto Rico's own products were sold in ever-increasing quantities in the busy market places of San Juan. Among them, coffee was of paramount importance.

In those early days coffee was winning its place in European civilization. Coffee houses were flourishing in spite of adverse legislation. Governments vied with each other to grow coffee in their far away colonies — and to tax it for their own benefit. Competition was both keen and ruthless.

In England, in France, in Germany, and in Italy the minds of Western Europe were turning away from the age old method of brewing coffee used in the Near East. Scores of new devices were invented. The basic principles are still in use in our modern coffee machines and of course the character of the beverage changed radically.



Prior to the invention of coffee making devices in the West, the drinking of coffee had been fashionable — and its stimulating properties were of primary consideration. With the new devices, a beverage was created which appealed to the Western palate. Coffee was consumed because men liked the taste. Its stimulating effect and the fashionable surroundings of the coffee houses became secondary. Coffee became a universal drink — among all classes in all the nations of Europe.

During this period when coffee was growing in popularity, the product of a tiny island in the Carribbean Sea made its entry into the whirl of competition. True, for more

than two centuries, Puerto Rico had been known as the center of the Spanish Empire in the New World. Its name was as familiar to Europeans as the names of their neighboring villages. But it is a small island — when compared to the vast expanses of the continents it guarded. The size of its crop was limited. In order to win and hold a place in competition with the rest of the world, its products must be superior — more desirable.



It is not surprising, therefore, that so much was done to develop and to maintain the high quality — and to guard the worldwide reputation which Puerto Rican coffee earned. Blessed with ideal climatic conditions and a fertile soil, the growers have perfected a technique for cultivation and handling which has produced a product of unrivaled excellence.

Ever since it was first grown on the island, coffee has been a basic crop in Puerto Rico. It is of vital importance to Insular economy and today it is directly responsible for the welfare of nearly one-fourth of the population.

To supplement the work of the individual growers, the Government of Puerto Rico has established an Experimental Station to make a scientific study of coffee growing. This station has won world-wide recognition. Its primary purpose, of course, is to study and to solve the problems facing the growers of Puerto Rican Coffee. However, its work has been so extensive that it has been of service to many growers in other parts of the world.



COFFEE

Under the Spanish Regime

In the year 1720, a French naval officer, Monsieur Gabriel Mathieu de Clieu, sailed for the Carribean island of Martinique with three small coffee bushes he had obtained from the Paris Botanical Gardens. The voyage was a hard one. Supplies ran short and it was necessary for M. de Clieu to share his water ration with his precious plants in order to keep them alive. Only one bush survived the voyage. It was planted in Martinique and began the coffee industry in the New World.

Sixteen years later (in 1736), the first coffee bush was brought to Puerto Rico. Seeds from Martinique had been taken to Santo Domingo—and from there to Puerto Rico.

In the fertile clayish soil of the Puerto Rican mountains, warmed by the tropical sun and cooled by the ever present trade winds, these first coffee bushes found an ideal environment. They thrived and multiplied. By 1758, coffee was an export product of great importance.

Old records of the 18th Century tell many stories of the illicit coffee trade between Puerto Rico and the Dutch and Danes of the neighboring islands. Puerto Rican coffee already had won a high place for itself, and was preferred by these early judges of good coffee.



In 1768, the Spanish Government, aware of the rich possibilities of the industry, began a movement to improve the product further, and also to promote its sale. The growers were exempted from paying all taxes on coffee production or sales. They were encouraged to cultivate each bush with consummate care. Every worker was carefully trained in his specific task. The objective was to capitalize upon the ideal climatic conditions and to produce the world's finest coffee.

These efforts produced immediate and lasting results. Spain, France, Italy, Germany and all the countries of Eastern Europe vied with each other to purchase the comparatively small amount of Puerto Rican

coffee which was grown at the time. Puerto Rican coffee became the standard by which all others were judged. No other country in the world produced a coffee which was more carefully grown—more highly cultivated. It was praised in song—in poetry and in musical comedy.

Record of Exports from 1871-72 to 1900

Fiscal year	Quantity (pounds)	Fiscal year	Quantity (pounds)
1871-72.....	18,355,133	1885-86.....	36,436,769
1872-73.....	25,840,533	1886-87.....	27,281,241
1873-74.....	17,769,195	1887-88.....	50,489,967
1874-75.....	26,162,690	1888-89.....	37,719,768
1875-76.....	20,826,390	1889-90.....	43,300,983
1876-77.....	15,843,887	1890-91.....	41,130,154
1877-78.....	17,051,486	1891-92.....	46,704,544
1878-79.....	30,537,901	1892-93.....	48,541,873
1879-80.....	21,832,862	1893-94.....	49,803,672
1880-81.....	47,182,029	1894-95.....	39,683,160
1881-82.....	29,435,416	1895-96.....	57,961,291
1882-83.....	37,109,800	1896-97.....	51,097,824
1883-84.....	25,756,611	1897-98-1900.	64,072,977
1884-85.....	47,105,476		

Of course, the royal court of Old Spain received the choicest products of the Puerto Rican growers. Coffee drinking at the court became a brilliant ceremony which was copied all over Europe. Always, Puerto Rican Coffee was preferred. There was no substitute. The serving of Puerto Rican Coffee became a subtle way of complimenting distinguished visitors from foreign lands. These visitors, when they returned to their homes, spread the story of the delightful beverage and added to the fame of Puerto Rican Coffee.

Late in the eighteenth century, when the coffee houses of Europe were centers of wealth and culture, Puerto Rican coffee was favored above all others. It is rumored (but cannot be proved, of course) that only Puerto Rican coffee was served in the golden coffee service of Mme. de Pompadour. It is known, however, that Puerto Rican coffee was held in high esteem by the brilliant court of Louis XIV and his successors.

For more than a hundred years the position of Puerto Rican coffee remained unchallenged. The output was increased steadily, but never at such a rate that its quality would be lowered. The industry flourished.

A record of the exports from the fiscal year 1871-72 is shown in the table on page 11.

The prosperity of the industry and the popularity of the product are both indicated by the figures in the table. In the fiscal year 1895-6, Europe purchased a total of 57,961,291 pounds of Puerto Rican coffee. During the next year, which was the last of the Spanish regime, 51,097,824 pounds were exported to Europe.

The next three years were turbulent ones in Puerto Rico. The war was raging, markets were destroyed, and efforts to reconstruct trade were not stabilized. As a result only 64,072,977 pounds of Puerto Rican coffee were exported during the entire period.

At the turn of the century, Puerto Rico was established as a part of the United States of America.



