



PLANT IMMIGRANTS.

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	Page		Page
Achradelpha	1345	Elaeis	1347
Achras	1346	Eleusine	1347
Alectryon	1346	Lawsonia	1347
Amygdalus 1346,	1350	Murraya	1347
Attalea	1346	Pistacia	1350
Bambos	1348	Prunus	1350
Brassica	1349	Zea	1348
Cydonia	1349	Ziziphus	1349
Dovyalis	1350		

Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue, entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

March 10, 1919.

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Achradelpha mammosa (Sapotaceae), 46236. **Mamey sapote.** From Panama, Republic of Panama. Presented by Mr. Ramon Arias-Feraud. "The most important member of the genus is without doubt the **mamey sapote**, a common fruit in Cuba, and not infrequently seen on the Central American mainland. It is said to prefer a deep, rich soil and a rainfall of about 70 inches per annum. The fruit is commonly elliptical, and about 6 inches in length. Within the thick woody skin, somewhat rough and rusty brown on the surface, is the soft melting flesh, of a beautiful reddish salmon color, and of about the same consistency as a ripe canteloupe. The large elliptical seed can be lifted out of the fruit as easily as that of an avocado; it is hard, brown, and shiny, except on the ventral surface which is whitish and somewhat rough. To one unaccustomed to tropical fruits, the flavor of the **mamey sapote** is at first somewhat cloying because of its utter lack of acidity; when made into a sherbet, however, as is done in Havana, it is delicious and sure to be relished at first trial. Although natives of tropical countries commonly eat the fruit while fresh, it is also made into marmalade, or used as a 'filler' in making guava cheese. The Cubans prepare from it a thick jam, known as 'crema de mamey colorado,' which is delicious. The fruits are picked when mature and laid away in a cool place to ripen, which takes about a week. If shipped as soon as picked from the tree they can be sent to northern markets without difficulty, and are occasionally exported from Cuba and Mexico to the United States. The season of ripening is during the summer; in Costa Rica the tree is said to lose its foliage in the dry season, flowering at the same time. The seed contains a large oily kernel which has a strong smell and a bitter taste. According to Pittier, it is used in Costa Rica, after being finely ground, to prepare an exquisite confection; the same authority states that it is sometimes used by the Indians, after being boiled, roasted and ground, to mix with cacao, imparting a bitter taste to the beverage. The foliage of the **mamey sapote** resembles that of the loquat (*Eriobotrya japonica*), except in its lighter color and entire margins. Propagation is by seed, young trees coming into bearing at the age of 5 to 7 years. Before planting it is well to remove the hard outer husk from the seed; it is then easily germinated by planting in light sandy loam, barely covering it with soil." (Bailey, Standard Cyclopedia of Horticulture, vol. 4, p. 1919.)

Achras zapota (Sapotaceae), 46237. Sapodilla. From Panama, Republic of Panama. Presented by Mr. Ramon Arias-Feraud. The sapodilla, native of Central America and the West Indies, is a tree 25 to 30 feet high with thick, leathery, shiny leaves. It bears two crops of fruit annually, in August and February. Gum and tannin are quite abundant in the green fruit. When ripe, the fruit contains a brown, juicy, luscious pulp surrounding the black seeds. The sapodilla thrives up to an altitude of 3,000 feet; in Florida as far north as Palm Beach. The tree is propagated by seed or by grafting, and makes a very slow growth. The latex of this tree is the source of chicle, which is used in the manufacture of chewing gum. The fruit varies greatly in size and flavor. It appears on the markets of Florida and other Gulf States, and occasionally in Washington and New York markets. (Adapted from Wilcox, Tropical Agriculture, p. 136.)

Alectryon subcinereum (Sapindaceae), 46299. From Nice, France. Presented by Mr. A. Robertson-Proschowsky. "Seeds from a young tree in my garden. It is the first time this species has flowered. The seeds are surrounded by a juicy, red-colored aril which is edible, and of a pleasant, sweet taste, only it is very small. It is rather ornamental like so many tropical evergreens, and absolutely hardy here. It may, as I expressed in my foregoing letter, serve eventually as stock on which to graft the longan, or the litchi." (Proschowsky.)

Amygdalus persica (Amygdalaceae), 46239. Peach. From Pretoria, Union of South Africa. Presented by Mr. I. B. Pole Evans, Chief, Division of Botany, Department of Agriculture. "Transvaal yellow. This variety is one of the hardiest we have in this country and the most immune to the more common fungous pests of the peach." (Evans.)

