

# PLANT IMMIGRANTS.

No. 138.

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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.

October 1, 1918.

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*Actinidia arguta* (Dilleniaceae), 45241. From Bronx Park, New York. Presented by Mr. George V. Nash, New York Botanical Garden. Cuttings from plants sent the New York Botanical Garden in 1898, under S. P. I. No. 235. as *A. polygama*. Introduced from Russia by N. E. Hansen. There is no finer climbing shrub for porches in this latitude than *Actinidia arguta*. Its foliage, which is of a beautiful dark green color with reddish mid-ribs, seems to be practically free from diseases. It is a very vigorous grower and will cover a trellis 20 feet long and 10 feet high in two or three years. The vine, at least in Maryland, does not flower freely until 6 or 8 years old and very few fruits set even when the bloom is abundant. The flowers are attractive, with thin white petals and dark-colored stamens, and have a faint fragrance. The flavor of the fruits is very sweet and pleasant, reminding one of figs. They are about the size of damson plums, have very thin skins, and are filled with extremely small seeds. The selection of good fruiting strains of *Actinidia* would be a most interesting piece of work. (Adapted from an article by Mr. David Fairchild, in Miscellaneous Papers, Circ. No. 110, Dept. of Agriculture.)

*Berberis wilsonae* x *aggregata* (Berberidaceae), 45477. **Hybrid barberry.** From Bell, Maryland. Presented by Dr. W. Van Fleet, of this Bureau. "Hybrids of *Berberis wilsonae* and *B. aggregata* grown from seeds secured by pollination under glass in May, 1914. Both species are late bloomers when grown outside. *B. aggregata*, the pollen parent, is an upright grower with larger foliage than *B. wilsonae* and very showy flower clusters. The hybrids, however, are even more spreading in growth than *B. wilsonae* with very thickset foliage that turns deep purple at the approach of frost and holds on until midwinter. All the hybrids are quite uniform in appearance and are very handsome and hardy. Flowers and fruits have not yet appeared on these seedlings." (Van Fleet.)

*Brassica pekinensis* (Brassicaceae), 45252. **Pai ts'ai.** From China. Presented by Dr. Yamei Kin, Peking, China. "**Yu ts'ai.** Light variety, from Yuyao, Chekiang, China." (Kin.) "Said to be a very rapid grower, coming to maturity in four weeks, or at most not more than six weeks, from the time of germination. It is especially prized for its sweet 'buttery' flavor which I have

heard characterized of certain varieties of lettuce. It is not eaten raw or for salad purposes: but when dropped into boiling hot water after being cut up in fairly large pieces it makes a staple green vegetable. The rapid growth struck me as being valuable, for if in the same time as is necessary for growing lettuce, one can obtain a good green cabbage, it will be undoubtedly as popular here as it is in China." (Kin. Letter 2-26-18.)

*Clauцена lansium* (Rutaceae), 45328. **Wampi**. From Yeungkong, Canton, Kwang Tung, China. Presented by W. H. Dobson, M.D., The Forman Memorial Hospital. A low spineless tree with spreading branches; pinnate, spirally arranged evergreen leaves; and 4 to 5-parted, small, white flowers in large terminal panicles. Fruit ovate-globose about 1 inch long; skin glandular, pubescent; seeds green. The wampi is a native of S. China where it is commonly grown for its fruits. It is cultivated to some extent in Hawaii and could probably be grown in the warmer parts of Florida and California. It can be grafted on grapefruit and other species of Citrus, which makes it desirable to test it as a stock for common citrous fruits. (Adapted from W. T. Swingle, Bailey's Standard Cyclopedic of Horticulture, vol. 2, p. 786.) "Seeds from the largest **Wong pi** I have ever seen. The **Wong pi** is a grapelike fruit with large green seeds and evergreen leaves." (Dobson.)

*Corylus colurna* (Betulaceae), 45347. **Turkish hazelnut**. From Rochester, New York. Presented by Mr. John Dunbar, Assistant Superintendent of Parks, through Mr. C. A. Reed, of this Bureau. "The plants from which these nuts were obtained came from L. Spath, Berlin, Germany, twenty-five years ago. They began to bear fruit about six years ago. The trees are now about twenty-five feet tall. It took these nuts two years to germinate." (Dunbar.) The tree is well worth growing for its stately form, so remarkable for a hazel, and for its curiously enveloped nuts. Native of southeastern Europe and Asia Minor; introduced into England about the middle of the seventeenth century. (Adapted from Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 402.)

