UNITED STATES DEPARTMENT OF AGRICULTURE

INVENTORY No. 99

Washington, D. C. ▼ Issued November, 1930

PLANT MATERIAL INTRODUCED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, APRIL 1 TO JUNE 30, 1929 (Nos. 80019–80810)

CONTENTS

INTRODUCTORY STATEMENT

The present inventory of the materials received between April 1 and June 30, 1929 (F. P. I. 80019–80810), is a record of the seeds and plants that came in through the Office of Foreign Plant Introduction by exchange, gift, and purchase. It does not in any way record the materials on hand, nor can it serve as a basis for request from experimenters.

To illustrate the point more specifically, the numerous palms may be cited. These were assembled for the specific purpose of growing plants for permanent planting at the United States Plant Introduction Garden at Chapman Field near Coconut Grove, Fla., to become a future source of seed. Plants from these seeds will not be available until they themselves produce seed, which in most cases will be a matter of many years. Other plants from which propagating material can be had more rapidly will be more rapidly available.

It is most unfortunate that these delays must occur or that this explanation should be given again and again, but inquiries for unavailable material are received too frequently to warrant its omission.

In addition to the considerable list of palms for testing in the South, there is a large group of *Ficus* spp. (80417–80421), not including the collection of fig varieties (80150–80153) from Tunis, and those (80294–80299) that came with a collection of grape cuttings (80300–80303) from Haifa, Palestine. These trees and shrubs are for careful testing in the extreme South as possible ornamentals.

This inventory records a collection of seeds (80060–80074) from South Yarra, Melbourne, Victoria, Australia, that contains several acacias, a eucalyptus, and several vines and trees not previously introduced.

Nos. 80076–80088 record a collection of seeds from the Lloyd Botanic Garden, Darjiling, India, including several barberries not yet well known in the United States, the difficult *Iris clarkei*, and several other ornamental plants not well established in this country.

Possibly more than anything else, the inventory is notable for the large collections which reflect the operations of W. F. Morse and P. H. Dorsett, now traveling in the Orient particularly to find new strains and varieties of soybeans that are expected to prove useful for American farms.

The botanical determinations have been made and the nomenclature determined by H. C. Skeels, who has had general supervision of this inventory.

KNOWLES A. RYERSON,
Principal Horticulturist, in Charge.

OFFICE OF FOREIGN PLANT INTRODUCTION,
Washington, D. C., May 10, 1930.

316—30——1

INVENTORY[1]

80019 to 80030. SOLANUM TUBEROSUM L. Solanaceae. **Potato.**

From Latvia. Seeds obtained through William Stuart, Bureau of Plant Industry. Received December, 1928. Numbered in May, 1929.

80019. No. 1.
80020. No. 2.
80021. No. 3.
80022. No. 4.
80023. No. 5.
80024. No. 6.
80025. No. 7.
80026. No. 8.
80027. No. 9.
80028. No. 10.
80029. No. 11.
80030. No. 12.

80031. CUCUMIS SATIVUS L. Cucurbitaceae. **Cucumber.**

From Keijo, Chosen. Seeds presented by John V. Lacy, Korea Council of Religious Education. Received May 2, 1929.

This cucumber is said to have a flavor superior to that of the ordinary varieties found in the United States. The fruit is slightly smaller, but in addition to the rich flavor it has small seeds and sometimes is almost seedless.

80032. LYCOPERSICON ESCULENTUM Mill. Solanaceae. **Tomato.**

From Tela, Honduras. Seeds presented by Alfred F. Butler, Horticulturist of the Research Department of the United Fruit Co. Received May 2, 1929.

Variety *pimpinellifolium*. From the La Fragua farm. A vigorous and comparatively hardy South American variety, sometimes called the "currant tomato," which grows wild in Peru and Brazil. The red fruits, somewhat larger than a large currant, are produced in racemes of eight or nine, and are excellent for preserving. This variety is quite common in Honduras.

For previous introduction see No. 56797.

80033. SPARTINA TOWNSENDI H. and J. Groves. Poaceae. **Grass.**

From Poole, Dorset, England. Plants purchased from Bob Cartridge, through H. N. Vinall, Bureau of Plant Industry. Received April 27, 1929.

Prof. F. W. Oliver, University College, London, regards *Spartina townsendi* as a probable hybrid between *S. stricta* and *S. alterniflora*. It appeared at Hythe, Southampton, England, about 1879, and has spread rapidly on the mud flats, reclaiming the land. It is eaten eagerly by cattle and pigs and is also promising as a paper-making material, but at present the cost of harvesting is large.

For previous introduction see No. 58986.

80034. PHYLLOSTACHYS EDULIS (Carr.) H. de Lehaie. Poaceae. **Bamboo.**

From Anderson, S. C. Rhizomes presented by Rufus Fant about April 15, 1926, and subsequently grown at the Barbour Lathrop Plant introduction Garden, Savannah, Ga. Numbered in May, 1929.

The rhizomes of this giant hairy-sheath edible bamboo were taken from the bamboo grove in the city cemetery at Anderson, one of several groves of this bamboo started by Mr. Fant from the increase from a plant he procured about 1890 or 1893 from an importer on the Pacific coast. It was understood to have come from Japan.

80035. PISTACIA INTEGERRIMA Stewart. Anacardiaceae. **Pistache.**

From Kew, England. Seeds presented by Dr. W. J. Bean, Curator, Royal Botanic Gardens. Received May 4, 1929.

A large tree up to 40 feet high, native to the warm slopes of the Himalayas in northern India. The aromatic pinnate leaves are made up of four to five pairs of lanceolate leaflets with an oblique base. The small inconspicuous flowers are in racemose clusters and are followed by the bright-green drupes which are about a fourth of an inch across. This tree yields the famous zebra wood of India.

For previous introduction see No. 36065.

---

[1] It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Office of Foreign Plant Introduction and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this office, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

80036 to 80040.

From Miyazaki, Japan. Cuttings presented by Shigeki Matsubara, Miyazaki College of Agriculture. Received May 6, 1929.

80036. PRUNUS SERRULATA Lindl. Amygdalaceae. **Oriental cherry.**

Aohada. A variety used extensively by the Japanese as a stock on which the better varieties are grafted.

80037 to 80040. VITIS VINIFERA L. Vitaceae. **European grape.**

80037. *Chikuma.* **80039.** *Kōshū.*

80038. *Enshin.* **80040.** *Zenkōji.*

80041. CASTANOPSIS sp. Fagaceae. **Evergreen chinquapin.**

From Sandakan, British North Borneo. Seeds presented by D. D. Wood, Conservator of Forests. Received April 22, 1929.

80042. BAUHINIA MALABARICA Roxb. Caesalpiniaceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 13, 1929.

A small erect bushy tree, with thick rigid deeply bifid somewhat heart-shaped leaves 2 to 3 inches long. The small white flowers are in dense sessile axillary clusters. The rather turgid, straight, firm, narrow pods are a foot long. Its native habitat is the mountainous country of northeastern India.

For previous introduction see No. 52746.

80043. SPARTINA TOWNSENDI H. and J. Groves. Poaceae. **Grass.**

From London, England. Seeds presented by Prof. F. W. Oliver, University College, through H. N. Vinall, Bureau of Plant Industry. Received May 6, 1929.

Seeds gathered from plants growing in the Netherlands which had originated in roots obtained from Poole, England, in 1925.

For previous introduction and description see No. 80033.

80044. PINUS INSULARIS Endl. Pinaceae. **Pine.**

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 24, 1929.

A tall 3-needle tropical pine which grows on the highlands in the Philippine Islands between altitudes of 3,000 and 8,000 feet. The flaccid slender leaves are 7 to 9 inches long, and the ovoid cones are about 3 inches long.

80045. (Undetermined.)

From West Africa. Seeds presented by G. W. Harley, Methodist Episcopal Mission, Ganta, Liberia. Received May 6, 1929.

A shrub or small tree growing in the interior of Liberia at an altitude of 1,000 feet. The fruits resemble the American cultivated black cherry in flavor, though they are much more acid, perhaps more closely approaching the flavor of the cranberry.

80046. IPOMOEA MACALUSOI Mattei. Convolvulaceae. **Morning-glory.**

From Italian Somaliland, Africa. Seeds collected by Dr. Mario Calvino, San Remo, Italy. Received May 7, 1929.

A very floriferous morning-glory, native to Italian Somaliland, with pubescent woody stems, broadly cordate villous leaves on long petioles, and axillary cymes of large campanulate orange-colored flowers margined with red.

80047. FICUS CONORA King. Moraceae. **Fig.**

From Summit, Canal Zone. Cuttings presented by J. E. Higgins, Director, Canal Zone Experiment Gardens. Received May 3, 1929.

A tree, native to New Guinea, with softly pubescent branchlets, lanceolate entire leaves 7 inches long, pubescent beneath, and turbinate fruits, an inch in diameter, borne on long flexuose leafless branches arising at the base of the trunk.

For previous introduction see No. 77658.

80048. CARICA CAULIFLORA Jacq. Papayaceae.

From Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz. Received April 29, 1929.

This relative of the papaya is a tree 9 to 12 feet high, which is cultivated and probably native to Central America and Mexico. The trunk is crowned with large leaves that are cordate at the base and have the tip lobed about half way down into acuminate segments. The inconspicuous inodorous flowers are followed by ovoid yellow fruits 3 to 4 inches long.

80049. CYRILLA RACEMIFLORA L. Cyrillaceae. **Leatherwood.**

From Germantown, Philadelphia, Pa. Seeds purchased from Conyers B. Fleu. Received April 29, 1929.

A shrub or small tree up to 30 feet high, native from Virginia to Florida and Texas and extending to the West Indies and northern South America. The lustrous bright-green oblong leaves, 2 to 3 inches long, are evergreen in the South and turn to orange and scarlet in the northern deciduous form which is hardy as far north as New York. The small white flowers are borne in graceful racemes.

80050 and 80051. ORYZA SATIVA L. Poaceae. **Rice.**

From Pargannas District, Bengal, India. Seeds obtained through Robert Frazer, American Consul General, Calcutta, India. Received April 29, 1929.

80050. *Dakhina Patnai.* A variety grown in the saline southern tracts of Pargannas District, especially in the Sunderbuns, the delta of the Ganges.

80051. *Uttara Patnai.* A sweet variety grown in the northern tract of Pargannas District.

80052. DEGUELIA TRIFOLIATA (Lour.) Taub. (*Derris uliginosa* Benth.). Fabaceae.

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, Director of the Java Botanic Gardens. Received April 24, 1929.

80052—Continued.

A large, handsome, leguminous woody climber native to Burma and the East Indies. The compound leaves are a foot or more long, with 9 to 13 leaflets, and the bright-red flowers, three-fourths of an inch long, are in lax racemes. The roots, which yield an effective insecticide, are used in India as a fish poison.

For previous introduction see No. 69379.

80053. BARLERIA LUPULINA Lindl. Acanthaceae.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, Director of the Agricultural Experiment Station of the Office of Experiment Stations of the United States Department of Agriculture. Received May 3, 1929.

A compact bush, about 2 feet high, with long narrow dark-green leaves having rose-colored midribs and yellow flowers. It seeds freely, withstands dry weather remarkably well, is easily grown from soft wood cuttings, and makes a very ornamental hedge. Because of its seeding habits it is a bad weed if allowed to spread. It might be crossed with *Barleria cristata* to get a seedless form that would withstand dry weather better and be less subject to scale than the latter.

80054. PRIMULA ANISODORA Balf. and Forr. Primulaceae. **Primrose.**

From Ipswich, England. Seeds purchased from Thompson & Morgan. Received May 3, 1929.