Attalea sp. (Phoenicaceae), 46300. Coquito. From Mexico City, Mexico. Presented by Mr. A. L. Herrera. "An undescribed species, closely related to the Cohune, or Corozo, palm (*Attalea cohune*) of the Caribbean coast region of Central America; it differs from the Cohune palm in the smaller and more rounded fruits and the thinner and more brittle shell of the seed. The seed contains a single kernel, smaller than that of the Cohune. The kernels contain a high percentage of oil,

said to be the equal of coconut oil and suitable for the manufacture of similar products. The palm is said to grow in great abundance in the vicinity of Mazatlan, Sinoloa, Mexico. The kernels are exported in considerable quantities from Mazatlan to Pacific ports of the United States for oil extractions." (C. B. Doyle.)

Elaeis guineensis (Phoenicaceae), 46297. **Palm.** From Buitenzorg, Java. Presented by the Chief of the Division of Plant Breeding, Department of Agriculture. "We received this variety from the Belgian Congo in 1914 under the name of **Nsombo B.** The imported seeds were taken from one seed bearer. The plants raised from these seeds were planted out in May, 1915, on a rubber estate, where no other oil palms were near so that they could only fertilize each other. They are now commencing to bear fruit. We can not yet determine the value of the new variety from a commercial point of view." (I. Boldingh.)

Eleusine coracana (Poaceae), 46295. **Ragi millet.** From Beira, Mozambique. Presented by Mr. Wm. Humphreys, Acting Director of Agriculture. "Ragi millet is the only variety grown in this territory. It is grown only by natives for food purposes and, with the exception of pearl millet (*Pennisetum glaucum*), is practically the only millet grown here." (Humphreys.)

Lawsonia inermis (Lythraceae), 46241. From Nice, France. Presented by Dr. A. Robertson Proschowsky. An interesting shrub commonly known as Henna Camphire, Cypress shrub or Egyptian Privet, grown throughout India, Persia, Syria, and northern Africa where its powdered leaves are used as a hair dye and as a cosmetic. It imparts a reddish orange color. Plants attain a height of 8 or 10 feet, and bear smooth, oval or lance-shaped, entire leaves, and panicles of small, white, sweetly scented flowers which are used in perfumery. This species is reported as being a very useful and ornamental hedge plant. (Adapted from Watt, Economic Products of India.)

Murraya caloxylon (Rutaceae), 46294. **Katinga.** From Manila, Philippine Islands. Presented by Mr. E. D. Merrill, Bureau of Science, Manila. "A short time ago I received two fruits of this species from Mr. Burkill in Singapore. I am sending you seeds from one of these fruits and I trust that they may reach you

in a viable condition." (Merrill.) A medium-sized tree, with pale flaky bark, native of Siam. The compound leaves are made up of 13 oblanceolate leaflets on a winged rachis. The pale yellowish green flowers are followed by yellow, citron-like fruits, 4 inches in diameter, with a thick skin and green, tasteless flesh. The tree is known as the *katinga*, and is famous in the Malay region for its beautiful wood which is of a light yellow color with dark brown streaks. It is fairly hard and takes a good polish. (Adapted from the Journal of the Straits Branch, Royal Asiatic Society, vol. 50, p. 113.)

Zea mays (Poaceae), 46282 to 46293. Corn. From Panama. Presented by Mr. A. H. Verrill. "While in the unexplored portion of Darien district in Panama, I found the 'wild' Indians of the 'forbidden' country raising a number of interesting varieties of corn. These are all 'fixed' among the Indians and come true to seed; several are used as sweet corn. These Indians consider corn sacred, and use great care in keeping the various kinds separate." (Verrill.)

Notes on Behavior of Previous Introductions.

Mr. H. Nehrling reports the following in a letter dated December 24, 1918: "*Bambos tulda* has again made a fine dense growth, but the culms are only about half the usual size. They are, however, very dense and vigorous, and if we do not have another killing freeze this winter the clumps will be in perfect condition again next season. I measured my tallest culm (that froze down early in 1917) a few days ago and found that it was 67 ft. 2 in. tall from bottom to tip - an immense size. The next tallest measured 55 ft. 4 in. I have cut them up and am using them in place of laths on my lath-houses. As they are perfectly straight, they serve the purpose well. This species is such a useful plant, and so extremely beautiful, that it should be planted extensively all over south Florida. In central Florida, and in other places where the orange tree grows well, it should be made use of as an ornamental. It is the most luxuriant and imposing of all my bamboos. It grows exceedingly well on high and dry pineland, scarcely needing any care. With good care it grows more vigorously than any other species. Some good commercial fertilizer, rich in ammonia and phosphoric acid, should be applied annually, and potash