COFFEE

Under the Stars and Stripes

The coffee industry was among the first in Puerto Rico to readjust itself to the new economic conditions. The days of trading through Spanish outlets were gone. Tariff barriers appeared. But the coffee men soon won back the old European markets through their own ingenuity and the excellence of their product.

The exports of Puerto Rican coffee rose steadily. During the first fifteen years of the century, the export market consumed all the growers could produce. It reached its peak during the fiscal year 1914-5 when 51,125,620 pounds were exported.



Then came the World War. Because of war conditions many markets were shut off and exports declined accordingly. Prices, however, had increased and the growers continued to prosper.

The decade of readjustment following the World War had a disastrous effect upon the

exportation of Puerto Rican coffee. Although the prices of Puerto Rican Green Coffee soared, sometimes selling for as much as 40 cents a pound, it gradually lost some of its most valuable markets.

In European countries, quotas, embargoes, increased tariffs and the host of trade restrictions which resulted from the wave of economic nationalism, deprived Puerto Rican coffee of many of its most profitable European markets. Cuba was forced to diversify its agriculture and develop coffee culture to a point of self-sufficiency. Thus the market of our neighboring island was lost.



Exports declined steadily and with the depression, prices reached one of the lowest points in the long history of the industry. The average for the fiscal year 1939-40 was only .1157 per pound.

A table showing the exports of Puerto Rican coffee since the Island became a part of the United States is shown on page 16.

But the low prices of the depression years, disastrous though they were to the growers,



Record of Exports from 1900-1 to 1939-40

Fiscal year	Quantity (pounds)	Dollars	Average value per exported pound (dollars)
1900-01.....	12,157,240	1,678,765	.1380
1901-02.....	26,906,399	3,195,662	.1187
1902-03.....	35,207,139	3,970,574	.1127
1903-04.....	34,329,972	3,903,257	.1136
1904-05.....	16,949,739	2,141,019	.1263
1905-06.....	28,290,322	3,481,102	.1230
1906-07.....	38,756,750	4,693,004	.1210
1907-08.....	35,256,489	4,304,609	.1220
1908-09.....	28,489,236	3,725,744	.1307
1909-10.....	45,209,792	5,669,602	.1254
1910-11.....	35,937,021	4,992,779	.1389
1911-12.....	40,146,365	6,754,915	.1682
1912-13.....	49,774,197	8,511,316	.1709
1913-14.....	50,311,946	8,193,544	.1628
1914-15.....	51,125,620	7,082,791	.1385
1915-16.....	32,144,283	5,049,283	.1570
1916-17.....	39,615,146	5,892,081	.1487
1917-18.....	37,618,613	5,505,316	.1463
1918-19.....	27,897,771	6,065,573	.2174
1919-20.....	32,776,754	9,034,028	.2756
1920-21.....	26,731,648	5,352,924	.2002
1921-22.....	23,402,127	4,316,859	.1844
1922-23.....	16,821,939	3,188,002	.1895
1923-24.....	21,859,215	4,595,811	.2102
1924-25.....	23,782,996	6,575,635	.2764
1925-26.....	26,332,756	7,071,407	.2685
1926-27.....	19,356,904	5,748,877	.2969
1927-28.....	7,837,800	2,596,872	.3313
1928-29.....	1,428,757	513,043	.3590
1929-30.....	433,901	151,550	.3492
1930-31.....	1,977,779	546,613	.2763
1931-32.....	589,602	154,903	.2627
1932-33.....	549,839	124,558	.2265
1933-34.....	2,969,505	671,800	.2262
1934-35.....	799,950	207,739	.2596
1935-36.....	2,465,133	496,404	.2013
1936-37.....	8,340,114	1,169,684	.1402
1937-38.....	592,807	110,987	.1872
1938-39.....	3,667,104	527,101	.1437
1939-40.....	3,644,385	421,910	.1157

provided the gateway to the largest coffee market in the world—that of Continental U.S.A.

The high quality of Puerto Rican coffee had been recognized by Continental roasters for many years. They knew the rich mellow flavor Puerto Rican coffee would impart to their blends. But Europe was purchasing the bulk of the crop and only small quantities were available to the United States.



With lower prices and larger quantities, however, several Continental roasters were quick to purchase all the Puerto Rican coffee which was available for export. They incorporated it into their blends. As a result, they increased the cup value of their products and enjoyed the natural increase in sales which inevitably follows improved quality.

Unfortunately, there is not sufficient Puerto Rican Coffee grown to make it available to all blenders and roasters in Continental U.S.A. Those who use it, however, testify that it imparts a unique flavor to any blend in which it is used—a flavor which is pre-

ferred by consumers in every part of the country. Scores of coffee merchants are now using it in ever increasing quantities.

Continental Americans were thus made acquainted with the unique flavor of Puerto Rican coffee. Many of them have learned to drink it without blending and there is a noticeable increased demand for Puerto Rican coffee, roasted and packed on the island. It is now sold by a New York firm to hundreds of retailers.



CULTIVATION

Early in the history of the Puerto Rican coffee industry, the growers realized the importance of producing a superior product. In order to do this, they made an exhaustive study of intensive methods of cultivation, of methods of preparation for market, of fertilizers, and seed propagation. This immense store of knowledge has been passed on to their descendants. Today, there probably is no coffee producing area in the world that is more carefully tended—or no coffee that is more scientifically grown.

In Puerto Rico the seed method is employed to propagate coffee. Carefully selected seeds are sown in seed beds arranged under cover of palm leaves to protect the plants from the sun's rays. There are two periods in which seeds are sown. The first is November and December when the rainy season ends, and the second in April and May, when it starts. Rain is very beneficial at this early period of the plant conception, when the soil must be kept moist so the germinating power of seeds may be high.

The seeds are diligently attended to, great care being taken to maintain them moist,



The U. S. Department of Agriculture Experimental Station in Mayagüez which co-operates with all the various Insular Agencies.

shaded and thoroughly weeded. When the plants are developed until they have three or four permanent leaves (about some six months after germination) and while the season is still rainy, they are transplanted to a nursery.



The nursery is the place to which the plants are transferred from the seed beds until they have attained the proper development to be taken to their permanent site in the grove. The small bushes are developed in the nursery under more favorable conditions than they will find in the plantation proper. Therefore, while in the nursery their shade is gradually reduced, so they will become accustomed to the conditions they will encounter in their adult life.

After eight to ten months in the nursery the small bush is ready to be taken to the plantation.

Plantations are laid out following a square, hexagonal or row pattern, over sloping land and plateaus in the mountains.

COFFEE GROWN IN

Puerto



The growth of every coffee plant is watched carefully.