*Cudrania tricuspidata* (Moraceae), 45448. From Augusta, Georgia. Presented by P. J. Berckmans Company. "This

tree is very easily propagated from suckers. The tree that we have in our nursery is about 12 feet high and about 6 feet broad. It would have been considerably larger than this but for the fact that some four years ago we headed it back to about  $3\frac{1}{2}$  feet from the ground. This tree had at least  $1\frac{1}{2}$  bushels of fruit which matured from the middle of August up to November. It is most prolific, the fruits on this one tree running up into the thousands." (Berckmans.) The fruit much resembles a dense cluster of very large red raspberries of the *strigosus* type in appearance, and when fully ripe has much the flavor of an over-ripe red raspberry. It has possibilities for jelly making. The numerous seeds are large, but as considerable variation has been noted in their size, selection may ultimately reduce them sufficiently to make the fruit a popular one.

*Ficus palmata x carica* (Moraceae), 45235. Fig. From Algiers, Algeria. Presented by Dr. L. Trabut. "Seeds of *Ficus palmata*, fertilized by *Ficus carica*. *Ficus palmata*, originally from Abyssinia and Erythrea appears interesting, first, as one of the probable ancestors of *Ficus carica*; second, the male plants are excellent caprifigs to supply the blastophaga. The autumn figs (*Mammoni*) now have the male flowers and at this moment it is still possible for the blastophaga to carry the pollen. The female plants yield mediocre edible fruits. The hybrids should be interesting for desert regions." (Trabut.)

*Hibiscadelphus giffardianus* (Malvaceae), 45242. From Honolulu, Hawaii. Presented by Mr. Joseph F. Rock, Botanist, College of Hawaii. "The *Hau kuahiwi* is a remarkable tree. At first appearance one would take it to be the common *Hau* (*Hibiscus tiliaceus*), but at closer inspection one cannot but wonder at the most peculiar shape of the flowers, which are of a deep magenta, and the large yellow tuberculate capsules. It is a rather low tree with not erect but rather inclining trunk of a foot in diameter, with a many-branched round crown. It differs from the genus *Hibiscus* in its very peculiar flowers (which are curved and convoluted) and mainly in the calyx, which is not persistent with the capsules, but drops, together with the bracts, as soon as the capsules are formed." (Rock, *Indigenous Trees of the Hawaiian Islands*, p. 299.)

*Hibiscadelphus hualalaiensis* (Malvaceae), 45243. From Honolulu, Hawaii. Presented by Mr. Joseph F. Rock, Botanist, College of Hawaii. A tree, 16 to 23 feet high, with erect trunk, white bark, somewhat reniform leaves, and small ovate capsules, belonging to the almost extinct genus, *Hibiscadelphus*, of the three species, of which two are represented by a single tree each, and the present one by a dozen or so living trees. Seeds of all the species are growing, however, in various Hawaiian gardens. This exceedingly interesting and distinct species was found by the writer in the year 1909 on the lava fields of Mt. Hualalai, in North Kona, Hawaii, and in the forest of Waihou of the same district, where about a dozen trees are still in existence. The writer revisited the above locality in March, 1912, and found the trees in flower, while on his previous visit, June 18, 1909, only a few worm-eaten capsules could be found. The trees are badly attacked by several species of moths which feed on the leaves and mature capsules. Mr. Gerrit Wilder, however, succeeded in growing a few plants from healthy seeds collected by the writer. (Adapted from Rock's Indigenous Trees of the Hawaiian Islands, p. 301.)

*Hordeum vulgare cornutum* (Poaceae), 45366. **Barley.** From Pretoria, Transvaal, Union of South Africa. Presented by Mr. I. B. Pole Evans, Chief, Division of Botany, Department of Agriculture. No. 18. A rust-resistant barley from Fauresmith, one of the important wheat-growing areas in the Orange Free State.

*Lawsonia inermis* (Lythraceae), 45250. **Henna.** From Kerman, Persia. Presented by J. N. Merrill, Captain, Commanding First Regiment of Cavalry, Persian Army. A handsome shrub, probably native of northern Africa, western and southern Asia, but widely cultivated in tropical countries. The flowers are white, pink, or cinnabar red, and are very fragrant. From the leaves is produced the henna or alhenna of the Arabs (cyprus of the ancients), a yellow dye which is used in Egypt and elsewhere by women to color their nails, and by men to dye their beards, and for similar purposes. It is the camphire of the authorized version of the Bible. (Adapted from L. H. Bailey, Standard Cyclopedia of Horticulture, vol. 4, p. 1830-1831.)

*Lilium rubellum* (Liliaceae), 45322. **Lily.** From Manchester, England. Presented by Mr. I. Henry Watson.



**COLD RESISTANCE OF A HYBRID ANONA.**

(*Annona squamosa* on *Annona cherimola*, Miami Garden No. 1803-B.)

