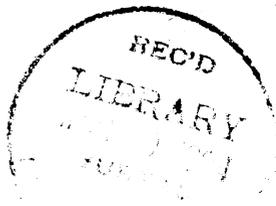


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PLANT IMMIGRANTS

No. 209

September, 1923

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Foreign Seed and Plant Introduction

EXPLANATORY NOTE

This circular is made up principally of notes received from agricultural explorers, foreign collaborators, and correspondents, concerning the more important plants which have been received recently by the Office of Foreign Seed and Plant Introduction. It also contains reports on the behavior of plants which have been introduced in previous years.

Descriptions appearing here are revised and later published in the Inventory of Seeds and Plants Imported,-- the permanent record of plant introductions made by this Office.

Plant Immigrants should be considered merely an ANNOUNCEMENT OF THE ARRIVAL OF PLANT MATERIAL. As a rule all material is propagated before being distributed; this may require several years.

The Annual Catalogue of New Plant Introductions describes briefly the plants available for distribution. Application for seeds or plants listed in Plant Immigrants may be sent at any time, however, and will be filed in the order of their receipt. When material is ready for distribution, these requests will be given first attention; if their number is sufficient to exhaust the available supply of a given species, it will not be included in the Annual Catalogue.

Plant breeders and experimenters who desire plants not available in this country are invited to correspond with this Office which will endeavor to secure the required material through its agricultural explorers, foreign collaborators, or correspondents.

DAVID FAIRCHILD
Agricultural Explorer in Charge,
Office of Foreign Seed and Plant Introduction.

Issued October 12, 1923. Washington, D. C.

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AMYGDALUS PERSICA (Amygdalaceae), 57686 to 57692. **Peach.** From Santiago, Chile. Trees presented by Salvador Izquierdo. Quoted notes by Sr. Izquierdo, unless otherwise stated.

"These are my best canning varieties."

57686. "'Selection No. 1.' A variety originated at Sr. Izquierdo's nursery, Santa Ines. It is described as a large white cling, round in form, very sweet, and of pleasant flavor. It ripens there in February, and is considered excellent both for table use and for preserving." (Wilson Popenoe.)

57687. "'Selection No. 2.' A variety originated very recently at Sr. Izquierdo's nursery, Santa Ines, and not yet named. It is a cling, of somewhat elliptical form with a sharp point at the apex, white fleshed, and weighing up to 450 grams (about a pound). It ripens in February at Santa Ines, and is considered to be a promising new sort." (Wilson Popenoe.)

57688. "No. 273. 'Aurora.' An excellent variety maturing in March at Santa Ines. It is good for table use and suitable for commercial purposes."

57689. "No. 518. 'Pomona Mejorada' ('Improved Pomona'). Flesh yellow, sweet and juicy. A vigorous and hardy variety."

57690. "No. 520. 'Reina Elena.' Famous for its fine sweet flavor, yellow color and perfect form; keeps well for a long time, and is especially good for shipping."

57691. "No. 520-b. 'Rey Alberto.' Large, red skinned, yellow fleshed, sweet and juicy, with the pit not colored, maturing early in April. An excellent variety for preserving."

57692. "No. 522. 'Trasparente de Conservas.' The first white peach to ripen. Flesh white, very transparent, pit not colored, especially fragrant; excellent for preserving. Resistant to disease."

ANNONA CHERIMOLA (Annonaceae), 57799. **Cherimoya.** From Brisbane, Queensland. Trees presented by A. H. Benson, Director of Fruit Culture. "'Pink's Mammoth.' Our best variety, raised from seed imported from Central America many years ago. It is of superb quality and large size, frequently weighing 5 or 6 pounds or more, and contains only 5 or 6 seeds, most of which are infertile. It is the finest of the family which I have seen in any part of the world." (Benson.)

"It seems strange that there should exist in Queensland, where the cherimoya has been cultivated during a relatively short period, better varieties than can be found in tropical America where the species has been grown for centuries. Perhaps such varieties do not actually exist; but accounts which come from that quarter of the world indicate that the best cherimoyas of Queensland, such as, for example, the variety Pink's Mammoth, are superior to those which have thus far been introduced into the United States from tropical America."