Each coffee bush is trained to grow so harvesting is simplified.



Rico

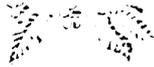
U. S. A.

Life on the coffee
"finca" in Puerto Rico
is similar to that on
mainland farms. Chick-
ens are omnipresent.



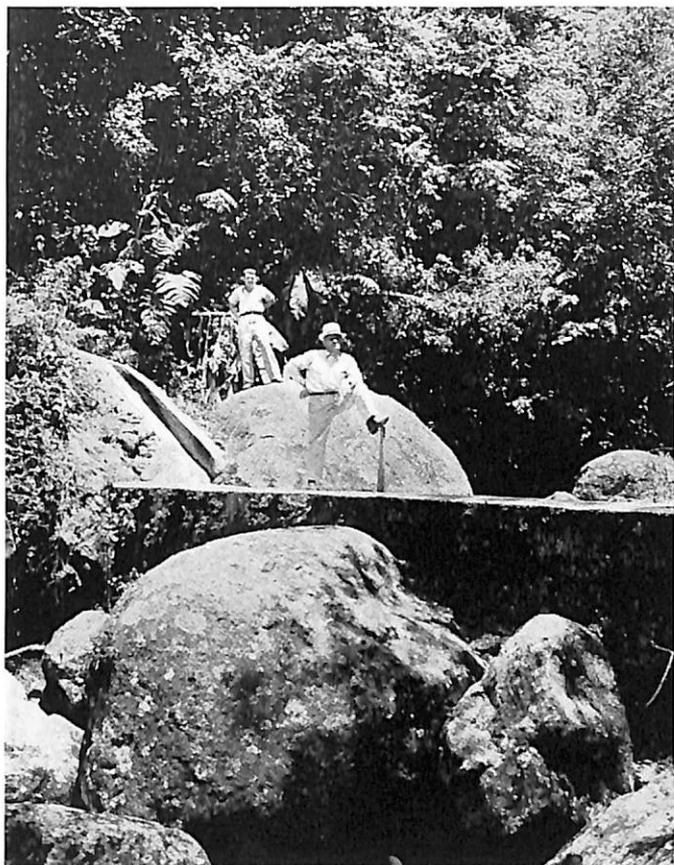
The buildings of the hacienda are located amid mountain scenes of exquisite beauty and majestic grandeur.

Bushes are set apart at regular distances of no less than eight feet, so as to allow enough room for the root system to develop, space for the necessary sunlight, and for convenience in cultivating and harvesting the crop.



Intense sunlight as well as strong chilly winds are injurious to the delicate coffee tree. Hence, the bushes are cultivated under the protection of shade trees, and of others acting as wind breakers. While the trees providing permanent shade develop, temporary shade is supplied by certain trees or plants (like bananas or plantains) of fast growth but shorter life. For permanent shade leguminous trees are preferred.

To avoid erosion, the modern coffee finca employs the best methods of control as recommended by the U. S. Department of Agriculture. Planting in contour terraces is the accepted practice. Ditches to collect and retain water, and thus check soil washing, and diggings in a checker-board pattern for



A rugged corner in a modern coffee farm. The concrete spillway at the left supplies the water for the generators.



The coffee picker removes the ripe red "cherries" and deposits them in the familiar wicker basket.

The picking season usually extends from September to February. Overseers are present to guard against "milking".



The steep roads hold no terrors for the sure footed mules who bring the coffee from the mountain side.

The loading of mules for the journey down the mountain must be done carefully so the animal may always keep his balance.



that same purpose are found on practically all plantations. In well managed "finca" feeding action of stable manure, leguminous plants, coffee prunings and pulp, and of the chemical fertilizers, supplements the soil nitrogen fixing activity of leguminous shade trees.

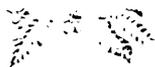


If left to their own devices, coffee trees grow high. Thus the strength is absorbed by the wood, and a scanty production of fruit results. To prevent this and to facilitate picking, the trees on the more modern plantations are pruned down to reasonable sizes.

The most common pruning practice in Puerto Rico is known as the "Guatemala" system. It consists in training or bending down the primary branch of the coffee tree which is then fastened to a wooden or wire fork stuck in the ground. When trained in this fashion, new stems will spring up. While they are still tender three or four of the best are selected, and the others eliminated. These will develop and grow branches bearing abundant fruit.

The coffee blossoms in March, April and May. A scene of most dazzling beauty is offered by this spring bride veiled in a myriad of white flowers. There, loved by nature over the rolling hills She patiently waits under "seven moons" till the blossom's bearing ripens into a purplish crimson luscious cherry.

The picking season usually extends from September to February. It is a busy time when each man, woman and child, rushes into action at dawn. Everybody works till dusk in the colorful operation of handpicking coffee berries. This is done individually, the overseers taking special care to see that only the good ripe cherry is taken off, and that "milking" is not practiced by pickers, in their haste to complete their work.



"Milking" is the name given to the picking operation of sliding the closed grabbing hand along the branch to pick the greatest number of berries at a time. Milking is injurious both to the quality of the present crop and to the quantity of future growths. It

causes the good ripe berries and bad immature berries to be mixed indiscriminately. Besides, this practice destroys the bearing stems, thus diminishing the future productivity of the tree.



The pickers with baskets slung over their shoulders or hanging from their waists, walk between the rows gathering coffee berries. When the baskets are filled, they are taken to the side of the grove alleys, where they are emptied into sacks. From there, a caravan of mules and donkeys will proceed along crooked paths, winding around the hills, to the central grounds of the Hacienda where coffee is prepared for the market. The word "Hacienda" designates the whole coffee plantation, the processing plant, and grounds around which the plantation centers.

In order to assist every grower to maintain the high standard which has been set for Puerto Rican coffee, the Insular Government offers a far-reaching service. Every step in the growth and cultivation of coffee has been scientifically studied. All the facts obtained through years of research and experimentation are available to all growers at all times.