A primrose about a foot and a half high, native to Yunnan, China, with broadly oval membranous leaves up to 8 inches long and whorls of aromatic flowers which are rich maroon-crimson with a bright-yellow zone. This primrose belongs to the Candelabra section.

80055 to 80059.

From Enfield, Middlesex, England. Plants purchased from Perry's Hardy Plant Farm. Received April 6, 1929.

80055 to 80058. CHRYSANTHEMUM MAXIMUM Ramond. Asteraceae. **Pyrenees chrysanthemum.**

80055. *Conqueror.*

80056. *Laciniata.*

80057. *Moonlight.*

80058. *Plenum.*

80059. HELENIUM AUTUMNALE L. Asteraceae. **Sneezeweed.**

Baronne de Linden.

80060 to 80074.

From South Yarra, Melbourne, Victoria, Australia. Seeds presented by F. J. Rae, Director of the Melbourne Botanic Gardens. Received April 22, 1929.

80060 to 80064. ACACIA spp. Mimosaceae.

80060. ACACIA FALCATA Willd. **Burra.**

An evergreen tree, 20 to 30 feet high, with few slender branches and small yellow flowers in dainty spherical clusters on racemes borne in the axils of the dark glossy green falcate leaves. The timber is hard, heavy, and tough.

For previous introduction see No. 75589.

80060 to 80074—Continued.

80061. ACACIA LONGIFOLIA SOPHORAE (Labill.) F. Muell.

A yellow-flowered, rapid-growing evergreen shrub or small tree, 15 to 20 feet high, excellent for preventing the encroachments of the sea along sandy coasts. It frequents the seacoast of southeastern Australia from southern Queensland to South Australia, and also Tasmania.

For previous introduction see No. 56572.

80062. ACACIA MAIDENII F. Muell.

A tall evergreen shrub or tree up to 50 feet high, native to New South Wales, with lanceolate-falcate phyllodes 4 to 6 inches long, axillary spikes an inch long of bright-yellow flowers followed by narrow twisted pods.

80063. ACACIA RUPICOLA F. Muell.

A glabrous evergreen shrub usually about 5 feet high, native to Victoria and South Australia, with angular branchlets, rigid linear sharp-pointed phyllodes half an inch long, and yellow flowers in small globular heads.

80064. ACACIA SALICINA Lindl. (*A. ligulata* A. Cunn.).

A tall shrub or small tree, native to Australia, with pendulous branches and willowlike phyllodes up to 5 inches long. The yellow flowers are in short racemes of two or three globular heads.

For previous introduction see No. 75606.

80065. CALLICOMA SERRATIFOLIA Andrews. Cunoniaceae.

A tall evergreen shrub or tree up to 40 feet high, native to New South Wales and Queensland, with opposite coarsely serrate leaves 4 inches long, white or rusty underneath, and dense globular heads of small yellowish flowers in terminal panicles.

For previous introduction see No. 76933.

80066. EUCALYPTUS CORYMBOSA J. E. Smith (*E. gummifera* Hort.). Myrtaceae.

A medium-sized evergreen tree native to Australia, with leathery lanceolate leaves and large corymbs of fragrant yellowish white flowers.

For previous introduction see No. 75621.

80067. EUCALYPTUS SIDEROPHLOIA Benth. Myrtaceae. **Broadleaf ironbark.**

A tall evergreen tree, native to Queensland and New South Wales, with hard persistent rough bark, thick lanceolate-falcate leaves 3 to 6 inches long, and terminal corymbose panicles of small white flowers followed by ovoid fruits one-fourth of an inch long. The heavy durable wood is used for wagon work, tool handles, and building purposes.

80068. GREVILLEA HILLIANA F. Muell. Proteaceae.

A large evergreen tree 60 feet or less high, native to Australia, with leaves varying from elliptical and entire, 6 to 8 inches long, to a foot long and deeply pinnatifid with five or seven lanceolate lobes. The small red flowers are in

80060 to 80074—Continued.

dense cylindrical racemes 4 to 8 inches long.

For previous introduction see No. 40044.

80069. HALFORDIA DRUPIFERA F. Muell. Rutaceae.

A small evergreen tree, native to Australia, with angular branchlets, lanceolate leaves 3 to 5 inches long, and terminal paniculate clusters of small white flowers followed by purple ovoid drupes about half an inch long.

80070. KENNEDIA RUBICUNDA (Schneev.) Vent. Fabaceae.

A climbing evergreen leguminous shrub with dark-green leaves and large attractive dark-red flowers. Of possible value as a forage plant and for green manure.

80071. LOMATIA FRAXINIFOLIA F. Muell. Proteaceae.

A tall evergreen shrub or small tree, native to Queensland, with pinnate leaves made up of three to seven coriaceous ovate coarsely toothed leaflets 2 to 4 inches long, and small creamy white flowers in racemes 6 to 8 inches long or gathered together to form a large terminal panicle.

80072. SWAINSONA GALEGIFOLIA (Andrews) R. Br. (*S. coronillifolia* Salisb.). Fabaceae. **Darling pea.**

A low shrubby perennial, native to Australia, with compound vetchlike leaves and scarlet-orange flowers borne on long axillary stems. Reported to be poisonous to livestock.

For previous introduction see No. 77447.

80073. SYNCARPIA GLOMULIFERA (J. E. Smith) Niedenzu. Myrtaceae.

A tall slender evergreen tree, native to Australia, with broadly ovate leaves 2 to 3 inches long, appearing as if in whorls from two pairs being close together. The small white flowers are in globular clusters of 6 to 10 on short peduncles at the base of the new shoots. The wood is valuable for posts and other underground construction work.

For previous introduction see No. 75572.

80074. TRICONDYLUS MYRICOIDES (Gaertn. f.) Kuntze (*Lomatia longifolia* R. Br.). Proteaceae.

An evergreen shrub 8 to 10 feet high, native to New South Wales and Victoria, with very narrow lance-shaped leaves, and terminal or axillary racemes of creamy white flowers. The fruit is an oval-oblong follicle, and the seeds are winged. The wood is light colored and very hard, with a beautiful small figure, well suited for turnery.

For previous introduction see No. 43580.

80075. CHAYOTA EDULIS Jacq. (*Sechium edule* Swartz.). Cucurbitaceae. **Chayote.**

From Guatemala. Fruit presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

No. 1. A large green variety.

80076 to 80088.

From Darjiling, India. Seeds presented by J. E. Leslie, Curator, Lloyd Botanic Garden. Received April 17, 1929.

80076 to 80078. BERBERIS spp. Berberidaceae. **Barberry.**

80076. BERBERIS INSIGNIS Hook. f. and Thoms.

A beautiful bush of erect habit, with very few spines and large, shining hollylike evergreen leaves 3 to 7 inches long. The golden-yellow flowers are borne in clusters of about 15 and are followed by ovoid black berries. It is native to the eastern Himalayas.

For previous introduction see No. 60637.

80077. BERBERIS UMBELLATA Wall.

A hardy half-evergreen shrub, native to the Himalayas, about 3 feet high, with reddish brown grooved branchlets, obovate leaves an inch long, and umbellike racemes of yellow flowers which are followed by red berries.

For previous introduction see No. 78918.

80078. BERBERIS WALLICHIANA DC.

A narrow-leaved, evergreen barberry from temperate regions in the Himalayas, where it ascends to about 10,000 feet. The shining black-purple berries are produced in dense clusters.

For previous introduction see No. 65756.

80079. ERIOBOTRYA HOOKERIANA Decaisne. Malaceae.

A small stout-branched tree native to the eastern Himalayas at altitudes of 6,500 to 8,000 feet. It has thick leathery oblong sharply toothed leaves up to a foot long, large panicles of small white flowers, and egg-shaped yellow fruits about three-fourths of an inch long.

For previous introduction see No. 65252.

80080 to 80082. FICUS spp. Moraceae. **Fig.**

80080. FICUS BENJAMINA L. **Benjamin fig.**

A large tree, up to 80 feet high, native to India, with thin coriaceous ovate leaves 3 inches long and axillary pairs of small globose blood-red fruits.

For previous introduction see No. 67701.

80081. FICUS HISPIDA L. f.

A shrub or small tree up to 30 feet high, native to southeastern Asia, with hairy branches, ovate to obovate obscurely toothed leaves 8 inches long, and turbinate green fruits, nearly an inch in diameter, produced in fascicles on the old wood.

For previous introduction see No. 54892.

80082. FICUS HOOKERI Miquel.

A subtropical tree native to the temperate Himalayas of northeastern India. The oval leaves are up to 11 inches in length.

For previous introduction see No. 68336.

80076 to 80088—Continued.

80083. ILEX INSIGNIS Hook. f. Aquifoliaceae. **Holly.**

An attractive holly native to the Sikkim Himalayas, where it grows at an altitude of 7,000 feet. It forms a small tree or shrub with thick, grooved branches which are purplish when young. The dark-green leathery leaves are pinnately lobed, with the lobes spine tipped and alternately raised and depressed, so that there appears to be a double row of spiny lobes on each side. This holly has proved hardy in Ireland and may be suited for growing in the Gulf States and southern California.

For previous introduction see No. 65256.

80084. IRIS CLARKEI Baker. Iridaceae. **Clarke iris.**

A curiously local iris native to the Himalayas in a circumscribed area in the Sikkim and Bhutan region at altitudes between 6,000 and 11,000 feet, in ground that is swampy half the year and frozen hard under snow during most of the remaining months. The narrow leaves, 2 feet long, droop at the tips; the upper surface is polished and shiny, the under side glaucescent. The solid stem is 2 feet long, and bears one or two lateral heads. The falls are blue-purple, blotched with white, and are reflexed laterally. The upper part of the haft is marked with yellow. The reddish purple, lanceolate standards are poised almost horizontally. The styles form the highest point of the flowers; they are keeled, very convex, and 1½ inches long.

For previous introduction see No. 76251.

80085. MEIBOMIA TILIAEFOLIA (D. Don) Kuntze (*Desmodium tiliaefolium* Don). Fabaceae.

A large deciduous shrub native to the Himalayas at altitudes ranging from 3,000 to 9,000 feet. It has slender terete branches, thick green trifoliolate leaves about 4 inches long, and red flowers in lax racemes often a foot long. The bark yields an excellent fiber extensively employed in rope making; the leaves are good fodder; and the roots are used medicinally as a tonic and diuretic.

For previous introduction see No. 47726.

80086. MELOTHRIA ODORATA Hook. f. and Thoms. Cucurbitaceae.

A climbing herbaceous plant, native to the northwestern Himalayas at an altitude of 7,000 feet, with more or less heart-shaped leaves, white axillary flowers, and white indehiscent fruits.

For previous introduction see No. 47729.

80087. STYRAX HOOKERI C. B. Clarke. Styracaceae. **Snowbell.**

A tree often 40 feet high, native to Sikkim and Bhutan at altitudes ranging from 6,000 to 7,000 feet. The white flowers, an inch long, are tomentose outside, and the young branches are stellately pubescent. The wood is white, close-grained, and moderately hard.

For previous introduction see No. 60656.

80076 to 80088—Continued.

80088. TSUGA DUMOSA (D. Don) Eichler (*T. brunoniana* Carr.). Pinaceae. **Hemlock.**

A tall evergreen tree, sometimes 120 feet high, native to northeastern India, but said to be not quite hardy in England. It has spreading branches and pendulous branchlets. The wood is soft and white, and the bark is used for roofing.

For previous introduction see No. 47819.

80089. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae. **Peach.**

From China. Seeds obtained through Guy M. Walker, Laurel, Miss. Received May 9, 1929.

From the Imperial Peach Orchards. The fruits are pale green when ripe, with none of the blush or yellow that is peculiar to other peaches; the flavor is delicious.

80090 and 80091.