The freeze of February 3, 1917, when the temperature fell to 26.5° F. at the station at Miami, Fla., killed the leaves on all the anona trees in the garden and killed back to 1-inch wood many of the large trees. The trees of this hybrid between the sugar-apple and the cherimoya, while they lost their leaves, began at once to form new leaves and later numerous flower buds, and it is expected that a small crop of fruit will be produced. The photograph shows the hand of Mr. Edward Simmonds, who produced the hybrid, holding a branch from which all the old leaves have fallen and on which the new leaves have begun to start. (Photographed twenty days after the freeze by David Fairchild; P20443FS.)



**A WHITE SAPOTE TREE IN GUATEMALA.**

(*Casimiroa edulis*. See S. P. I. No. 39583.)

The unusual hardiness of this fruit tree, combined with the excellent shipping quality and unusual earliness of its fruit (ripening in May), entitle it to the serious consideration of Florida and California horticulturists. A tree of this species passed unharmed through the freeze of February 3, 1917, at Miami, Fla., when the temperature fell to 26° F., although it was coming into bloom at the time. In California it is considered as drought resistant as the pepper tree. Little attempt has yet been made to select superior strains of this fruit tree, much less to cross the known species. (Photographed by Wilson Popenoe, at Antigua, Guatemala, September 13, 1916; P16783FS.)

This fine lily is nearest to *L. japonicum* (*L. Krameri*), from which it differs by its broad speciosum-like leaves and smaller pink flowers with obtuse segments. The build is similar to that of *L. japonicum* but more oval in shape; stem 1 to 2 feet high, smooth, green-spotted and tinged with purple, lower part bare of leaves; leaves 15 to 20, horizontal, 4 to 5 inches long,  $\frac{3}{4}$  to 1 inch wide, flowers 1 to 8, 3 to 4 inches long and as wide, fragrant, of the same color variations as *L. japonicum*, anthers yellow or orange. June to early July. Native of Japan. Allied to *L. japonicum* but possesses a better constitution, being rather more robust and permanent. (Adapted from Gardeners' Chronicle, May 21, 1898, p. 321, and from Bailey, Standard Cyclopedia of Horticulture, vol. 4, p. 1869.)

*Oryza sativa* (Poaceae), 45316. **Rice.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2398a. Hanchow, China. June 7, 1917.) A glutinous variety of rice, said to ripen early. It is much eaten boiled like dumplings, with sugar sprinkled over, also eaten with boiled jujubes. This is a good type of rice for making puddings. The Chinese name is **No mi uk** which, being translated, means, 'Sticky rice grain'. This sample is to be tested like the preceding numbers (S.P.I. Nos. 45266 & 45267)." (Meyer.)

*Phaseolus angularis* (Fabaceae), 45298. **Adsuki bean.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2430a. Hanchow, Hupeh, China. March 7, 1917.) A large red adsuki bean, eaten boiled with dry rice and in soups; also pounded with sugar into a paste and used as a filling in certain cakes. Produces also bean sprouts of excellent juicy quality, which can be raised at home in winter. Chinese name **Hung tou** (**Hong doh**), meaning 'Red bean'." (Meyer.)

*Phaseolus aureus* (Fabaceae), 45318. **Mung bean.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2432a. Ichang, Hupeh, China. March 19, 1917.) Mixed strains of mung beans grown mostly in Hupeh province for bean sprout production. In the future bean sprouts may be much more widely eaten than they are now. In very cold and bleak regions, such as Labrador, Northern Canada, Northern Siberia, etc, and aboard sailing vessels a

long time away from ports, bean sprouts from **adsuki**, **mung**, and small **soybeans**, together with seedlings of **cress**, **mustard**, and **amaranth** are about the only fresh vegetables that can be raised. A dark, moist and warm place, like the inside of a cupboard, box, large jar, tin, etc., kept near a source of continuous gentle heat is necessary." (Meyer.)

*Pisum sativum* (Fabaceae), 45303. **Pea**. From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2436a. Ichang, Hupeh, China, March 24, 1917.) A medium-sized, pale yellow variety of pea, grown as a winter crop throughout the Yangtze Valley on rice lands which have been drained for the winter months. Sown in October and harvested in April. The peas are eaten either boiled with the pods when very tender, or shelled when old. When dry they are consumed in stews and soups, and baked into cakes. In the winter they are also eaten sprouted, after having been scalded. A fresh gelatine is also made from them, much eaten during the hot summer months, with sauce and pickles, as a 'pick me up' between meals. Chinese name **Wan tou** (**Wan doh**). To be tested as a winter crop in the southern sections of the Gulf States and in California." (Meyer.)