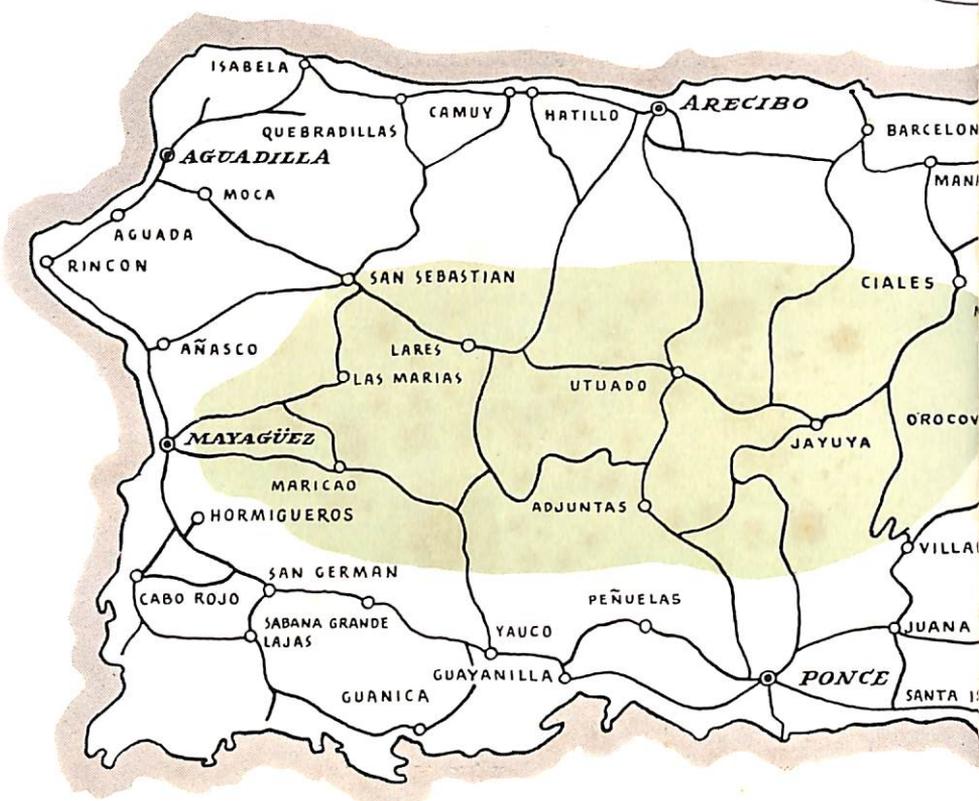
The Agricultural Extension Service of the University of Puerto Rico, cooperating with the United States Department of Agriculture is one of the most important agencies in the development of the coffee industry. Theirs is the task of disseminating the results of the research work done by the Experimental Station—to co-operate with the growers and provide them with all the scientific facts available—and even to watch the growth of their crops in order to assure an adequate yield and a high standard of quality.

The main office of the Agricultural Extension Service is located in Rio Piedras. Here the central staff of sixteen specialists work under a director and his corps of assistants. These specialists know the growers' needs, as well as the scientific achievements of the Experimental Station. They know how to apply the scientific findings to the every day practice of the growers.



In order to augment the service of the central office, 45 field offices are maintained, each under the direction of an "Agente Agricola." These offices are at the service

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SEA

of every grower in the island. Each office has its own district—so no grower is more than a few miles away from the latest scientific information—or from the co-operation of trained scientists.

The educational work of preventing soil erosion, maintaining the quality and measuring the yield is one example of the excellence of this service. The problem of terracing in Puerto Rico presented an unusual problem. Coffee trees could not be terraced in rows because of their location and the contour of the land. As a result it was necessary to terrace each individual tree—using an ingenious method taught by the Service.



PREPARATION

Coffee is prepared for the market with the same care and minute attention as it is cultivated and harvested. No detail or effort is omitted throughout the whole elaborate process, conducted under expert supervision by skilled hands in plants supplied with the best equipment to guarantee the high quality for which our beans are noted.

The preparation of beans in Puerto Rico follows the expensive and modern "wet method," which produces the so-called "washed coffee" of commerce. The dry method of preparing coffee is the oldest, and is designated as such because the beans are allowed to dry while the berries are still on the trees. The wet method requires an abundance of water, which fortunately is supplied by the many streams in Puerto Rico.

The first step in the wet process is to dump the freshly picked berries into a large receiving tank. From this tank they are carried by running water into the pulping machine where the outer skin is peeled off by rotating discs or cylinders. The beans are transferred to a concrete tank, so the mucilaginous substance covering the bean may be removed by fermentation. Twelve or fourteen hours is

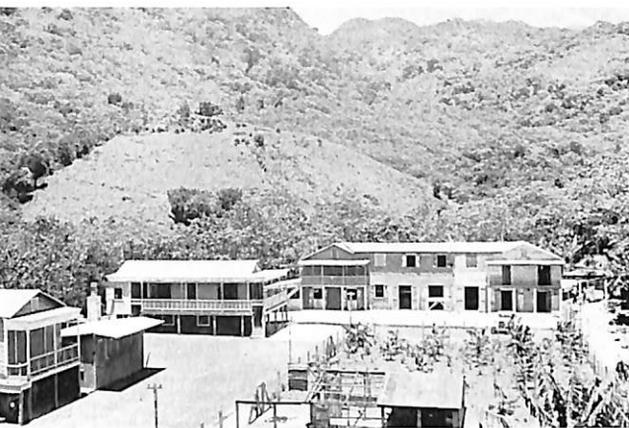
the average time needed for this fermenting process. Fermentation must be only alcoholic, not acetic—(vinegar producing)—otherwise the acid forms a parchment around the beans which hampers the milling process, and affects the essential oils. These oils are vital in producing the aroma, basic in coffee classification.

To avoid fermentation overlapping into an acetic state, great care is taken to thoroughly wash off the mucilage until no trace of it is detected on the beans.

Immediately after washing, the coffee is dried. The most common drying method practiced in Puerto Rico is the natural one—under the sun. Puerto Rico has sunshine 360 days each year—and the growers are convinced that sun drying produces a better coffee than artificial drying.

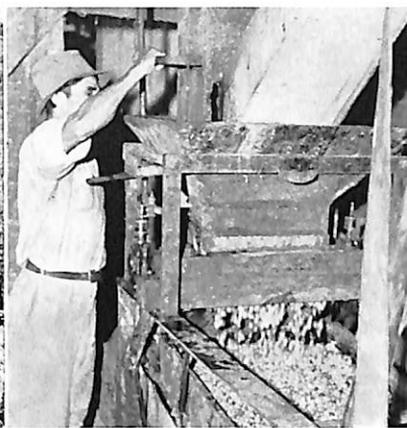
The wet coffee is thinly spread over a wide concrete surface, called the “glacis,” or upon sliding platforms which may be pushed under a roof or cover, in case of rain. On some haciendas, however, coffee is artificially dried in machines consisting of a centrifugal hollow steel cylinder fed with a current of heated air.