"The late Leslie Gordon Corrie purchased land near Miami, Florida, and started a plantation of cherimoyas, using trees which he sent from his home in Queensland. And Albert F. Benson, of Brisbane, who first called our attention to Pink's Mammoth, describes it as a very superior fruit. It seems worth while, therefore, to test this and other Australian varieties in southern California, where experience has shown that commercial cherimoya culture is practicable, provided varieties can be secured which will bear enough fruit to pay their board. In former years there were two or three small plantations at Hollywood, near Los Angeles, but the trees usually failed to carry enough fruit to make their culture profitable, and they were finally cut down." (Wilson Popenoe.)

ARTOCARPUS COMMUNIS (Moraceae), 57771. **Breadfruit.** From Summit, Canal Zone. Plants presented by Holger Johansen, agronomist, Introduction Garden. "The jackfruit (*Artocarpus integra*) has been grown successfully in southern Florida. The closely allied breadfruit, however, has not yet received an adequate trial in that State, and the Department is now attempting to introduce seedless forms, which are the only ones worthy of extensive cultivation. These are propagated by cuttings, which P. J. Wester, of the Philippine Bureau of Science has shown can readily be rooted in sand, if made in the proper manner. While it is not anticipated that the breadfruit tree will ever become of economic importance in the United States, it is thought that it may prove an interesting addition to the list of tropical economic plants which can be grown in the gardens of southern Florida." (Wilson Popenoe.)

BERBERIS JAPONICA BEALEI (Berberidaceae), 57704. **Barberry.** From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. An evergreen shrub, native in China, of a stiff, erect habit, with thick, unbranched stems 10 feet or more in length, bearing a few leaves at the top. The leaves, over a foot in length, are composed of 7 to 13 leaflets, which, in this variety, at times reach a length of 8 inches and a width of 6 inches. The numerous yellow flowers are delightfully fragrant, and the oblong berries, about half an inch in length, are of a pleasing purple. (Adapted from Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 244.)

COLOCASIA ESCULENTA (Araceae), 57800. **Taro.** From Aitutaki, Cook Islands. Tubers presented by W. T. Hewett. "'Niue.' A taro with red inner skin and white flesh, and of excellent quality when cooked. It is slightly acrid when raw." (R. A. Young.)

DIOSCOREA ALATA (Dioscoreaceae), 57749. **Greater yam.** From Barbados, British West Indies. Tubers presented by John R. Bovell, Di-

rector of Agriculture. "'Barbados Red.' There are two varieties of this red yam, one darker than the other, and I am forwarding tubers of the darker one." (Bovell.)

"These tubers of the darker strain of the Barbados Red yam weigh from $1\frac{1}{2}$ to 2 pounds each and are club shaped. The inner skin is deep purple and, except near the tip of the tuber, where it is pale purple, the flesh is moderately deep purple with scattered fibers of deeper color. This yam cooks mealy and rather dry and is of very good flavor. The color fades somewhat during cooking, leaving the yam an attractive light reddish purple." (R. A. Young.)

DIOSCOREA sp. (Dioscoreaceae), 57699. **Yam.** From Oneroa, Mangaia Island, Cook Islands. Tubers presented by Geoffrey Henry. "'Maararau.' Plant the same as ordinary yams; prepare the soil and put the tubers 1 or 2 inches underground." (Henry.)

"The rather small tubers received are more or less globose, have a slightly pink inner skin, and white flesh. The quality of this yam when cooked is very good." (R. A. Young.)

DIOSPYROS KAKI (Diospyraceae), 57733. **Kaki.** From Ichang, China. Seeds presented by Rev. A. S. Cooper, American Church Mission. "Collected on the mountains back of Patung, Hupeh, China, at an altitude of 6,000 to 8,000 feet." (Cooper.)

"With the rapid extension of persimmon culture which has taken place in Florida and particularly in California, has come the need of better stock plants; *Diospyros lotus*, which has been used for this purpose, is proving unsatisfactory because of its short life and its susceptibility to the root-knot nematode. Inquiries sent by this Office to horticulturists in Japan and China elicited the information that wild or semiwild forms of *D. kaki* are considered preferable, in those regions, to *D. lotus* as rootstocks for the cultivated kakis. Two or three semiwild forms from Japan, recommended as suitable for stocks, have recently been introduced.

"E. H. Wilson, of the Arnold Arboretum, who has conducted extensive explorations in China, made the recommendation that seeds of the true wild *D. kaki* be obtained from the region of Ichang, China, where the species is indigenous. It was his opinion that the wild form, because of its vigor, should be more promising as a stock plant than any of the cultivated or semicultivated forms.