is necessary to give the culms the necessary hardness and consistency, so that they can be used for manufacturing purposes. Stable manure applied as a mulch is also very beneficial. I am very much interested in this most beautiful and valuable economic species, and if I could get a few additional small plants for my Naples place I would be very much obliged to you. *B. tulda* evidently does not grow well on moist land. In drained, flat-wood soil it grows very well indeed. You are doing well in disseminating this bamboo widely over south Florida, and I hope that it soon will be found in all the gardens and parks of this region."

In a letter dated Dec. 17, 1918, Forest E. Grow, of Eagle Rock, California, reports: "*Ziziphus jujuba*, S. P. I. No. 17752, planted Feb. 1, 1916. The fruits were uniformly larger this year, and the tree bore a heavy crop, which was all dried and stored away for winter use. *Z. jujuba*, S. P. I. No. 30488, planted Feb. 15, 1917, produced about 125 fruits this season. The fruits are of medium size. When processed they have a very rich flavor and fine texture; they dry perfectly. *Z. jujuba*, S. P. I. No. 22686, planted Mar. 5, 1918, produced about 85 fruits. They dry perfectly. When processed, they are of large size, and have a good flavor and texture but not equal to those of S. P. I. No. 30488. All of the jujube fruits we found useful and delicious prepared as follows: processed fruits - similar to dates; syrup - superior in flavor and color to maple syrup; paste - excellent; stewed - after the fruits have been peeled; baked in bread - the fruits being previously peeled and stewed - superior to raisin bread.

Cydonia oblonga S. P. I. No. 33214, Quince, planted Feb. 1, 1916, the tree produced its first crop, of 145 fruits, this fall. Two types or shapes were noticeable: one round, the other oblong, of medium size. All who sampled this fruit spoke of the following qualities: smooth surface (easily prepared for use); mellowness (cooks tender like an apple); freedom from usual grittiness; mild, pleasant flavor; good keeping qualities (five fruits in perfect condition, Dec. 17, 1918)."

"Mr. J. R. Lawrence, North Leverett, Mass., writes as follows, Dec. 16, 1918: "*Brassica pekinensis*, S. P. I. No. 44292. *Pai ts'ai*. Planted August 7, it was harvested from September 12, up to the last of October. The heads are large and loose, like loose lettuce, weighing

from 5 to 8 pounds. It is much more delicate in flavor than common cabbage and is delicious when cooked with a 'boiled dinner.' The midrib, when cooked like the rib of Swiss chard or, like asparagus, with cream sauce, is also fine. It should find a ready sale in the markets as a new and pleasing vegetable. Pulled and hung up by the roots, it keeps well in a cool cellar."

A letter from G. T. Bosky, Nov. 3, 1918, contains the following report: "*Dovyalis caffra* (Kei-apple) S. P. I. No. 34250, that you sent me about four years ago, fruited last July. It is a very good fruit for jams or jellies. The plant will grow in any garden or yard, not requiring any cultivation at all; it will stand hot sun without any sign of needing care. I am glad to recommend it for this country, from southern California to San Francisco."

Mrs. O. T. Kelton, McDade, Texas, in a letter dated November 3, 1918, reports: "*Prunus sp.*, S. P. I. No. 31652. This tree is very thrifty and fruited this year. It is a very abundant bearer and the fruit is the finest ever seen growing in this county. It began to ripen May 15, and continued until about the first of June."

R. Bates, of Jackson, S. C., wrote as follows, January 1, 1919: "The two Chinese pistaches (*Pistacia chinensis*, S. P. I. No. 42823) which you mailed me last March, are thriving and seem to be well adapted to this region. S. P. I. No. 33224, *Prunus domestica* (Plum, variety *Ciruela de Fraile*) is the most vigorous plum of this species that I have ever tested from any source. It is nothing to get trees 6 to 8 feet high from a root graft in a single season. The tree seems perfectly hardy with healthy foliage during the whole summer, and disease-resistant bark. S. P. I. No. 33219, *Amygdalus persica* (Vainqueur peach) is growing fine and is well set with fruit buds."

United States Department of Agriculture.
Bureau of Plant Industry.
Office of Foreign Seed and Plant Introduction.
Washington, D. C.

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