The drying operation, like all others in



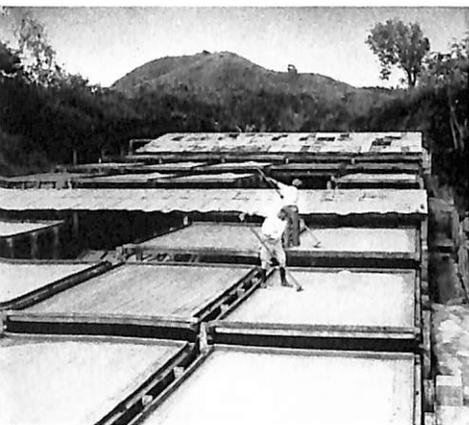
Close to the main buildings of the hacienda, the infant coffee plants are inspected daily.

The coffee is spread on large concrete "glacis" in order to be dried under the warm sun.



The pulping machine starts the coffee preparation by peeling off the outer skin of the berries.

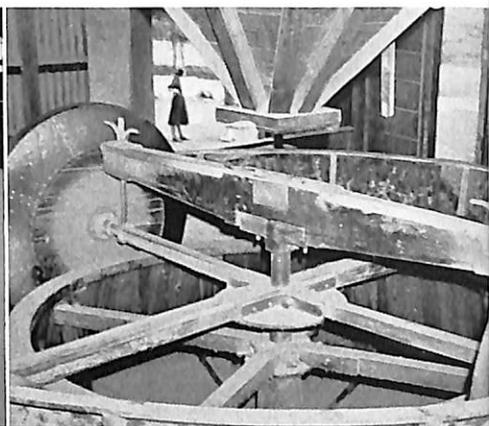
The dried coffee is inspected carefully before it is taken to the husking machine.





Mechanical driers are used during wet weather — especially where the rainfall is frequent.

Green coffee from different plantations is blended in order to obtain uniform quality.



The huller strips off the husks and imparts the gloss characteristic of Puerto Rican coffee.

Inspecting and grading is done by men who know the demands of the world's markets.

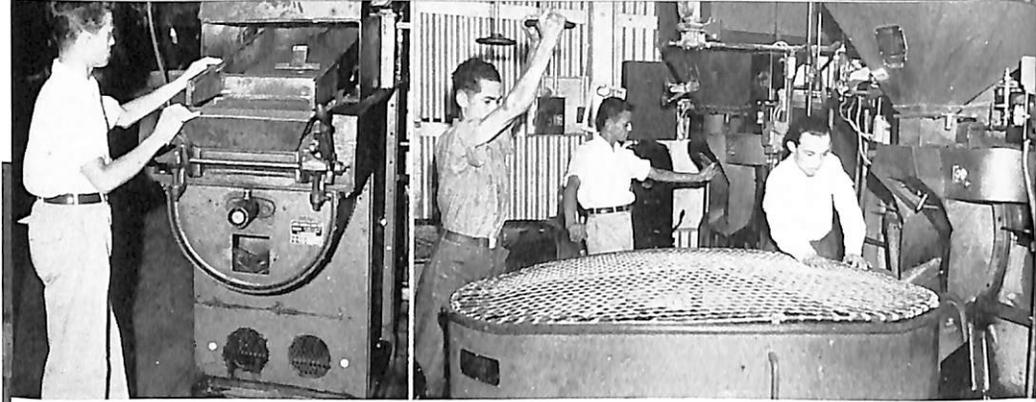


the industry, requires consummate skill and extreme care. Expert operators watch the drying beans constantly. Sharp eyes watch for the beans which turn to a distinctive greenish shade. Then these beans are removed instantly because that is the signal the thin parchment or husk is easily removable. Undried coffee is difficult to hull and polish. Its color rusts away. Over-dried beans lose bouquet, get too yellowish, and are likely to crack during the shelling operation.



The next step is hulling and polishing of the coffee beans. This is performed by the husking machine. The huller strips off the husks and imparts that beautiful gloss which distinguishes the Island's coffee beans.

Last, coffee is automatically graded according to size by special machines. The beans then are carefully sorted by skilled women who separate the finished coffee beans from remaining extraneous matter or from defective beans. Before the crop is finally ready for the market, beans from different zones of the Island are harmoniously blended, to make certain that the coffee in every sack is of a uniform type.



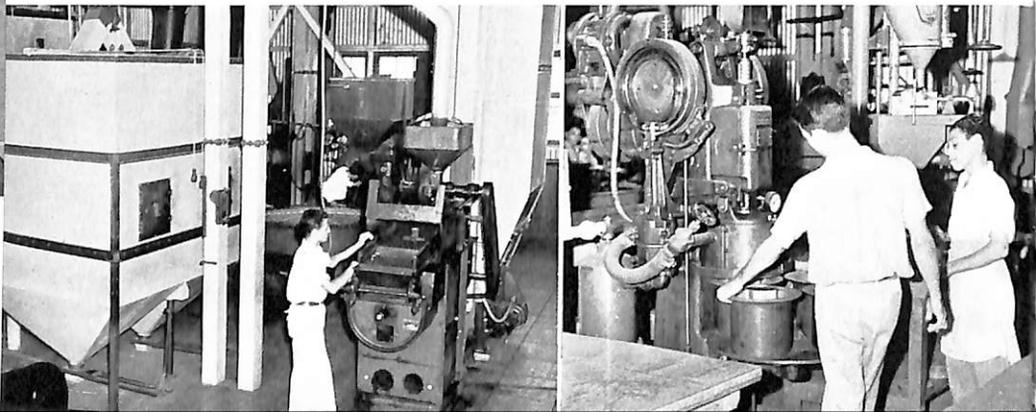
The most modern methods are used to roast and grind coffee.

Roasted coffee is cooled scientifically before it is sent to the grinders.

In Puerto Rico, many plantations are small and yield only a few hundred pounds of coffee each season. Obviously, this small quantity is not sufficient to be sold in the export markets. It must be blended with coffees from other plantations on the Island. These coffees come from the highlands, the midlands and the lowlands. This blending is done with consumate care. Men who are familiar with the products of every planta-

Coffee is roasted, ground and packed, untouched by human hands.

Puerto Rican coffee is packed in "vacuum cans".





Puerto Rican coffee is exported all over the world.



The warehouse of the growers cooperative—Cafeteros de Puerto Rico.

tion oversee each operation. As a result, Puerto Rican coffee is uniform. The characteristics of all the Island's coffees are found in every cup.

Puerto Rican coffee belongs to the mild washed commercial type. Its beans are large, uniform, and stylish, ranging from a light gray blue to a dark green blue color, and make a fancy roast without quakers.

A corner in the factory where "Cafe Rico" is packed for local use.



Green coffee is taken from the warehouses to the ships.





In the Experimental Station, experiments are constantly conducted in order to improve Puerto Rican coffee. Here a nutritional experiment is seen — using water cultures with air supplied artificially.