"Herbarium specimens collected by Mr. Wilson near Ichang show the wild form to be closely similar to the cultivated kakis in habit of growth and in foliage, but to differ in the much smaller size of the fruit. The latter is shaped like an acorn, and scarcely over an inch in length. The behavior of the plants grown from these seeds forwarded by Father Cooper, who has collected them while on one of his excursions

ions through the mountains of Hupeh Province, will be watched with interest." (Wilson Popenoe.)

ELAEIS MELANOCOCCA (Phoenicaceae), 57801. **Palm.** From Balboa Heights, Canal Zone. Seeds presented by Holger Johansen, agronomist, Plant Introduction Garden, Summit. A large spreading low palm which grows in low, moist land. It is closely related to the African oil palm *Elaeis guineensis*, and a clear oil is extracted from the kernels in small quantities by the natives who prize it highly for cooking.

GLADIOLUS PSITTACINUS (Iridaceae), 57797. From Pretoria, Transvaal, Union of South Africa. Bulbs presented by E. Percy Phillips, chief, Division of Botany. A South African gladiolus with a large, globose corm, a stem 3 feet or more in length, and usually four rigid, sword-like leaves 1 or 2 feet long. The many-flowered spike is very lax, reaching a foot or more in length. The upper segments of the flowers are dark crimson, while the much smaller lower segments, reflexed at the top, are red and yellow mixed. (Adapted from Thiselton-Dyer, *Flora Capensis*, vol. 6, p. 158.)

MUSA TEXTILIS (Musaceae), 57694 to 57696. **Abaca.** From the Philippine Islands. Seeds obtained by L. H. Dewey, United States Department of Agriculture. "The plants grow in the Philippine Islands chiefly in volcanic soils of rather loose texture where there is an abundant rainfall but excellent natural drainage. The abaca will probably grow only in warm, moist, tropical regions, and it is possible that it will succeed in the Canal Zone." (Dewey.)

57694. No. 1.

57695. No. 2.

57696. No. 3.

PANCRATIUM TORTUOSUM (Amaryllidaceae), 57795. From Aden, Arabia. Bulbs presented by Raymond Davis, American consul. "The leaves remain green throughout most of the season even in the arid deserts around Aden, but the flowers appear only after one of the rare rainy periods, generally within 4 to 7 days. The plants grow abundantly on cliffs and rocky wastes of Arabia and Egypt." (Davis.)

A relative of the well-known American spider-lily (*Hymenocallis*), with beautiful white flowers 3 to 6 inches long, and a handsome, toothed crown within the corolla, as in *Narcissus*. The long linear leaves are spirally twisted.

PROTEA ARGENTEA (Proteaceae), 57796. From Pretoria, Transvaal, Union of South Africa. Seeds presented by the Chief Conservator of



A DAHLIA HEDGE IN THE ANDES.

(*Dahlia maxonii* Safford; S. P. I. No. 49757.)

The common tree dahlia (*Dahlia maxonii*) of Central America and northern South America is often used to form hedges. The one here shown is in the Andes of Colombia, near Facatativa. When well grown this species reaches 18 feet in height, and it occurs in several varieties, of which the principal ones are single and double pink and single and double white. It requires a long growing season and is not suitable for cultivation in the eastern United States. It may, however, prove of great value to dahlia breeders in this country. (Photographed by Wilson Popenoe, October 4, 1920; P18108FS.)



AN ATTRACTIVE ORNAMENTAL SHRUB FROM ECUADOR.

(*Duranta triacantha* Juss.; S. P. I. No. 52610.)

At high elevations in the Andes *Duranta triacantha* occurs abundantly as a native shrub along watercourses. When brought into cultivation and trained into desirable form it becomes a handsome ornamental plant. In general appearance it closely resembles *D. plumieri* of California gardens, but it bears larger flowers and fruits. The latter, which are golden yellow and borne in bunches like currants, are not edible, but greatly enhance the beauty of the plant. It should be hardy enough for cultivation in Florida and the southwestern United States. (Photographed by Wilson Popenoe at Ambato, Ecuador, January, 1921; P18332FS.)

Forests, Forest Department. Introduced for department specialists experimenting with acid-soil plants.

The "witteboom," or "silver-leaf pine" is a beautiful tree found native only in the immediate vicinity of Cape Town, Cape Province, where it grows up to 50 feet in height. The numerous white silky leaves, which are lanceolate and up to 7 inches long, are now an article of commerce, being used for curios, mats, bookmarks, etc.; when dry they take ink or paint, and are then sold with texts or small scenes depicted on them. (Adapted from Sim, *Forests and Forest Flora of Cape Colony*, p. 294.)