From Lavras, Minas Geraes, Brazil. Seeds presented by B. H. Hunnicutt, Instituto Gammon. Received May 10, 1929.

80090. DOLICHOLUS PHASEOLOIDES (Swartz) Kuntze (*Rhynchosia phaseoloides* DC.). Fabaceae. **Rosarybean.**

A slender climber with trifoliolate leaves, borne upon slender wiry stems, which suggest those of the common bean (Phaseolus). The plant is of interest chiefly for the small, bright-red seeds with a black eye which are strikingly similar to those of *Abrus precatorius*, the *crab's eye* of the West Indies.

For previous introduction see No. 51027.

80091. ORMOSIA MONOSPERMA (Swartz) Urban. Fabaceae. **Necklacetree.**

The necklacetree is so called because its beans are the size of large beads, three-fourths of an inch long, and of a brilliant scarlet blotched with the deepest brown. The tree comes from tropical South America and fruits during the winter months.

For previous introduction see No. 79542.

80092. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Mayaguez, Porto Rico. Cuttings presented by Robert L. Davis, Agronomist of the Porto Rico Agricultural Experiment Station. Received May 15, 1929.

Mayaguez 51.

80093. TRIFOLIUM PRATENSE L. Fabaceae. **Red clover.**

From Kief, Ukraine, Union of Socialistic Soviet Republics. Seeds presented by A. Kol, Chief of the Bureau of Introduction, Institute of Applied Botany, Leningrad. Received May 18, 1929.

No. 93776. An early-maturing variety from the Kief Experiment Station.

80094. CHAYOTA EDULIS Jacq. (*Sechium edule* Swartz). Cucurbitaceae. **Chayote.**

From Guatemala. Fruits presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

No. 2. A medium-sized green variety.

80095. ILEX PURPUREA Hassk. Aquifoliaceae.

Plants growing at the Barbour Lathrop Plant Introduction Garden, Savannah, Ga. Numbered in June, 1929.

A handsome evergreen tree or large shrub native to Japan and central China. The leaves are dark green, glabrous, elliptic-ovate to oblong-lanceolate, crenate-serrulate, and 2 to 3 inches long. In Savannah, Ga., the new leaves appear in late March or early April and the flowers a month later. The red fruits are about one-third of an inch in diameter and are in clusters of two to five on a short peduncle.

80096. PINUS ARMANDI Franch. Pinaceae. **Armand pine.**

From China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1929.

A tree 70 to 90 feet high with a trunk 4 feet in diameter, which grows in western China on well-drained, moist mountain slopes at altitudes of 8,000 to 10,000 feet. The edible seeds are sold in the markets.

For previous introduction see No. 58538.

80097 to 80099. CHAYOTA EDULIS Jacq. (*Sechium edule* Swartz). Cucurbitaceae. **Chayote.**

From Guatemala. Fruits presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

80097. No. 5. A medium-sized yellowish green variety which is very spiny.

80098. No. 6. A large white spiny variety.

80099. No. 7. A large yellowish green variety which is very spiny.

80100. POLYMNIA EDULIS Wedd. Asteraceae.

From Paris, France. Roots presented by Dr. M. Lemoine. Received April 2, 1929.

A sunflowerlike plant, native to the Andes near Bogota, Colombia, with tall stems, large leaves which are eaten by cattle, and yellow flowers. The edible tubers are white, almost transparent, and very sweet.

80101. ESCALLONIA sp. Escalloniaceae.

From Glasnevin, Dublin, Ireland. Plants presented by J. W. Besant, Botanic Gardens, Department of Agriculture. Received April 5, 1929.

C. F. Ball. A red-flowered hybrid made by C. F. Ball at the Botanic Gardens, Glasnevin. It is believed to be a cross between *Escallonia rubra* and *E. macrantha.*

80102. ASTRAGALUS sp. Fabaceae. **Milkvetch.**

From Germany. Seeds presented by Carl Froitzheim, Callahan, Fla. Received April 2, 1929.

A plant which grows in the woods near the Rhine River in Germany. It resembles clover when in bloom, but the leaves are more like vetch. The stems are 2 to 3 feet long, with more than 20 on a plant.

80103. PINUS MERKUSII Jungh. and De Vr. Pinaceae. **Pine.**

From Baleg, Sumatra. Seeds presented by A. Bircher, Middle Egypt Botanic Station, El Saff, Egypt. Received April 2, 1929.

A giant pine which covers a vast area of the poor volcanic soil in northern Sumatra. It grows to a height of 240 feet, is 4 feet in diameter, and yields a superior grade of turpentine and resin.

For previous introduction see No. 67588.

80104. TIGRIDIA PAVONIA (L. f.) Ker. Iridaceae. **Common tigerflower.**

From Newry, Ireland. Bulbs purchased from T. Smith, Daisy Hill Nursery. Received April 5, 1929.

Variety *alba immaculata.* A form with pure white flowers.

80105. CLEMATIS ARMANDI Franch. Ranunculaceae. **Armand clematis.**

From Exeter, England. Plants purchased from Robert Veitch & Son, The Royal Nurseries. Received April 4, 1929.

A tender woody Chinese evergreen vine with lustrous coriaceous trifoliolate leaves with entire lanceolate leaflets, panicles of white flowers 2 inches across, and fruits with long plumose styles.

For previous introduction see No. 76013.

80106. PINUS NIGRA MAURITANICA Maire and Peyer. Pinaceae. **Pine.**

From Algiers, Algeria, Africa. Seeds presented by Dr. R. Maire, Jardin Botanique, Université d'Alger. Received April 3, 1929.

A variety of the Austrian pine distinguished by its smaller size, smaller cones, and longer leaves. It is native to Morocco south of Djuradjura.

80107. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Rio Piedras, Porto Rico. Plants presented by R. Fernandez Garcia, Director of the Insular Experiment Station of the Department of Agriculture and Labor. Received April 10, 1929.

D–625.

80108 to 80116. FRAGARIA spp. Rosaceae. **Strawberry.**

From Breda, Netherlands. Plants presented by Dr. I. Rietsema. Received April 8, 1929.

80108. FRAGARIA sp.

Deutsch Evern.

80109. FRAGARIA sp.

Jucunda.

80108 to 80116—Continued.

80110. FRAGARIA sp.

Laxton Noble.

80111. FRAGARIA sp.

Madame Kooy.

80112. FRAGARIA sp.

Mandan Lefeber.

80113. FRAGARIA sp.

Oberschlesien.

80114. FRAGARIA sp.

Scarlet.

80115. FRAGARIA sp.

Sieger.

80116. FRAGARIA sp.

Sweet French.

80117. CUCUMIS MELO L. Cucurbitaceae. **Melon.**

From Tarnab, Peshawar, Northwest Frontier Province, India. Seeds presented by A. M. Mustafa, Agricultural Officer, Northwest Frontier Province, through Renwick S. McNiece, American Consul, Karachi. Received April 10, 1929.

A variety, locally developed, of unusual merit.

80118. DIOSPYROS KAKI L. f. Diospyraceae. **Kaki persimmon.**

From Japan. Seeds obtained through W. T. Swingle, Bureau of Plant Industry. Received April 10, 1929.

The so-called *Yamagaki*, which is probably a semiwild form of the cultivated Kaki persimmon (*Diospyros kaki*). It is widely used in Japan as a stock for the cultivated varieties of the Kaki persimmon. When Doctor Swingle was in Japan he was assured repeatedly that this is the best stock for persimmons, and for some varieties it is the only one that can be used successfully.

80119 and 80120.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 2, 1929.

80119. CLEMATIS GOURIANA Roxb. Ranunculaceae.

Baklo. A tall-climbing Himalayan drought-resistant vine with pinnate leaves of five to seven ovate papery leaflets 4 inches long and yellowish white flowers an inch across in large panicles.

For previous introduction see No. 68332.

80120. FLACOURTIA RUKAM Zoll. and Mor. Flacourtiaceae.

A handsome unarmed Malayan drought-resistant tree with leathery leaves and edible berries about the size of cherries, which are said to make excellent preserves.

80121. HORDEUM VULGARE PALLIDUM Seringe. Poaceae. **Six-rowed barley.**

From Leningrad, Union of Socialistic Soviet Republics. Seeds presented by A. Kol, Chief of the Bureau of Introduction, Institute of Applied Botany, through H. V. Harlan, Bureau of Plant Industry. Received April 15, 1929.

80121—Continued.

No. 1716. July 7, 1927. Variety *Dundar beyi.* This variety was collected by Doctor Zhukovsky while on an expedition to Asia Minor, 1925 to 1927.

80122. MEROPE ANGULATA (Willd.) Swingle (*Citrus angulata* Willd.) Rutaceae. **Kigerukkan.**

From Buitenzorg, Java. Seeds presented by Dr. W. M. Docters van Leeuwen, Director, Botanic Gardens, through W. T. Swingle, Bureau of Plant Industry. Received April 15, 1929.

A small spiny tree native to tidal swamps in southern Java. The thick leathery simple leaves are alternate, and the small white flowers are in axillary pairs. The fruits are 1 to 2 inches long and are triangular in cross section, about an inch on each side. Of possible value as a stock for citrus fruits.

For previous introduction see No. 41452.

80123 to 80125. VITIS spp. Vitaceae. **Grape.**

From Wiener Neustadt, Austria. Cuttings presented by Kober, Kohlfürst & Gesellschaft. Received April 17, 1929.

80123. VITIS BERLANDIERI × RIPARIA.

Kober 5 BB.

80124 and 80125. VITIS RUPESTRIS Scheele. **Sand grape.**

80124. *Rupestris Goethe No. 9.*

80125. *Rupestris Schwarzmann.*

80126 to 80139.

From Palmero, Sicily. Plants purchased from Cav. Santarella, Direttore Della Societa di Acclimazione. Received April 6, 1929.

80126 and 80127. AMYGDALUS COMMUNIS L. (*Prunus amygdalus* Stokes). Amygdalaceae. **Almond.**

80126. *Prof. Vita.*

80127. *Cavaliera.*

80128 to 80134. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae. **Peach.**

80128. *Agostina.*

80129. *Carinese.*

80130. *Cotogna di S. Stefano.*

80131. *Fragolara.*

80132. *Sanguigna.*

80133. *Spaccarella di Sicilia.*

80134. *Do St. Anna.*

80135 to 80138. PRUNUS ARMENIACA L. Amygdalaceae. **Apricot.**

80135. *Di San Giulianao.*

80136. *A Mandorla dolce.*

80137. *Regina.*

80138. *Re Umberto.*

80139. PRUNUS CERASUS L. Amygdalaceae. **Sour cherry.**

Amarena comune.

80140 to 80143. FRAGARIA spp. Rosaceae. **Strawberry.**

From Histon, Cambridge, England. Plants obtained from Chivers & Sons, through G. M. Darrow, Bureau of Plant Industry. Received April 15, 1929.

80140. FRAGARIA sp.

Madame Koot.

80141. FRAGARIA sp.

Madame La Febera.

80142. FRAGARIA sp.

Paxton.

80143. FRAGARIA sp.

Royal Sovereign.

80144. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Trinidad, British West Indies. Cuttings presented by Dr. W. G. Freeman, Director of Agriculture. Received April 13, 1929.

D–625.

80145 and 80146. CYNODON DACTYLON (L.) Pers. Poaceae. **Bermuda grass.**

From Kenilworth, near Cape Town, Union of South Africa. Sod presented by Charles N. Murray. Received April 8, 1929.

80145. *Karroo.* A variety which derives its name from the district from which it comes. It is a finer variety than *Royal Cape Strain.*

80146. *Royal Cape Strain.* A coarse variety which has been the standard turf on greens since 1904 in Kenilworth. Its merits are that it is very hard, is drought resistant in a high degree, is never scorched by the hottest sun, stands unlimited wear, and gives a true putting surface which does not develop nap.