Here an ingenious frame provides different degrees of sunlight so the effect of intensities upon growth and yield may be studied.



CHARACTERISTICS

The oft-repeated statement "in all the world, no other coffee like this," is no idle boast by the growers of Puerto Rico. It is a well established fact that Puerto Rican coffee has a unique flavor which is not duplicated by any other coffee in the world.



Like practically all the coffee grown in the Antilles, Puerto Rican coffee is descended from the one plant which M. de Clieu brought to Martinique in 1720. But vast changes have been made during the past two centuries. Years of scientific research, centuries of careful cultivation, and a climate unlike that of even its close neighbors, all have combined to change the characteristics of the original coffee and to create a product without a duplicate.

The island of Puerto Rico lies definitely within the tropics (latitude 17:54 and 18:30 N—longitude 64:35 and 67:15 W). The climate, however, is not tropical. The island lies directly in the path of the constant trade winds which temper the heat of the tropical sun and make an ideal climate.

The average daily maximum temperature as taken from the U. S. Weather Bureau records for 39 years, is 86.0 degrees F., and the average daily minimum temperature for the same period is 66.9 degrees F. The mean monthly temperatures vary from 73.2 degrees, in January and February, to 79.0 degrees in August; while the mean annual temperature is 76.5 degrees F. The highest mean maximum temperature, 88.3 degrees occurs in August, and the lowest mean minimum temperature, 63.0 degrees is recorded in February.



There is no clearly defined rainy season in Puerto Rico. Rainfall is fairly well distributed through the twelve months of the year, with the heaviest downfall taking place from May to December. Rainfall varies greatly in different localities. The heaviest rainfall is in the mountainous areas of the northeastern and southwestern parts of the Island, where recordings of 100 to 200 inches are made. The rainfall decreases toward the north and south coasts, from 55 to 75 inches per year occurring on the north coast, and from 29 to 52 in. per year on the south coast.

Average maximum and minimum temperatures, mean monthly temperatures, and mean monthly precipitation for a period of 39 years, in Fahrenheit and inches are as follows:

<i>Month</i>	<i>Average Maximum Temperature</i>	<i>Average Minimum Temperature</i>	<i>Mean Temperature</i>	<i>Mean Monthly Precipitations</i>
January	82.9	63.5	73.2	3.72
February	83.5	63.0	73.2	2.91
March	84.3	63.5	73.9	3.28
April	85.4	65.3	75.4	4.42
May	86.5	67.9	77.2	7.28
June	87.5	69.2	78.4	6.21
July	87.9	69.6	78.8	6.23
August	88.3	69.8	79.0	7.53
September	88.2	69.5	78.8	5.94
October	87.6	68.8	78.2	7.97
November	86.0	67.5	76.8	7.16
December	84.0	65.1	74.6	4.57

Obviously this climate is radically different than that in the average coffee growing country. The extremely high temperatures and the high humidities of the mainland tropics are unknown. So, too, are the hot, dry winds from the desert. The "trade winds" which carried the Spanish Galleons to the Spanish Main are refreshed and cleaned by the ocean—and are laden with life-giving moisture. If there were no other contributing factors, Puerto Rican climate alone would have changed the characteristics of the original coffee of M. de Clieu.



This Puerto Rican coffee tree was grown at the Experimental Station under one-third sunlight and two thirds shade.



This coffee tree was pruned according to the Guatemala system.



This young coffee bush was pruned according to the Costa Rican method.



Extensive experiments in grafting are conducted in the nursery of the Puerto Rican Experimental Station.

But science, too, has played its role. In the early days of coffee culture on the Island, the Spanish government encouraged intensive cultivation and careful study of the coffee plants. The efforts, of course, were crude when compared with our present day standards. Nevertheless, marked progress was made and in the days when coffee was an infant industry on the mainland, the Puerto Rican product was known throughout the entire civilized world because of its superior flavor.



Shortly after Puerto Rico became a part of the United States, the Federal Government co-operating with the Insular Government undertook a scientific study of coffee culture which transcended everything which had been done before. The aim was to produce a coffee which could not be surpassed anywhere in the world. The soil, fertilizers, the climate, the production—and above all, the flavor of the resulting product were studied year after year. The result is Puerto Rican coffee as it is known today.

“In all the world”—no other coffee can boast of such uniform quality. Of course, the coffee varies by season, by plantation and by age. But Puerto Rican coffee as it is exported today—blended from highlands, midlands and lowlands—is outstandingly uniform and its distinctive flavor dominates any blend into which it is incorporated in any quantity. It imparts a flavor which is unmistakable and one which cannot be duplicated by any other coffee or combination of coffees.

Many roasters in Continental U.S.A. are now experimenting with Puerto Rican coffee. With supplies from some parts of the world shut off, the unique flavor of the Island’s product is winning scores of new friends.

Letters from two experts are shown on the following pages.



ALBERT C. ABORN
EDWARD ABORN

ARNOLD & ABORN
ESTABLISHED 1878
GREEN AND ROASTED COFFEES
TEAM
243-245 PEARL STREET
NEW YORK

CALL ADDRESS
ABORNOLD

November 6th, 1941

Department of Agriculture & Commerce
Government of Puerto Rico
1457 Broadway, New York City

Gentlemen:

I have examined and tested the sample of
Puerto Rican Coffee you submitted to us, and find it to be
good in grade and clean solid bean.

In the cup the coffee is perfectly sweet and
has considerable bouquet, with a fairly heavy liquor,
which, in our opinion makes it ideal for blending purposes
in high grade brands.

Very truly yours,

ARNOLD & ABORN

Edward Aborn
Edward Aborn

EA:MG



CABLE ADDRESS:
BALZACBRO
PHONE:
BOWLING GREEN 8-10574

BALZAC BROS. & COMPANY, INC.
COFFEE
86 WALL STREET
NEW YORK

COLOMBIAN
COFFEES
& SPECIALTY

October 20, 1941

Mr. Eduardo Gonzalez
Agency of the Department of
Agriculture and Commerce of the
Government of Puerto Rico
1457 Broadway
New York City

Dear Mr. Gonzalez:

We are pleased to tell you that many new roasters are now using Puerto Rican coffee in their blends. American coffee roasters are the most progressive and open-minded in the world. Hence their constant experimenting in the blending of coffees.

Puerto Rican coffee will add flavor to any high grade blend. Some coffees are picked out for body, some for acid, some for flavor and aroma. It is for its flavor and aroma that Puerto Rican coffee is particularly prized in coffee blends.

Roasters both here in the city and throughout the country are using Puerto Rican coffee in their blends with highly satisfactory results.