*Pittosporum hosmeri longifolium* (Pittosporaceae), 45244. From Honolulu, Hawaii. Presented by Mr. Joseph F. Rock, Botanist, College of Hawaii. The variety differs from the species in that the leaves are very much longer, and the capsules are smaller. The tree is quite common at Kapua, South Kona, Hawaii, on the lava flows, and occurs also at Kilauea, and Hualalai, but does not reach such a height and size as at Puu-waawaa. The trees of the latter locality are loaded with fruit during June and July, while those of Kapua bear mature fruit during the month of February. However, the fruiting season of these, like nearly all the other Hawaiian trees, can not be relied upon. The fruits of *P. hosmeri* and variety are a source of food for the native crow which pecks open the large woody capsules and feeds on the oily seeds within. (Adapted from Rock, Indigenous Trees of the Hawaiian Islands, p. 161.)

*Rubus bogotensis* (Rosaceae), 45365. **Blackberry**. From Manizales, Colombia. Presented by Mr. M. T. Dawe. "*El Moral de Castilla*. This berry, which appears to grow

wild, attains a size and shape comparable to that of our best cultivated varieties, and to my mind has a better flavor than any of them. It may be found in abundance in the subtropical zone at an elevation of 6,000 to 8,000 feet; or, to be more definite, at a posada (dwelling house) about one hour below El Pin-yon, toward Fusagasuga, known as El Roble. The rainfall is high here, for the entire Temperate Zone is included in the area of condensation. We worked at this locality during the first part of April, when the blackberry crop had not reached full maturity. I should say that, provided similar conditions prevail in other years, April 15 would be about the proper time to find the plants in fruit." (F. M. Chapman.)

*Soja max* (Fabaceae), 45289. **Soy bean.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2421a. Changsha, Hunan, China. May 12, 1917.) A peculiar variety of soy bean, of dull brown color, said to ripen very late. Locally much eaten when roasted, with salt sprinkled over, like salted peanuts. Very nourishing and appetizing. Well worth introducing to the American public as a new wholesome and nourishing sweetmeat. Chinese name **Ch'a hua tou** (**Za hua doh**), meaning 'Tea flower bean'." (Meyer.)

*Vaccinium reticulatum* (Vacciniaceae), 45245. From Honolulu, Hawaii. Presented by Mr. Joseph F. Rock, Botanist, College of Hawaii. "Seeds of *Vaccinium reticulatum*, a species which grows up to an altitude of 10,000 feet on the big islands (Maui and Hawaii). It is the well-known **Ohelo** of the natives and is eaten and used similarly to your eastern *Vaccinium*." (Rock.) A low erect shrub, 1 to 2 feet high, the stiff crowded branches angular and densely foliose; leaves coriaceous; flowers solitary; berry globose, 1/3 to 1/2 inch in diameter, pale rose or yellow, covered with a waxy bloom. Found in the high mountains of Hawaii and Eastern Maui from about 4,000 up to 8,000 feet, where it grows gregariously, often covering large tracts of open ground. The shining fleshy berry, the **Ohelo**, is the principal food of the wild mountain goose. Although astringent it is not unpleasant to the taste, and makes a good preserve. (Adapted from Hildebrand, Flora of the Hawaiian Islands, p. 271.)

*Vicia faba* (Fabaceae), 45305. **Broad bean.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2438a. Ichang, Hupeh, China. March 24, 1917.) A medium large variety of broad bean, much grown as a winter crop on rice lands which have been drained for the cool season. The beans are much eaten, when fresh, like green peas and they form a very tasteful and nutritious dish. After soaking in water over night, the dry beans are often fried in oil, and salt sprinkled over them. They are then eaten as a delicacy, like salted peanuts. Chinese name *Ts'an tou* (*Tchan doh*), meaning 'Silk worm bean', possibly on account of the silky hairs covering the outside and the inside of the pods. To be tested as a winter crop in the southern parts of the Atlantic and Gulf States and on the Pacific coast. As a summer crop in the inter-mountain regions and along the north Pacific coast." (Meyer.)

*Vigna sinensis* (Fabaceae), 45301. **Cowpea.** From China. Collected by Mr. Frank N. Meyer, Agricultural Explorer for this Department. "(No. 2434a. Hanchow, China. March 7, 1917.) A black-eyed, white cowpea eaten as a human food; boiled with dry rice generally, but also much used in stews and soups. The young pods are much consumed slightly boiled as a vegetable; they are also dried for winter use and in some localities pickled in brine. Chinese name *Pai chiang tou* (*Pai chiang doh*), meaning 'White precious bean'." (Meyer.)

#### Notes from Correspondents abroad.

Mr. S. Iida writes from Yokohama, Japan, in a recent letter:

The Plum Blossom (*Prunus mume*), at Tsukigase in the province of Yamato is the most famous and largest orchard in Japan, but I gather that the cultivation has been curtailed in sympathy with the decline of the rouge industry in Kyoto, where there were formerly ten principal factories of the color but a single one survives at present. The burnt kernel of *P. mume* is said to be used in the manufacture. From this it seems that the demand as fruit alone is not sufficient for the orchard.

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