80147. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Rutaceae. **Mandarin orange.**

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received April 18, 1929.

Seeds taken by Mr. Wester from the two best mandarin oranges ever eaten by him.

80148. SESBANIA CANNABINA (Retz.) Poir. Fabaceae.

From Peradeniya, Ceylon. Seeds purchased from the Manager of the Publication Depot and Central Seed Store of the Department of Agriculture. Received April 19, 1929.

A stout annual plant, native to Ceylon, with prickly branches, compound leaves a foot long made up of 40 to 80 linear leaflets, and subsessile racemes of 3 or 4 yellow flowers about a quarter of an inch long.

For previous introduction see No. 76103.

80149. PHYLLOSTACHYS Sp. Poaceae. **Bamboo.**

From Avery Island, La. Plants presented by E. A. McIlhenny, at the request of R. A. Young, Bureau of Plant Industry. Received April 22, 1929.

80149—Continued.

This is said by Mr. McIlhenny in his letter dated November 19, 1929, to be one (which one is not known) of the two Chinese bamboos sent to him under F. P. I. Nos. 23242 and 23243 from Chico, Calif., April 3, 1914, by the Department of Agriculture. In 1929 one of the tallest culms at Avery Island was 21 feet high. The plants were in poor soil and have grown without attention, according to Mr. McIlhenny. They appear to belong unmistakably to Phyllostachys, though the sheaths of the young shoots are so different as at first to suggest the possibility of some other genus.

80150 to 80153. FICUS CARICA L. Moraceae. **Common fig.**

From Ariana, Tunis, Africa. Scions presented by F. Bœuf, Chef du Service Botanique. Received April 17, 1929.

80150. *Angel Djemel.*

80151. *Bayoudi.*

80152. *Bidhel atrous.*

80153. *Bidhel Djemmal.*

80154. PYRUS sp. Malaceae. **Pear.**

From Erfurt, Germany. Trees purchased from J. C. Schmidt. Received April 19, 1929.

Krebs Birne. A variety said to ripen in October and to have red flesh.

80155 to 80167. CAJANUS INDICUS Spreng. Fabaceae. **Pigeon pea.**

From San Juan, Porto Rico. Seeds presented by O. W. Barrett, Agricultural Director, Department of Agriculture, through Roland McKee, Bureau of Plant Industry. Received April 17, 1929.

80155. *Colmenos.*

80156. *New Era.*

80157. No. 8. *Venezuela.*

80158. No. 813. *Dominica.*

80159. No. 4427.

80160. No. 4445.

80161. No. 4464. *Cadios.*

80162. No. 4651. *Yaguis.*

80163. No. 4652.

80164. No. 4656.

80165. No. 4657.

80166. No. 4659.

80167. No. 4679.

80168. SOLANUM TUBEROSUM L. Solanaceae. **Potato.**

From Lamlash, Scotland. Tubers presented by Donald MacKelvie. Received April 22, 1929.

Arran Banner.

80169. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Santiago de las Vegas, Cuba. Cuttings presented by Dr. Gonzalo Fortún, Director de la Estación Experimental Agronómica. Received April 23, 1929.

D–625.

80170 to 80193.

From the British West Indies. Seeds collected by Allison V. Armour. Received April 10, 1929.

Unless otherwise stated, the following material is from the Trinidad Botanic Gardens.

80170. ACANTHORHIZA ACULEATA (Liebm.) Wendl. Phoenicaceae. **Rootspine palm.**

A palm, native to Mexico, with a trunk 30 to 40 feet high, armed at the base with spines formed of the thickened aerial roots. The orbicular fan-shaped leaves are about 5 feet in diameter on stalks 4 feet long; the flowers are dark creamy pink.

For previous introduction see No. 45906.

80171. ARCHONTOPHOENIX ALEXANDRAE (F. Muell.) Wendl. and Drude (*Ptychosperma alexandrae* F. Muell.). Phoenicaceae. **Palm.**

A palm with a tall stout trunk up to 80 feet high and pinnately segmented leaves several feet long which are bright green above and whitish underneath. It is native to Australia.

For previous introduction see No. 40069.

80172. ARECA CATECHU L. Phoenicaceae. **Betel palm.**

A palm, native to tropical Asia, up to 100 feet high, with a large crown of pinnate leaves 4 to 6 feet long. The orange or scarlet ovoid fruits, 1 to 2 inches long, furnish the betel nuts which are so generally used in the Orient for chewing.

For previous introduction see No. 66201.

80173. ARTOCARPUS COMMUNIS Forst. Moraceae. **Breadnut.**

A tree, native to the East Indies, 30 to 40 feet high, with viscid milky juice and leathery ovate leaves 3 feet long, entire at the base but divided above into three to nine lobes. The large fruits, 4 to 6 inches in diameter, are often seedless, but in this variety the seeds are present and are much the size and flavor of chestnuts.

For previous introduction see No. 61269.

80174. ASSONIA MASTERSII (Hook.) Kuntze (*Dombeya mastersii* Hook.). Sterculiaceae.

St. Vincent Botanic Gardens. A shrub 4 to 5 feet high, with serrate heart-shaped velvety leaves and many-flowered umbels of fragrant white flowers. It is native to tropical Africa.

80175. ATTALEA SPECTABILIS Mart. Phoenicaceae. **Palm.**

A nearly stemless palm with large pinnate erect or spreading leaves up to 21 feet long. It is native to the banks of the Amazon in Brazil.

For previous introduction see No. 79560.

80176. BARRINGTONIA ASIATICA (L.) Kurz (*B. speciosa* Forst.). Lecythidaceae.

A large handsome tree, 50 feet high, with thick leathery bright-green leaves a foot long, racemes of large showy flowers having white petals, and crimson-tipped stamens resembling a brush. The smooth

80170 to 80193—Continued.

shining black fruits are shaped like a 4-sided pyramid and are 3 to 4 inches long on each side. It is native to the East Indies.

For previous introduction see No. 73226.

80177. BORASSUS FLABELLIFER L. Phoenicaceae. **Palmyra palm.**

A palm, native to tropical Africa, which is 60 to 70 feet high, with a crown of palmate leaves, 8 to 10 feet long and broader than long, divided to the middle into sword-shaped segments. The broadly ovoid orange-colored fruits are about half the size of a coconut.

For previous introduction see No. 78618.

80178. CARICA PAPAYA L. Papayaceae. **Papaya.**

From Santo Domingo. A variety producing large, round to oblong fruits with a very fine flavor.

80179. CARYOTA MITIS Lour. Phoenicaceae. **Fishtail palm.**

St. Vincent Botanic Gardens. A palm, native to the Malay Peninsula, 15 to 25 feet high, which sends out suckers from the base. The pinnate leaves, 6 to 9 feet long, are divided into wedge-shaped segments, and the globular purple fruits are about the size of a cherry.

For previous introduction see No. 68111.

80180. DIALIUM GUINEENSE Willd. Caesalpiniaceae. **Velvet tamarind.**

St. Vincent Botanic Gardens. A tall pinnate-leaved tree, native to West Africa, with small, dark-brown, velvety edible fruits which are in large clusters. The fruits are about the size of small filberts, and the thin brittle shell incloses one or two seeds surrounded by a mildly acid farinaceous pulp, used in the preparation of pickles and in other ways. The timber is a handsome dark red.

For previous introduction see No. 73846.

80181. ELAEIS GUINEENSIS Jacq. Phoenicaceae. **African oil palm.**

A stout palm, native to tropical Africa, 20 to 30 feet high, with a deeply ringed trunk and a crown of pinnate leaves 10 to 15 feet long. The seeds are a source of oil, used not only in foods but also in making soaps.

80182. HYOPHORBE VERSCHAFFELTI Wendl. Phoenicaceae. **Spindle palm.**

A palm, native to the island of Mauritius, with a trunk up to 30 feet high, having a buige about half way up. The crown is made up of short-petioled pinnate leaves which have a yellow band extending from the leaf sheath to the tip of the blade.

80183. INODES BLACKBURNIANA (Glazebr.) O. F. Cook (*Sabal umbraculifera* Mart.). Phoenicaceae. **Blackburn palmetto.**

A palm, native to the West Indies, with a spineless trunk, between 30 and 40 feet high, which is thickened in the middle, large round fan-shaped leaves, and pear-shaped fruits an inch and a half long.

80170 to 80193—Continued.

For previous introduction see No. 62105.

80184. LAGERSTROEMIA SPECIOSA (Muench.) Pers. (*L. flos-reginae* Retz.). Lythraceae. **Queen crapemyrtle.**

Tobago Gardens. An ornamental tropical shrub or tree up to 50 feet high, native to West Africa, with panicles of large pink or purple flowers.

For previous introduction see No. 73736.

80185. LATANIA COMMERSONII Gmel. Phoenicaceae.

A tall spineless palm, native to the island of Mauritius, 30 to 40 feet high, with palmate leaves 5 to 6 feet long, having a red petiole and with the veins and margins tinged with red.

For previous introduction see No. 68118.

80186. LIVISTONA AUSTRALIS (R. Br.) Mart. Phoenicaceae. **Australian fan palm.**

A tall slender palm, native to Australia, 100 to 130 feet high and 12 to 18 inches in diameter, with a dense crown of circular leaves, 3 to 4 feet in diameter, divided nearly to the base into narrow plicate segments. The moderately hard light-colored wood is occasionally used for light construction; the leaves are used for baskets; and the unexpanded fronds, after being dipped in boiling water, are dried, shredded, and the fiber used in making hats resembling Panama hats.

For previous introduction see No. 77971.

80187. LIVISTONA CHINENSIS R. Br. Phoenicaceae. **Chinese fan palm.**

A palm, native to China, with a short thick trunk up to 6 feet high and a foot thick, having a crown of many reniform palmately divided leaves 4 to 6 feet across on petioles about 5 feet long, which are armed below the middle with recurved brown spines more than an inch in length.

80188. MARTINEZIA CORALLINA Mart. Phoenicaceae. **Palm.**

A pinnate-leaved palm about 20 feet high, with a spiny stem and coral-red fruits. It is native to Martinique.

80189. PORTLANDIA GRANDIFLORA L. Rubiaceae.

A tropical shrub up to 15 feet high, native to the West Indies, with opposite elliptical leathery leaves and axillary fragrant white flowers which are funnelform and 5 inches long.

80190. PTYCHOSPERMA MACARTHURI Wendl. (*Kentia macarthuri* Hort.). Phoenicaceae. **MacArthur palm.**

A palm, native to Australia, which grows to a height of 30 feet, but is usually a dwarf in cultivation; it suckers from the base, making a bushy plant. The smooth ringed trunk is crowned by a dense cluster of pinnate leaves with arching leaflets 6 to 9 inches long.

For previous introduction see No. 77320.

80191. RHYTICOCOS AMARA (Jacq.) Beccari (*Cocos amara* Jacq.). Phoenicaceae. **Palm.**

80170 to 80193—Continued.

A palm, native to Martinique, with a ringed trunk reaching a height of 100 feet and bearing a crown of large pinnate leaves resembling those of the coconut.

For previous introduction see No. 62103.

80192. STYLOMA PACIFICA (Seem. and Wendl.) O. F. Cook. (*Pritchardia pacifica* Seem. and Wendl.). Phoenicaceae. **Fiji fan palm.**

A fan palm, native to the Fiji Islands, with a smooth straight trunk up to 30 feet high and a foot in diameter. The nearly circular leaves, 4 feet long by 3 feet wide, are on petioles 3 to 4 feet long and when young are densely covered with whitish brown tomentum, later becoming smooth and rich green.

80193. (Undetermined.)

From Tobago.