Very sincerely yours

BALZAC BROS. & COMPANY, INC.
[Handwritten Signature]

rpb:r

CHEMISTRY

The seeds of all flowering plants are intricate in structure and extremely complex from a chemical standpoint. The coffee bean is no exception. In spite of the fact that research work has been carried on for centuries—and many world famous chemists have given it much of their time and thought—there are still many chemical substances in the coffee bean which remain unidentified.

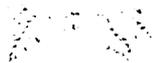
In common with other seeds, the coffee bean is partly inorganic and partly organic. The latter division is infinitely larger. Both vary with soil, climatic conditions and other factors.



In general, the broad composition of the Puerto Rican coffee bean may be represented as shown by the analysis on page 54. This analysis, made by the laboratories of Dr. Foster D. Snell, aims to give only the great groups of substances which enter into the composition of the bean. Each of these units can be analyzed still further and much of

modern research has been conducted along these lines. The results of this general analysis is given here in order to show the relationship of Puerto Rican coffee to its contemporaries.

The organic composition of all coffee is exceedingly complex and contains constituents from many groups—fats, oils, waxes, proteins, carbohydrates, and others. Probably the most characteristic is the active principle caffeine, or trimethyl xanthin.



The actual knowledge of the chemistry of the coffee bean, however, is fragmentary in spite of all the work which has been done upon it. No doubt this is due to a variety of reasons. Climate, soil and cultivation have a direct bearing on the chemical composition of the bean. It will vary not only by country but even by plantation. The character of the fertilizer used and the method of cultivation are both important factors.

The various terms used in the industry to describe the taste of coffees are somewhat inaccurate from a scientific standpoint. The terms "acid" and "sweet" are examples.

FOSTER D. SNELL, INC.
205 WASHINGTON STREET BOSTON 10, MASS.
CONSULTING CHEMISTS
ENGINEERS

November 13, 1941

The Department of Agriculture and Commerce,
Government of Puerto Rico

Report to :
Sample of :
Submitted by :
Sample Number
Marking
Sampled by :

Roasted Coffee
Mr. E. R. Gonzalez
985-1
Puerto Rican
Client

Quantitative Data:

Moisture -----	3.12%
Oil (Petroleum ether extract)-----	13.36%
Caffeine -----	1.29%
Crude Fiber -----	16.82%
Nitrogenous matter (Protein)-----	15.18%

Respectfully submitted,

Frank W. Biffen

GCL:FWR:DAB

Extensive tests have been made to determine the acidity of coffee. All show that it is only very weakly acidic—considerably less than could be detected by taste. Similarly, coffee analysis show only slight traces of members of the carbohydrate group which might contribute the “sweet” taste of sugar. The terms, used over a period of many years, are used only to describe characteristic flavors and should not be confused with their use in science.

Which chemical constituents of Puerto Rican coffee give it the unique flavor is a controversial subject. Almost innumerable theories have been advanced ever since coffee became a major industry on the Island. Certain compounds have been isolated which undoubtedly contribute much to the taste. The nature and variety of these compounds, however, proves that no single compound is solely responsible for the flavor of Puerto Rican coffee.

Furthermore, there are many reasons to believe several other compounds exist which have not yet been isolated. They too probably contribute considerably to the flavor.

Research work is continuing and the results from a chemical standpoint are of great

academic interest. To coffee men and the consumers, however, the achievement of outstanding interest is the progress which has been made to assure that the unique flavor will be preserved in all future crops.

This seemingly is assured. The Experimental Station of the University of Puerto Rico, the Agricultural Extension Service co-operating with the United States Department of Agriculture and the Insular Department of Agriculture and Commerce have been working in close co-operation for many years. They are in constant touch with every plantation and are cognizant of the problems of every grower. His crops are analyzed year after year and "controlled" by the most scientific methods.



At the experimental station, tests are being made constantly on the "coffees of tomorrow." Here coffee is grown under a vast variety of conditions and a careful study made of each result. In every case the flavor is considered of primary importance. Thus is the work carried out to preserve the unique flavor of Puerto Rican Coffee for all the world to enjoy.

SELLING

Inasmuch as coffee is grown on thousands of plantations in Puerto Rico, central buying and selling agencies are a necessity. They, too, have changed radically since the days when Europe was the largest purchaser of Puerto Rican coffee. Today the export coffee merchants of Puerto Rico are among the most progressive in the industry. They demand high standards of quality. They are constantly seeking new markets—and constantly working in close collaboration with the growers.



The usual methods employed by these export merchants are not radically different than those used in other coffee growing countries. The coffee grower loads his coffee in the interior and deposits the bill of lading with his bank. A draft is then drawn on the consignee who, in turn, pays the draft and receives the bill of lading. He then removes the coffee to his own warehouses.

The same method of operation is fol-

lowed by the growers' own "co-operative," Cafeteros de Puerto Rico. This institution is entirely owned by a group of growers and is operated from a main office located in Ponce. It acts as export agent, wholesaler to the local market, roaster and packer. Its equipment is among the finest and newest in the world—and the organization is thoroughly progressive in every sense of the word.



There are four principal Puerto Rican ports from which coffee is exported, i.e., San Juan on the north coast, Ponce on the south, Mayagüez and Aguadilla on the west coast. All these ports have the latest storage and loading facilities and accommodate deep draft vessels from all over the world. They all are served by ships in regular services to east coast, gulf and west coast ports in addition to vessels chartered for special tasks.

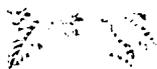
Operating in close co-operation with both the growers and the export merchants (including the "co-operatives") the Puerto Rican Coffee Price Stabilizing Corporation exerts a powerful influence on the industry.



An airplane view of San Juan and its harbor—the “rich port” of old Spain and one of the island’s coffee ports.

This corporation is an agency of the Government of Puerto Rico, established in 1940 by the Insular Legislature.

In accordance with the act, that corporation shall "have power to withdraw from the Puerto Rican market, by itself or in cooperation with the Department of Agriculture of the United States, the Reconstruction Finance Corporation, or any other Federal credit agency, any amount of raw coffee produced in excess of that necessary for the probable consumption of the Island; to purchase and sell coffee corresponding to the consumption quota and to the surplus, and to process, prepare, and handle coffee."



With this authority, it is obvious the Corporation is a tremendously important factor in the business of exporting coffee. Up to the present time its accomplishments have been particularly obvious in two ways. First, it has succeeded in standardizing the quality of Puerto Rican coffee offered for export sale. Second, it has secured a regular source of supply for several continental roasters who have incorporated Puerto Rican coffee into their blends.