SOLANUM sp. (Solanaceae), 57747. From Ibarra, Ecuador. Seeds presented by J. F. Tamayo. "Seeds of a wild potato from La Rinconada." (Tamayo.)

"A wild solanum which grows abundantly in certain places, preferring the protection of shrubby vegetation along ravines on the paramo. The plant resembles that of the cultivated potato; the tubers, however, are rarely more than an inch long by half an inch in thickness, and they are whitish brown with white flesh. They are not used by the inhabitants of this region. The plants appear to be attacked by late blight, as are cultivated potatoes in the same region." (Wilson Popenoe.)

TALINUM TRIANGULARE (Portulacaceae), 57819. From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. An erect, branching herbaceous plant, about 3 feet high, native to the West Indies and recently introduced from Java into the Philippine Islands. The flowers are pink and produced in great profusion. In the Philippines the fleshy, tender leaves are boiled like spinach and served with meat, for which purpose they are excellent. The plant is easily propagated by cuttings. (Adapted from *The Philippine Agricultural Review*, vol. 14, p. 365.)

TRIFOLIUM JOHNSTONI (Fabaceae), 57698. Clover. From Kew, England. Seeds presented by J. Burtt-Davy. "At high altitudes in East Africa clover is one of the prominent forage plants. It grows where the temperature probably never exceeds 85° F. and where for the greater part of the year it is much below this point. However, no frosts occur in this region." (Dr. H. L. Shantz.)

A smooth perennial clover with the habit of white clover (*Trifolium repens*), found at an altitude of 10,000 feet on Kilimanjaro, Tanganyika Territory. The leaves are long stemmed with membranous leaflets, the globose flower heads are an inch in diameter. (Adapted from *Transactions of the Linnean Society*, 2d ser., vol. 2, p. 331.)

Notes on the Behavior of Previous Introductions.

A recent department circular (No. 280, August, 1923) by J. Allen Clark, of the Office of Cereal Investigations, and L. R. Waldron, of the North Dakota Agricultural Experiment Station, is entitled "Kota Wheat." This is a wheat (*Triticum aestivum* L.) of the hard spring class, and is a selection from a variety originally introduced from Belachov, Tamhof Government, Russia, in 1903, by Prof. H. L. Bolley. There were 25 lots of wheat included in this shipment, to which were assigned S. P. I. Nos. 10194 to 10218. Some of these were grown at the North Dakota Agricultural Experiment Station, near Fargo, by Professor Bolley. From one of these, S. P. I. No. 10214, a promising selection was made in 1918, to which the name "Kota" was applied.

The outstanding features of this wheat are summarized in the bulletin as follows:

"Kota is resistant to the principal forms of black stem rust which occur in the hard red spring wheat region. It is a bearded wheat which ripens about as early as Marquis. It is fairly resistant to drought and outyields Marquis in North Dakota, having averaged nearly 3 bushels more during the past 3 to 5 years.

"In milling and baking experiments conducted independently by the United States Department of Agriculture and the North Dakota Agricultural Experiment Station, Kota wheat has shown results nearly equal to those obtained with Marquis.

It is estimated that about 6,000 acres of Kota wheat were grown in 1922.

"Kota is best adapted to the district where durum wheat is extensively grown and could replace much of the durum wheat now grown in eastern North Dakota and South Dakota with profit to both the hard red spring and the durum wheat industries.

"This new variety is recommended for North Dakota and adjacent portions of neighboring States."

A department bulletin (No. 1174) has just been published on the Hungarian vetch (*Vicia pannonica*, S. P. I. No. 17027) by Roland McKee, Office of Forage-Crop Investigations, Bureau of Plant Industry. Mr. McKee has furnished the following note concerning this vetch:

"Hungarian vetch was first introduced into the United States in 1905 under S. P. I. No. 17027. It is proving especially valuable in the Pacific Coast States and about 1,000,000 pounds of seed were produced in western Oregon in 1923. It is intermediate between *Vicia sativa* and *V. villosa* in winter hardiness, and under ordinary conditions will stand about 10° F. above zero. In the southern half of the United States and in the Pacific Coast area it should be fall sown. One of the most striking features of this vetch is its ability to grow on

heavy wet lands and still produce a fair crop. It will stand much wetter soil conditions than common vetch or hairy vetch.

"Also it is comparatively immune from aphid attacks, suffering but little when other vetches are seriously damaged.

"It has good seed habits and yields an abundance of seed."