80194 to 80207.

From Leicester, England. Seeds purchased from Rev. J. Farnworth Anderson. Received April 4, 1929.

80194. CYTISUS PRAECOX Wheeler. Fabaceae. **Warminster broom.**

An ornamental shrub with silky hairy narrow leaves half an inch long and pale sulphur-yellow flowers produced in great abundance in early spring. It is a hybrid between *Cytisus purgans* and *C. multiflorus,* with the habit of the latter but more densely branching.

For previous introduction see No. 73541.

80195. GENTIANA BRACHYPHYLLA Vill. Gentianaceae. **Gentian.**

A high-alpine perennial which forms spreading tufts with small round leaves and brilliant blue flowers of the general type of *Gentiana verna,* appearing in late summer. Native to central Europe.

For previous introduction see No. 79068.

80196. NARCISSUS BULBOCODIUM CITRINUS Baker. Amaryllidaceae. **Petticoat daffodil.**

A small bulbous plant with very slender nearly terete leaves, and large pale lemon-yellow flowers, 1 to 2 inches long, with a large flaring, somewhat crenulate corona an inch across and inconspicuous perianth segments. The type is a native of the western Mediterranean countries.

80197. NARCISSUS CYCLAMINEUS Baker. Amaryllidaceae.

A dwarf daffodil with narrow drooping orange-yellow trumpet and entirely reflexed lemon-yellow perianth segments. It is native to Portugal.

For previous introduction see No. 76268.

80198. OMPHALODES VERNA Moench. Boraginaceae. **Venusbutton.**

A creeping perennial, native to Europe, with small ovate or sublanceolate leaves, acuminate and callose at the apex, and blue flowers in pairs in a raceme on an erect flower stem. It is related to the forget-me-not.

80199 to 80204. PEDICULARIS spp. Scrophulariaceae. **Woodbetony.**

80194 to 80207—Continued.

80199. PEDICULARIS GRACILIS Wall.

A herbaceous perennial alpine up to 2 feet high, with six slender opposite or whorled branches, whorled, deeply pinnatifid leaves up to 2 inches long, and rosy purple flowers in spikes or racemes 3 to 6 inches long. It is native to the temperate Himalayas.

80200. PEDICULARIS INTEGRIFOLIA Hook. f.

An alpine perennial, native to Sikkim, India, with a stout rootstock and ascending stems 4 to 6 inches high. The leaves are crowded, narrowly linear pubescent, and about 2 inches long. The dark-purple flowers are in oblong capitate spikes.

80201. PEDICULARIS MEGALANTHA Don.

A herbaceous perennial alpine, 1 to 2 feet high, with pinnately divided leaves and lax racemes of yellow or rose-purple flowers. It is native to the temperate Himalayas.

80202. PEDICULARIS ROYLEI Maxim.

A low cespitose perennial alpine, native to the Himalayas, with a thick root, small pinnately cut leaves, and purplish flowers in a small dense spike.

80203. PEDICULARIS SCHIZORRHYNCHA Prain.

A dwarf tufted alpine perennial with erect stems about 2 inches high, long-stemmed oblong-lanceolate pinnately divided leaves, and purple flowers, nearly half an inch long, in small head-like clusters. It is native to the eastern Himalayas.

80204. PEDICULARIS TRICHOGLOSSA Hook.

A stout perennial alpine up to 16 inches tall, with sessile linear-obtuse pinnatifid leaves about 2 inches long, and purple flowers in a lax spike. It is native to the Sikkim Himalayas.

80205. ROSCOEA HUMEANA W. W. Smith. Zinziberaceae.

A stout herbaceous perennial about 8 inches high, with sessile oval-lanceolate leaves 4 to 8 inches long and large hooded violet-purple flowers in compact spikes. It is native to southwestern China.

80206. SAXIFRAGA ALBERTI Regel and Schmalh. Saxifragaceae. **Saxifrage.**

A subshrubby perennial densely covered with oblong-ligulate leaves. The white flowers, with numerous red spots, are in small terminal racemes. Native to the mountains of Turkestan.

80207. TOFIELDIA CALYCULATA Wahlenb. Melanthiaceae.

An erect bulbous plant, a foot or less high, with upright, flat linear leaves terminating in a sharp point. These decrease in size up the stem, becoming nearly awnlike at the summit, and subtend the terminal spikelike raceme of yellowish-white flowers. Native to central Europe.

80208 to 80213. GOSSYPIUM spp. Malvaceae. **Cotton.**

From Trinidad, British West Indies. Seeds presented by Dr. S. C. Harland, Cotton Research Station. Received April 5, 1929.

80208 to 80213—Continued.

80208. GOSSYPIUM CERNUUM Todaro.

An erect bush, 3 feet high, cultivated in India. The flowers are pale sulphur-yellow, and the petals are marked with a purple spot.

For previous introduction see No. 73990.

80209. GOSSYPIUM JAMAICENSE Macf.

Type 35. *Selfed.* A tropical shrub 4 to 5 feet high, with hairy branches, heart-shaped, 3-lobed hairy leaves, pale-yellow flowers, and a 4-valved capsule containing white cotton. It is native to Jamaica.

80210. GOSSYPIUM KIRKII Masters.

Tanganyika. A bushy, somewhat climbing plant from eastern tropical Africa which sometimes scrambles up between and among trees to a height of 14 feet. The leaves are palmately 5-lobed with a cordate base, the flowers are light yellow, and the oblong conical capsules are about a third of an inch long.

80211. GOSSYPIUM PURPURASCENS Poir.

Type 12. *Selfed.* A tropical American shrub, native to Trinidad, 6 to 10 feet high, with purplish branches, 3-lobed leaves, and sulphur-yellow flowers.

For previous introduction see No. 67526.

80212. GOSSYPIUM SCHOTTII Watt.

Cassava. Unselfed. A wild cotton native to Yucatan, Mexico, with leaves almost completely split up into three to five long linear lobes, and medium-sized flowers, yellow tinged with purple. The nearly globose capsules contain a scant amount of reddish fiber.

80213. GOSSYPIUM sp.

Kidney cotton.

80214. TURRAEA OBTUSIFOLIA Hochst. Meliaceae.

From Los Angeles, Calif. Seeds presented by P. D. Barnhart. Received April 10, 1929.

An attractive dwarf evergreen shrub 4 to 6 feet high, bearing between October and March an abundance of white flowers which have strap-shaped petals nearly 2 inches long. Native to South Africa.

For previous introduction see No. 34178.

80215 and 80216.

From Brignoles, France. Seeds presented by R. Salgues, Director, Salgues Museum of Brignoles. Received April 10, 1929.

80215. ORNITHOGALUM PYRENAICUM L. Liliaceae. **Star-of-Bethlehem.**

A bulbous plant, about 2 feet high, with narrow onionlike leaves and flowers on a simple leafless scape. It is native to Europe.

For previous introduction see No. 79177.

80216. VICIA NARBONENSIS L. **Fabaceae. Vetch.**

An annual legume, native to southern Europe, with angled stems 2 to 4 feet tall, compound leaves of two to three pairs of fleshy elliptic leaflets 1 to 2 inches long, and racemes of blue to purple flowers.

80217 to 80245. AVENA spp. Poaceae. **Oats.**

From New South Wales, Australia. Seeds presented by H. Wenholz, Director of Plant Breeding of the Department of Agriculture, Sydney. Received April 20, 1929.

80217 to 80219. AVENA BYZANTINA Koch.

80217. *Algerian.* 1928 crop from Glen Innes.

80218. *Algerian.* 1929 crop from Glen Innes.

80219. *Burt.* 1928 crop from Glen Innes.

80220. AVENA SATIVA L.

Kherson. 1928 crop from Glen Innes.

80221 to 80245. AVENA spp.

1928 crop from Glen Innes.

80221. AVENA sp.

No. 749.

80222. AVENA sp.

Amery.

80223. AVENA sp.

Asquith.

80224. AVENA sp.

Baldwin.

80225. AVENA sp.

Baxter.

80226. AVENA sp.

Belar.

80227. AVENA sp.

Beta.

80228. AVENA sp.

Birdwood.

80229. AVENA sp.

Bond.

80230. AVENA sp.

Boppy.

80231. AVENA sp.

Boree.

80232. AVENA sp.

Brundah.

80233. AVENA sp.

Buddah.

80234. AVENA sp.

Budgery.

80235. AVENA sp.

Byng.

80236. AVENA sp.

Guyra.

80237. AVENA sp.

Kanata.

80238. AVENA sp.

Kandas.

80239. AVENA sp.

Kurri.

80240. AVENA sp.

Reid.

80217 to 80245—Continued.

80241. AVENA sp.

Rucklands.

80242. AVENA sp.

Sunrise.

80243. AVENA sp.

Westdale.

80244. AVENA sp.

Weston.

80245. AVENA sp.

Woodford.

80246 to 80248. TIGRIDIA PAVONIA (L. f.) Ker. Iridaceae. **Common tigerflower.**

From Sassenheim, Netherlands. Bulbs purchased from Van Zonneveld Bros. & Philippi. Received April 24, 1929.

80246. Variety *canariensis.* Pale-yellow flowers with red-spotted centers.

80247. Variety *lutea immaculata.* Pure-yellow spotless flowers.

80248. Variety *rosea.* Rose-colored flowers with yellow-variegated centers.

80249. CROTON sp. Euphorbiaceae.

From Njala, Sierra Leone, Africa. Seeds presented by the Provincial Superintendent of Agriculture, of the Njala Experiment Farm. Received April 25, 1929.

A euphorbiaceous tree growing on the river bank at Njala.

80250. NICOTIANA TABACUM L. Solanaceae. **Common tobacco.**

From Mexico. Seeds obtained through Leonard G. Dawson, American Consul. Received April 25, 1929.

A special variety said to be from the best tobacco grown in the vicinity of San Andres Tuxtla, about 80 miles southwest of Vera Cruz.

80251. ERYTHRINA ACANTHOCARPA E. Mey. Fabaceae.

From Pretoria, Union of South Africa. Seeds presented by E. Percy Phillips, Chief of the Division of Botany, Horticulture, and Entomology of the Department of Agriculture. Received April 26, 1929.

A rigid wide-branched shrub, native to South Africa, 4 to 6 feet high, armed with sharp awl-shaped reflexed prickles. The leaves are made up of three elliptical leaflets one-half to 1 inch long and 1 to 2 inches broad; the scarlet flowers, 1 to 2 inches long, are in lateral and terminal racemes and are followed by twisted prickly pods.

80252. GRAMMATOPHYLLUM SPECIOSUM Blume. Orchidaceae. **Orchid.**

From Medan, Sumatra. Seeds presented by Dr. J. A. Lörzing. Received April 27, 1929.

A giant orchid with stout stems 6 to 10 feet long, strap-shaped leaves a foot or two in length, and flower clusters 6 feet long. The numerous flowers are 6 inches in diameter and are yellow blotched with deep purple. Native to the East Indies.

For previous introduction see No. 67181.

80253 to 80260. CITRUS NOBILIS UNSHIU Swingle. Rutaceae. **Satsuma orange.**

From Okitsu, Japan. Plants presented by Dr. K. Nagai, Imperial Experiment Station. Received April 27, 1929.

80253. *Ikeda (Unshio) wasi.*

80254. *Ishihawa wasi.*

80255. *Miyakawa wasi.*

80256. *Sato Dai wasi.*

80257. *Takahashi wasi.*

80258. *Tsuda wasi.*

80259. *Yamamota wasi.*

80260. *Yanagisawa wasi.*

80261 to 80266. PRUNUS spp. Amygdalaceae.

From Saonara, Padua, Italy. Trees purchased from Fratelli Sgaravatti. Received April 24, 1929.