Through the combination of the various activities of the Corporation, the Department of Agriculture and Commerce and the various export merchants, the Puerto Rican coffee industry has become more stable than it has been for many years. The demand for the product has increased steadily. The purchasers have been well pleased with both the product and the service—and the consumer has become aware of the unique flavor which only Puerto Rican coffee can impart to a blend.



The exporters of Puerto Rican coffee serve both the growers on the Island and the importers in Continental U.S.A. Many have offices or representatives on the mainland and all have an abundance of information which may be useful to interested roasters.

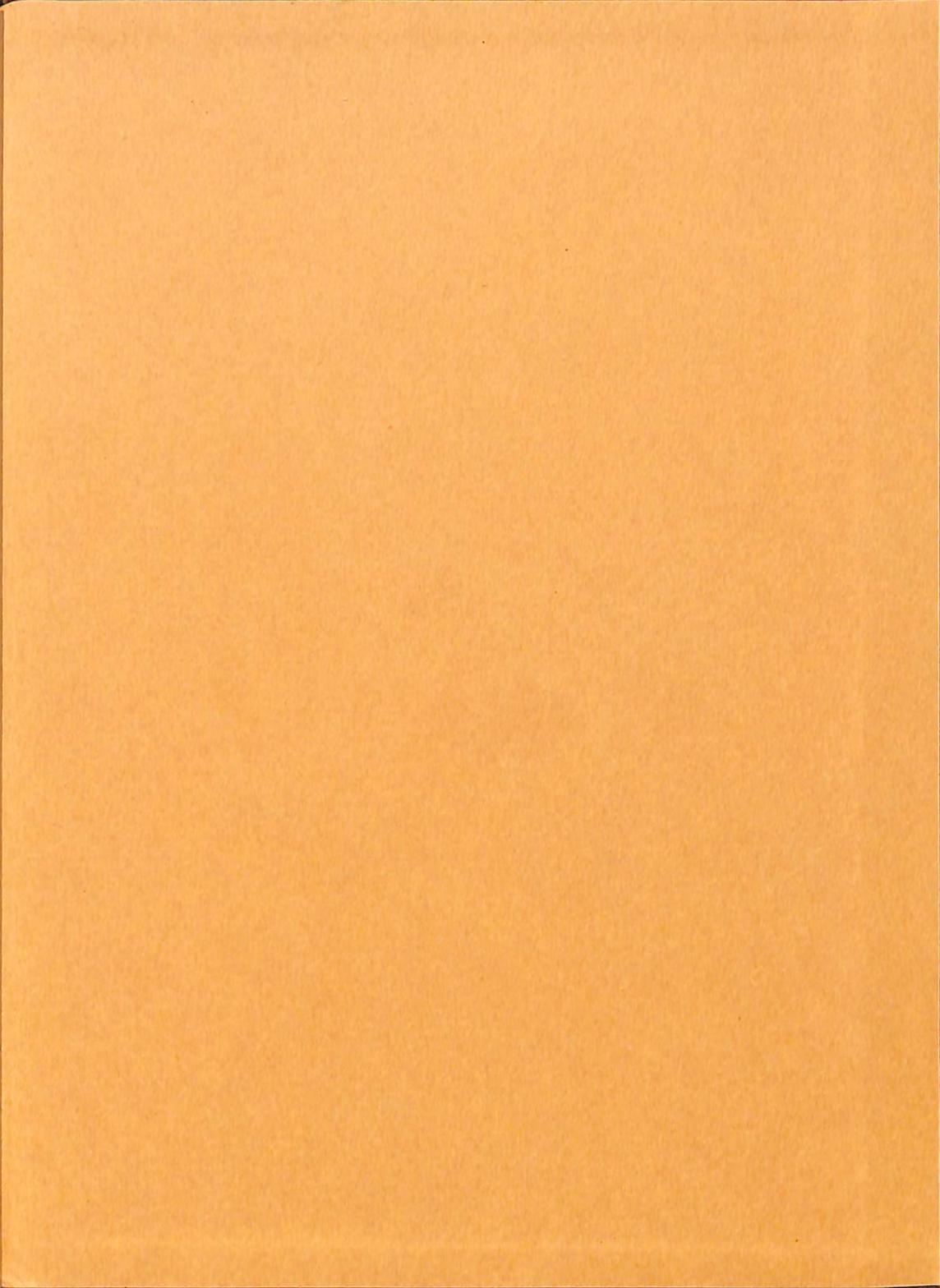
A list of these export merchants, with their addresses, appears on the following page.

EXPORTERS OF PUERTO RICAN COFFEE

Alcover & Cía.	<i>Box 47, Lares, P. R.</i>
Arias & Sobrino, Sucrs.	<i>Box 16, Adjuntas, P. R.</i>
Betancourt, Ricardo	<i>Loíza 205, Santurce, P. R.</i>
Cabrero, M. J. & S. Sucrs.	<i>Box 78, San Sebastián, P. R.</i>
Cacho & Cía., R.	<i>Box 116, Manatí, P. R.</i>
Cafeteros de Puerto Rico	<i>Box 1511, Ponce, P. R.</i>
Carrera & Hno. Inc. F.	<i>Box 1, Marina Station, Mayagüez, P. R.</i>
Cooperativa Cialeña de Productores de Café, Inc.	<i>Ciales, P. R.</i>
Cooperativa de Cosecheros de Café de Puerto Rico Box 187, Playa-Ponce, P. R.	
Esmoris & Cía. Sucrs. de Box C, Marina Station, Mayagüez, P. R.	
Franco & Cía., Sucrs. E. Box B, Marina Station, Mayagüez, P. R.	
Jiménez & Fernández, Sucrs.	<i>Box 965, San Juan, P. R.</i>
Laurnaga & Cía.	<i>Box 237, San Sebastián, P. R.</i>
Llinás & Cía. G., S. en C.	<i>Yauco, P. R.</i>
Marqués & Cía., S. en C.	<i>Box 668, Arecibo, P. R.</i>
Martínez Sánchez & Co., S. en C.	<i>Box 531, Ponce, P. R.</i>
P. R. Coffee Price Stabilizing Corporation Depto. Agricultura y Comercio, Santurce, P. R.	
Pou Joaquín	<i>Comercio No. 18, Ponce, P. R.</i>
Ramos & Suárez, Sucrs.	<i>Box 185, Mayagüez, P. R.</i>
Recondo & Camacho	<i>Tetuan 32, San Juan, P. R.</i>
Sanders & Co., Geo.	<i>Comercio No. 7, Aguadilla, P. R.</i>
Trabal, Rafael	<i>Balboa No. 34, Mayagüez, P. R.</i>







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