80261 and 80262. PRUNUS AVIUM L. **Sweet cherry.**

80261. *Napoleone (Imbrian).* Large brilliant-red fruits, produced during June and July, with very delicious white flesh.

80262. *Regina del mercato.* Large, heart-shaped, carmine-red fruits produced during June. The flesh is juicy and very sweet.

80263 to 80266. PRUNUS CERASUS MARASCA (Host) C. Schneid. **Maraschino cherry.**

80263. *Del Nord (Marasca tedesca).* Medium-sized, juicy, somewhat acid fruits which change from red to purple. They are produced during June.

80264. *Imperiale.* Large, intense red fruits produced during June and July. The flesh is tender and sweet to subacid.

80265. *Marasca di Ostheim.* Medium-sized, pale-red fruits produced during June.

80266. *Marasca olandese.* Large black fruits.

80267. KOKIA DRYNARIOIDES (Seem.) Lewton. Malvaceae.

From Honolulu, Hawaii. Seeds presented by H. L. Lyon, in charge of the Department of Botany and Forestry of the Experiment Station of the Hawaii Sugar Planters' Association. Received April 30, 1929.

These seeds were gathered from the only known living tree, which is located on the island of Molokai. An ornamental tree with long-stemmed, heart-shaped leaves and red, silky flowers, it is native to the Hawaiian Islands, but now has become practically extinct because of the ravages of cattle, sheep, and goats that eat the bark and leaves.

For previous introduction see No. 58574.

80268 to 80292.

From Ottawa, Canada. Seeds presented by J. Adams, Botanist, Central Experimental Farm. Received April 6, 1929.

80268. ACER MYABEI Maxim. Aceraceae. **Maple.**

No. 129. A deciduous tree, native to Japan, 30 to 40 feet high, with a trunk

80268 to 80292—Continued.

1½ feet in diameter, deeply 3-lobed leaves, downy yellow flowers in corymbs 2 to 3 inches long, and keys up to an inch long.

For previous introduction see No. 75665.

80269. BETULA TURKESTANICA FETISOWI Hort. Betulaceae. **Birch.**

No. 191. A hardy birch from Central Asia.

80270. CARAGANA PYGMAEA (L.) DC. Fabaceae. **Dwarf pea-tree.**

No. 717. A shrub, native to Siberia, prostrate or up to 3 feet high, with spreading branches, spiny stipules, compound leaves of four linear-lanceolate spine-tipped leaflets, and solitary yellow flowers an inch long.

For previous introduction see No. 64768.

80271 to 80286. GENTIANA spp. Gentianaceae. **Gentian.**

80271. GENTIANA ASCLEPIADEA L. **Milkweed gentian.**

No. 621. A comparatively robust subalpine species forming clumps of vigorous stems up to 3 feet high with opposite oval-pointed leaves. In late summer it produces, from the upper axils, almost sessile trumpet-shaped sapphire-blue flowers which weigh down the arching stalks. There is some variation in color from seed, which germinates freely and produces flowering plants in about three years. The plant is said to be indifferent as to whether the soil is alkaline or not.

For previous introduction see No. 79160.

80272. GENTIANA BAICALIENSIS Hort.

No. 622.

80273. GENTIANA BURSERI Lapeyr.

No. 623. A low alpine perennial native to the Pyrenees, with an unbranched stem less than a foot high, oval-elliptic leaves, and yellowish flowers with the corollas mostly 6-cut.

For previous introduction see No. 79230.

80274. GENTIANA FETISOWII Regel and Winkler.

No. 628. A small-flowered rather coarse species blooming in late summer. It is native to Siberia.

For previous introduction see No. 79024.

80275. GENTIANA FREYNIANA Borum.

No. 629. A herbaceous perennial 6 inches high, native to Asia Minor, related to *Gentiana septemfida,* with lanceolate leaves and headlike cymes of dark-blue flowers which are borne during late summer.

For previous introduction see No. 79075.

80276. GENTIANA GROMBEZEWSKII Hort.

No. 630. A place of publication or description for this name has not been found.

For previous introduction see No. 79027.

80268 to 80292—Continued.

80277. GENTIANA KURROO Royle.

No. 631. A gentian, native to the Himalayas, forming dense tufts from which rise lax stems up to 7 inches high with narrow lanceolate leaves and bell-shaped blue flowers spotted white inside. It is said to appreciate a sunny location, with ample moisture and perfect drainage, especially in spring and autumn.

For previous introduction see No. 79078.

80278. GENTIANA MACROPHYLLA Pall.

No. 632. A herbaceous perennial, native to northern Europe and Asia, with an erect or ascending stem, narrow spreading leaves, and clustered heads of dark-blue flowers.

For previous introduction see No. 79080.

80279. GENTIANA OLIVIERI Griseb.

No. 633. A herbaceous perennial, native to mountain pastures in the Himalayas, about 9 inches high, with dark-blue flowers in umbellike cymes.

For previous introduction see No. 79258.

80280. GENTIANA PANNONICA Scop.

No. 634. A tall stout perennial, native to Europe, with broadly elliptical to narrowly ovate leaves, and flowers which are purple above.

For previous introduction see No. 79259.

80281. GENTIANA PHLOGIFOLIA Schott and Kotschy.

No. 635. A creeping alpine species, native to central Europe, about 10 inches high, with clustered dark-blue flowers which are borne in early summer.

For previous introduction see No. 79083.

80282. GENTIANA PRZEWALSKII Maxim.

No. 636. A lax-growing free-flowering gentian native to western China, rather like *Gentiana kurroo*, with linear leaves about 6 inches long and flowers with nearly white tubes and cobalt-blue petals.

For previous introduction see No. 79086.

80283. GENTIANA SAPONARIA L.

No. 637. A hardy herbaceous perennial not exceeding 2 feet in height, with an ascending stem, narrow pointed opposite leaves, and light-blue flowers. It is native to eastern North America.

For previous introduction see No. 78935.

80284. GENTIANA SEPTEMFIDA Pall.

No. 639. A gentian, native to Asia, which resembles *Gentiana asclepiadea*, requiring similar conditions. It makes spreading clumps up to 12 inches high with opposite ovate leaves and heads of wide-mouthed trumpet-shaped blue flowers in late summer. It varies considerably in habit and flower color, but all forms do well in peaty loam with ample but not stagnant water supply.

For previous introduction see No. 79091.

80268 to 80292—Continued.

80285. GENTIANA TIBETICA King. **Himalayan gentian.**

No. 642. An erect plant 1½ feet high, with oblong-ovate leaves 5 to 7 inches long and small dull yellowish white axillary flowers an inch long. It is native to Tibet.

For previous introduction see No. 79028.

80286. GENTIANA WALUJEWI Regel and Schmalh.

No. 643. A dwarf gentian, native to Sinkiang, China; bearing white flowers with blue spots.

For previous introduction see No. 79095.

80287. LIGUSTRUM sp. Oleaceae. **Privet.**

No. 801. The privets are deciduous or evergreen shrubs with opposite entire leaves and terminal panicles of small white flowers.

80288 to 80291. ROSA spp. Rosaceae.

80288. ROSA RUBRIFOLIA Vill. **Redleaf rose.**

No. 1231. Variety *livida*. A shrub 6 feet high, native to southern Europe, with five to seven oblong leaflets which are simply toothed. The bright-red flowers are borne in small clusters, and the small globose fruits are red and pulpy. The whole plant is glaucous and tinged with bluish red.

For previous introduction see No. 54228.

80289. ROSA SPINOSISSIMA L. **Scotch rose.**

No. 1234. A low shrub usually 3 to 4 feet high, with spreading or recurving branches and densely prickly branchlets. It is native to Europe. The compound leaves are made up of 5 to 11 nearly orbicular serrate leaflets about an inch long, and the pink, white, or yellow flowers 2 inches across are solitary but borne on numerous short branchlets along the stems.

For previous introduction see No. 54235.

80290. ROSA SPINOSISSIMA ALTAICA (Willd.) Rehd. **Altai rose.**

No. 1235. A more vigorous and less bristly form of the Scotch rose with large white flowers.

For previous introduction see No. 54236.

80291. ROSA SPINOSISSIMA HISPIDA (Sims) Koehne. **Bristly Scotch rose.**

No. 1236. An upright bristly form of the Scotch rose usually 6 or more feet high, with large sulphur-yellow flowers.

For previous introduction see No. 54237.

80292. SYRINGA sp. Oleaceae. **Lilac.**

No. 812. The lilacs are ornamental shrubs or small trees with opposite, usually entire leaves and large showy panicles of usually fragrant salver-shaped flowers.

80293. TRIFOLIUM RESUPINATUM L. Fabaceae. **Strawberry clover.**

From Teheran, Persia. Seeds obtained from Jalil K. Hashimzade, Ministry of Public Works, Department of Roads, through Augustin Ferrin, American Consul, Teheran. Received April 30, 1929.

Shaftal clover.

For previous introduction see No. 67863.

80294 to 80303.

From Haifa, Palestine. Cuttings presented by Amram Khazanoff, The Palestine Jewish Colonization Association. Received April 15, 1929.

80294 to 80299. FICUS CARICA L. Moraceae. **Common fig.**

80294. *Baidi.*

80295. *Kharoobi.*

80296. *Khedari.*

80297. *Khurtmani.*

80298. *Mozi.*

80299. *Sultani.*

80300 to 80303. VITIS VINIFERA L. Vitaceae. **European grape.**

80300. *Baidi.*

80301. *Helwani.*

80302. *Jemdani.*

80303. *Khedari.*

80304 to 80307. RHODODENDRON spp. Ericaceae.

From Leicester, England. Seeds purchased from Rev. J. Farnworth Anderson. Received April 13, 1929.

80304. RHODODENDRON ALBRECHTII Maxim. **Azalea.**

A deciduous shrub, native to Japan, 3 to 5 feet high, with purple-brown branchlets, obovate leaves 2 to 6 inches long in clusters of about five at the end of the twigs, and clusters of three to five rotate-campanulate magenta flowers about 2 inches across. It is a handsome shrub resembling *Rhododendron slippenbachii*, but less showy; the leaves turn yellow in the autumn.

80305. RHODODENDRON DECORUM Franch.

An evergreen shrub, native to western China, with oblong leaves 3 to 5 inches long, glaucous beneath, and racemose clusters of green-spotted white or pink flowers 2 inches across.

For previous introduction see No. 79041.

80306. RHODODENDRON MARIESII Hemsl. and Wils. **Azalea.**

A deciduous shrub up to 8 feet high, native to central China, and related to *Rhododendron rhombicum*. The ovate leaves, 2 to 3 inches long, are silky pubescent on the midrib beneath, and the one to three rose-pink broadly campanulate flowers are 1 to 2 inches across.

80307. RHODODENDRON TSCHONOSKII Maxim. **Azalea.**

A forest shrub, native to Japan, with flaky bark, elliptic leaves one-third of an inch long, and heads of one to four small white flowers.

For previous introduction see No. 79043.

80308 to 80339.

From Woodbridge, Suffolk, England. Plants purchased from R. C. Notcutt. Received April 11, 1929.

80308 to 80327. CYTISUS spp. Fabaceae. **Broom.**

80308. CYTISUS ALBUS Hacquet. **Pale broom.**

An upright shrub about 3 feet high, with villous branches, leaves of three oblong-ovate leaflets less than an inch long, and clusters of three to six yellowish white flowers. It is native to southeastern Europe.

80309. CYTISUS AUSTRIACUS L.

A dwarf shrub about 3 feet high, native to southeastern Europe, with trifoliolate silky pubescent leaves and headlike clusters of bright-yellow flowers.

For previous introduction see No. 76241.

80310 and 80311. CYTISUS BIFLORUS L'Her.

80310. A leguminous shrub 3 feet high, with slender branches, leaflets with silky lower surfaces, and yellow flowers, single or in pairs, which are borne during the spring [May].

For previous introduction see No. 73536.

80311. Variety *versicolor prostrata*. A shrub of strong spreading growth. The flowers are golden yellow in the bud, opening to fawn.

80312. CYTISUS DALLIMOREI Rolfe.

This slender shrub, which is a garden hybrid, is of moderate growth, with trifoliolate leaves and axillary and terminal clusters of reddish purple velvety flowers.

For previous introduction see No. 76343.

80313. CYTISUS DECUMBENS (Willd.) Spach.

A prostrate shrub, native to southern Europe, less than a foot high, with 5-angled branchlets, simple oblong-ovate sessile leaves, and axillary clusters of one to three small bright-yellow flowers.

80314. CYTISUS MONSPESSULANUS L. (*C. candicans* DC.).

A strong, erect-growing shrub which is evergreen in regions where the winters are mild. It becomes 10 feet or less high, with grooved branches, trifoliolate leaves having obovate leaflets less than an inch long, and fragrant bright-yellow flowers in 3-flowered to 9-flowered headlike racemes on leafy branches. It is native to the Canary Islands.

For previous introduction see No. 73539.

80315. CYTISUS MULTIFLORUS INCARNATUS Sweet.

Variety *Toome*. A slightly flushed form of the white Spanish broom which is a shrub up to 10 feet high, native to Spain and northern Africa, with upright slender branchlets bearing trifoliolate leaves below and simple ones above. The flowers, in axillary clusters of one to three, are produced very profusely.

80308 to 80339—Continued.

80316. CYTISUS NIGRICANS ELONGATUS Borkh. (*C. nigricans carlieri* Hort.).

Variety *Carlieri.* A deciduous shrub, native to Europe, 2 to 4 feet high, with erect pubescent branches, long-stemmed leaves composed of oval pubescent leaflets up to an inch long, and long slender racemes, 3 to 8 inches long, of rich-yellow flowers. This variety differs from the typical species in that it blooms a second time in the autumn at the top of the elongated fruiting racemes.

For previous introduction see No. 43838.

80317. CYTISUS PRAECOX ALBUS T. Smith. **Warminster broom.**

A smaller and more pendulous white-flowered form of *Cytisus praecox* which is a hybrid between *C. purgans* and *C. multiflorus.* The simple leaves are oblanceolate to linear spatulate and are silky pubescent.

80318. CYTISUS PURGANS (L.) Spach. **Province broom.**

A dwarf bushy deciduous shrub about 3 feet high, native to the Mediterranean region, often nearly leafless, with simple oblanceolate leaves which soon fall and fragrant deep golden-yellow flowers half an inch long produced singly or in pairs from the year-old wood.

For previous introduction see No. 73542.

80319. CYTISUS ROCHELII Wierzb.

A shrub, native to Hungary, 3 to 4 feet high, with villous terete branchlets, trifoliolate leaves of oblong-lanceolate leaflets an inch long, and terminal heads of pale-yellow flowers with brownish spots.

80320 to 80324. CYTISUS SCOPARIUS (L.) Link. **Scotch broom.**

80320. *Donard seedling.* A new variety of vigorous growth, bearing reddish-crimson flowers suffused with grayish white and yellow.

80321. *Rosy Moonlight.* A vigorous grower bearing cream-colored flowers tinged with rose.

80322. *Dorothy Walpole.* A hardy grower bearing an abundance of flowers with rich velvety crimson wings and rose standards.

80323. *Fulgens.* A variety bearing beautiful flowers with deep orange standards and rich crimson keels.

80324. *Lord Lambourne.* A variety in which the flowers have wings of vivid scarlet-crimson color and a standard of soft cream color tinted with rose on the reverse.

80325. CYTISUS sp.

Cornish Cream. A new and charming variety raised by P. D. Williams, Lanarth, St. Keverne, Cornwall. It produces an abundance of good-sized flowers with cream-colored standards and pure yellow on the keel, which gives a distinct and attractive appearance to the blooms. A vigorous grower, especially effective for mass effects.

80326. CYTISUS sp.

Moonlight. Flowers are sulphur yellow.

80308 to 80339—Continued.

80327. CYTISUS sp.

Osborni. A variety of recent introduction, raised at Kew. It is later flowering than *Cytisus praecox,* and although similar in growth, is perhaps of rather a stiffer habit, while there is no trace of the characteristic scent of that variety. The flowers are borne abundantly, and they are golden yellow in the bud, opening to a delightful pale yellow.

80328 to 80339. ERICA spp. Ericaceae. **Heath.**

80328. ERICA ARBOREA ALPINA Dieck.

An evergreen bushy heath, native to the mountainous regions of Cuenca, Spain, which has proved hardy at the Royal Botanic Gardens, Kew, England. The dull-white flowers are borne in stiff pyramidal clusters, but the chief beauty of the plant lies in the rich, cheerful green color of the foliage which, in England, lasts throughout the winter.

For previous introduction see No. 62023.

80329 to 80333. ERICA CARNEA L. **Spring heath.**

80329. *Pink Beauty.*

80330. *C. J. Backhouse.* Flowers blush white.

80331. *Praecox Rubra.* A variety with rich rose carmine flowers.

80332. *Prince of Wales.* The flowers are soft pink.

80333. *Vivelli.* A red-flowered variety.

80334. ERICA CILIARIS L. **Fringed heath.**

Variety *Watsoni.*

80335. ERICA CINEREA L. **Twisted heath.**

Variety *atropurpurea.* Flowers deep purple.

80336. ERICA MACKAII Hook. (*E. mackaiana* Bab.).

Variety *plena.* A double-flowered form of this hybrid between *Erica terralix* and *E. ciliaris,* which has ovate-oblong leaves in whorls of four and umbels of rosy flowers.

80337. ERICA MEDITERRANEA L. **Biscay heath.**

Variety *Brightness.* Flowers bright pink.

80338. ERICA TETRALIX L. **Crossleaf heath.**

Variety *rubra.* Attractive carmine flowers.

80339. ERICA WILLIAMSII Druce.

A hybrid between *Erica tetralix* and *E. vagans,* with puberulous branchlets, sparingly ciliate leaves, and rosy salmon flowers borne during the late summer.

80340 to 80348. TRITICUM spp. Poaceae.

From Perth, Western Australia. Seeds presented by G. L. Sultan, Director of the Department of Agriculture. Received May 2, 1929.

80340 to 80348—Continued.

80340 to 80347. TRITICUM AESTIVUM L. (*T. vulgare* Vill.) **Common wheat.**

80340. C 74. *D. A. C. A179 × Florence.*

80341. C 80. *Dindiloa × Labawa.*

80342. C 86. *Florence × Velvet Don.*

80343. M 11. ***Comeback*** *× Florence.*

80344. M 28. *Dindiloa × Labawa.*

80345. M 29. *Dindiloa × Labawa.*

80346. M 30. *Dindiloa × Labawa.*

80347. P 1511. *Genoa.*

80348. TRITICUM DURUM Desf. **Durum wheat.**

P 1211. *Kubanka.*

80349. SACCHARUM SPONTANEUM L. Poaceae. **Grass.**

From Coimbatore, India. Cuttings presented by the Imperial Sugar Cane Breeding Station, through E. W. Brandes, Bureau of Plant Industry. Received April 26, 1929.

A perennial tropical grass closely related to the sugarcane. It is sometimes cultivated as a hedge plant.

For previous introduction see No. 77782.

80350 to 80355.

From Cape Town, Union of South Africa. Bulbs purchased from W. S. Duke & Co. Received February and March, 1926. Numbered in April 1929.

80350. LACHENALIA RUBIDA Jacq. Liliaceae. **Cape-cowslip.**

A herbaceous perennial, native to South Africa, with a globose bulb from which arise usually two lanceolate, spotted leaves 6 inches long and a naked stalk 9 inches high, bearing a close raceme of small cylindrical, mostly drooping flowers. The outer segments are bright red tipped with green, and the inner segments are longer and yellow.

80351. LACHENALIA TRICOLOR AUREA (Lindl.) Hook. f. Liliaceae. **Cape-cowslip.**

A herbaceous perennial, native to South Africa, closely resembling *Lachenalia rubida,* but the flowers are bright orange-yellow.

80352 to 80354. ORNITHOGALUM spp. Liliaceae.

80352. ORNITHOGALUM ARABICUM L. **Arabian star-of-Bethlehem.**

A herbaceous perennial, native to the Mediterranean region, with a thick, ovoid bulb, five to eight glaucous green leaves 12 to 18 inches long, and a scape 1 to 2 feet high, bearing a 6-flowered to 12-flowered raceme of fragrant white flowers. The pistil is black and adds to the attractiveness of the flowers. This species is very popular for pot culture.

80353. ORNITHOGALUM SPECIOSUM Baker. **Star-of-Bethlehem.**

A herbaceous perennial, native to South Africa, with a globose bulb an inch in diameter, four short thick linear leaves, and a scape a foot high which bears three to five white flowers having an orange-red spot at the tip.

80350 to 80355—Continued.

80354. ORNITHOGALUM THYRSOIDES AUREUM (Curtis) Baker. **Chincherichee.**

An ornamental, native to South Africa, with a globose bulb about 2 inches thick and five or six very narrow leaves 6 inches to a foot long. The golden-yellow flowers, sometimes an inch long under cultivation, are borne in rather dense racemes on a scape about a foot high. In a dried condition these make excellent "everlasting" flowers.

For previous introduction see No. 66891.

80355. VALLOTA SPECIOSA (L. f.) Dur. and Schinz. (*V. purpurea* Herbert). Amaryllidaceae. **Scarboro-lily.**

A herbaceous perennial with an ovoid bulb, 6 to 18 lanceolate leaves 1 to 2 feet long, and a hollow stem 2 to 3 feet high, bearing an umbel of six to nine scarlet funnel-shaped flowers. Native to southern Africa.

80356. HELENIUM AUTUMNALE L. Asteraceae. **Sneezeweed.**

From Niederwalluf am Rheim, Germany. Plants purchased from Goos & Koenemann. Received April 24, 1929.

Wyndley. A plant 2½ feet high, bearing bronzy yellow flowers.

80357 to 80381.

From China. Seeds and rhizomes collected by J. F. Rock, National Geographic Society, Washington, D. C. Received April 29, 1929.

80357. ABIES sp. Pinaceae. **Fir.**

No. 17361. November, 1928. A lovely and stately tree, 60 to 80 feet high, growing in the forests of Tokesher, northwestern Yunnan, at an altitude of 12,000 feet. The needles are silvery beneath, and the very large cones are deep purplish black.

80358. ACONITUM sp. Ranunculaceae. **Monkshood.**

No. 17376–A. November, 1928. A poisonous plant growing in the alpine meadows of the Likiang Snow Range, Yunnan, at altitudes between 11,000 and 12,000 feet. It is 3 to 4 feet high and bears rich blue flowers.

80359. ANEMONE sp. Ranunculaceae.

No. 17325. October, 1928. A plant half a foot high, growing in the glacier moraine of Sabaloko, at the foot of Mount Satseto, Likiang Snow Range, Yunnan, at an altitude of 12,000 feet. The leaves are a rich glossy green on the under surface, and the large white flowers have a purplish tinge beneath.

80360. BAUHINIA sp. Caesalpiniaceae.

No. 17377. November, 1928. A shrub or small tree, which prefers dry sunny situations, growing on the islands in Lake Yungning, northwestern Yunnan, at an altitude of 9,600 feet. It is 15 feet high and bears small white flowers.

80361. COTONEASTER sp. Malaceae.

No. 17365. December, 1928. A shrub growing in the Litang River gorge at Kere, Muli, southwestern Szechwan, at an altitude of 9,500 feet. It is 6 to 10

80357 to 80381—Continued.

feet high, with small ovoid leaves, and is very ornamental with its mass of brilliant red berries.

80362. DELPHINIUM sp. Ranunculaceae. **Larkspur.**

No. 17332. October, 1928. A larkspur growing on glacier gravel and gravelly moraines at Sabaloko, foot of Mount Satseto, Likiang Snow Range, Yunnan, at an altitude of 12,000 feet. It is a beautiful species with rich glossy green leaves forming globose rosettes and large rich blue silky flowers an inch in diameter.

80363. ILEX sp. Aquifoliaceae. **Holly.**

No. 17368. January, 1929. A beautiful shrub growing in the spruce forests on the southern slope of Mount Gibbah, Muli, southwestern Szechwan, at an altitude of 11,500 feet. It is 6 to 10 feet high, with hollylike evergreen leaves and brilliant red berries.

80364. INCARVILLEA GRANDIFLORA Bur. and Franch. Bignoniaceae.

No. 17371. December, 1928. A plant growing on the alpine meadows of Shelan, between Kulu and Muli, southwestern Szechwan, at an altitude of 13,000 feet. It is 3 feet high, and bears purplish red flowers.

80365 to 80367. IRIS spp. Iridaceae.

80365. IRIS sp.

No. 17370. December, 1928. A purple-flowered species growing in forest clearings and alpine meadows of Kulu, southwestern Szechwan, at an altitude of 13,000 feet.

80366. IRIS sp.

No. 17373. November, 1928. A plant growing in the alpine meadows of Mount Yowubo, Yungning Territory, Yunnan, at an altitude of 12,500 feet. It is 1 to 2 feet high, and bears purple or yellow flowers.

80367. IRIS sp.

No. 17375. November, 1928. A medicinal plant, used for colds and stomach trouble, called *Chumbu* by the Hlihin people in Szechwan. It grows wild in grassy swamps and marshy meadows of the Chienso Tussu Territory, southwestern Szechwan.

80368. MALUS sp. Malaceae. **Apple.**

No. 17360. November, 1928. A wide-spreading tree growing in the forests and clearings of Tokesher, northwestern Yunnan, at an altitude of 10,000 feet. It is 30 to 40 feet tall, with leaves white beneath and small, yellow and red fruits half an inch in diameter.

80369. MECONOPSIS INTEGRIFOLIA (Maxim.) Franch. Papaveraceae. **Yellow Chinese-poppy.**

No. 16020. November, 1928. A plant, 1 to 2 feet high, bearing rich golden-yellow flowers. It is found in the alpine meadows of Mount Gibbah, Muli, southwestern Szechwan, at an altitude of 13,000 feet.

For previous introduction see No. 58374.

80357 to 80381—Continued.

80370. PHASEOLUS VULGARIS L. Fabaceae. **Common bean.**

No. 17374. November, 1928. This red bean is cultivated by the Hsifau tribes of southwestern Szechwan and by the Hlihin tribes of northwestern Yunnan. It is a delicious bean when well cooked and reminds one very much of the Mexican bean. It is cultivated at Gawua, Yuli Territory, at an altitude of 10,000 feet.

80371. STRANVAESIA sp. Malaceae.

No. 17363. November, 1928. A lovely tree, 15 to 20 feet high, growing in the forests of Peshui, Likiang Snow Range, Yunnan, at an altitude of 10,500 feet. The autumnal leaves are a brilliant red on the upper whorl and a deep glossy green on the lower whorl. The gorgeous red berries are in large dense corymbs and are very ornamental.

80372. PRIMULA FORRESTII Balf. f. Primulaceae. **Primrose.**

No. 17376–B. October, 1928. A lovely perennial plant with a woody rootstock, which reaches an age of 100 years or more. It grows in rocky limestone soil on sunny slopes of the Likiang Snow Range, Yunnan, at an altitude of 11,000 feet. The flowers are a deep golden yellow, and the leaves, when crushed, have the odor of fresh apples.

For previous introduction see No. 59710.

80373. PRUNUS sp. Amygdalaceae. **Cherry.**

No. 16794. August, 1928. A shrub, 10 feet high, branching from the base. It grows on dry slopes below the monastery at Muli in the Litang River Valley, Szechwan, at an altitude of 9,000 feet. The leaves are grayish tomentose, and the flowers are large, white, and ornamental.

80374 to 80381. RHODODENDRON spp. Ericaceae.

80374. RHODODENDRON CORIACEUM Franch.

No. 17354. November, 1928. A shrub, 3 to 4 feet high, growing on the alpine slopes of the rocky regions of Mount Lapo, Yunnan, at an altitude of 12,500 feet.

80375. RHODODENDRON HELIOLEPIS Franch.

No. 17357. November, 1928. A tree, 15 to 18 feet high, growing in the forests of spruce and hemlock at Gokhuko, northwestern Yunnan. The leaves are brown beneath, and the flowers are a rich purple.

For previous introduction see No. 59715.

80376. RHODODENDRON sp.

No. 16164. December, 1928. A wide-spreading tree, 15 to 20 feet high, growing in the spruce and hemlock forests of Djago, between Muli and Kulu, Szechwan, at altitudes between 11,000 and 11,500 feet. The leaves, chocolate-colored beneath, are a foot broad and 2 feet or more long, and the red flowers borne during February are in large corymbs.

80357 to 80381—Continued.

80377. RHODODENDRON sp.

No. 17352. November, 1928. A very attractive shrub, 2 feet high, growing in northwestern Yunnan on well-drained dry gravelly banks in pine forests at an altitude of 10,000 feet. It has small linear leaves and small tubular white to rich pink flowers borne in globose heads.

80378. RHODODENDRON sp.

No. 17356. November, 1928. A shrub or small tree 12 to 15 feet high, growing in spruce forests and on the edge of the alpine meadows of Gokhuko, northwestern Yunnan, at an altitude of 12,000 feet. The flowers are white to pink with purple spots.

80379. RHODODENDRON sp.

No. 17358. November, 1928. A shrub or small tree, 12 to 15 feet high, growing in spruce forests and on the edge of the alpine meadows of Gokhuko, northwestern Yunnan. The small ovate leaves are acute at both ends and pale beneath, and the flowers are yellow.

80380. RHODODENDRON sp.

No. 17359. November, 1928. A shrub, 2 to 3 feet high, growing in the swampy alpine meadows of Gokhuko, northwestern Yunnan, at an altitude of 12,000 feet. The leaves are very small, and the flowers are blue with a purplish tinge.

80381. RHODODENDRON sp.

No. 17366. December, 1928. A shrub or small tree, 10 to 15 feet high, growing in the fir forests of Kulu, eastern Muli Territory, Szechwan, at an altitude of 13,000 feet. It is very ornamental and is said to have red flowers.

80382 to 80387. CANNA EDULIS Ker. Cannaceae. **Edible canna.**

From Honolulu, Hawaii. Bulbs presented by J. M. Westgate, Director, Hawaii Agricultural Experiment Station. Received May 15, 1929.

80382. 1749.2. Seedling.

80383. 1749.5. Seedling.

80384. 1749.6. Seedling.

80385. 1749.7. Seedling.

80386. 1039.

80387. 2078. Java canna.

80388. CASTANEA MOLLISSIMA Blume. Fagaceae. **Hairy chestnut.**

From Yamaguchi Ken, Honshu, Japan. Seeds collected by R. K. Beattie, Bureau of Plant Industry. Received May 15, 1929.

No. 849. A.

80389 to 80392. ORYZA SATIVA L. Poaceae. **Rice.**

From Hooghly District, Bengal, India. Seeds obtained through R. Y. Jarvis, American Consul, Calcutta, India. Received May 15, 1929.

80389. *Balam.*

80390. *Dudkalma.*

80389 to 80392—Continued.

80391. *Jatakalma.*

80392. *Lalkalma.*

80393 to 80411.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received April 5, 1929.

80393. BERBERIS SANGUINEA Franch. Berberidaceae. **Barberry.**

An evergreen shrub up to 6 feet high, with slender 3-parted spines, narrow-oblong spiny serrate leaves up to 4 inches long, golden-yellow flowers with red sepals, and bluish black fruits. It is native to western China.

80394 to 80398. COTONEASTER spp. Malaceae.

80394. COTONEASTER HARROVIANA Wilson.

An evergreen shrub, native to Yunnan, China, about 6 feet high, of a loose spreading habit, with shining dark-green silky tipped leaves, dense corymbs of white flowers, and red fruits.

For previous introduction see No. 72824.

80395. COTONEASTER sp.

Farrer No. 404.

80396. COTONEASTER sp.

M. V. No. 4524.

80397. COTONEASTER sp.

M. V. No. 4694.

80398. COTONEASTER sp.

Forrest No. 8119.

80399 to 80401. DEUTZIA spp. Hydrangeaceae.

80399. DEUTZIA SCHNEIDERIANA LAXIFLORA Rehder.

A handsome shrub, 6 feet high, with oblong-ovate leaves and white flowers borne abundantly in broad loose panicles. It is native to central China.

For previous introduction see No. 76185.

80400. DEUTZIA sp.

M. V. No. 4277. A handsome shrub closely related to *D. compacta* Craib., introduced from China by Maurice de Vilmorin. The pale-rose, semidouble flowers, larger than those of *D. compacta*, are in compact corymblike panicles.

80401. DEUTZIA sp.

M. V. No. 7264.

80402. EUONYMUS VERRUCOSUS Scop. Celastraceae.

An erect shrub, about 6 feet high, with oval-lanceolate, crenately serrulate, acuminate leaves 1 to 2½ inches long, yellowish red, deeply 4-lobed capsules, and black seeds partly exposed in the capsule. It is native to southeastern Europe and western Asia.

80403. ILEX PERNYI Franch. Aquifoliaceae. **Holly.**

A dense-growing evergreen holly of very dwarf compact habit, with small

80393 to 80411—Continued.

dark-green, spiny leaves squarish at the base and red berries. It is probably allied to *Ilex cornuta*, and was first discovered by Père Paul Perny during his travels in western China between 1850 and 1860.

For previous introduction see No. 67032.

80404. IRIS CLARKEI Baker. Iridaceae.
Clarke iris.

For previous introduction and description see No. 80084.

80405. KITAIBELIA LINDEMUTHI Hort. Malvaceae.

Obtained by M. Lindemuth, gardener at the Botanical Garden, Berlin, by grafting *Kitaibelia vitifolia* on *Abutilon thompsoni*. It is especially attractive because of its variegated grapelike foliage and showy pink flowers.

80406. LABURNUM ANAGYROIDES ALSCHINGERI (Vis.) C. Schneid. (*Cytisus alschingeri* Hort.). Fabaceae.
Goldenchain.

A form of the goldenchain with more silky and bluer-gray leaves and nearly erect racemes of golden-yellow flowers. Native to southern Europe.

For previous introduction see No. 76347.

80407. LONICERA sp. Caprifoliaceae.
Honeysuckle.

Hers. No. 2004.

80408. PYRACANTHA sp. Malaceae.
Firethorn.

M. V. No. 6257.

80409. SORBUS WILSONIANA C. Schneid. Malaceae.

A tree, up to 30 feet high, with elliptic-lanceolate yellowish green leaflets and rather small white flowers in large terminal corymbs. It is native to western China.

80410. VERONICA ROENITZERI Hort. Scrophulariaceae.

A herbaceous variety. (Has flowered only a little but suggests that it may prove somewhat like *V. spicata.*)

80411. VERONICA WALDSTEINII Hort. Scrophulariaceae.

A variety said to have spikes of blue flowers which appear very late in the summer.

80412 and 80413.

From Gambia, British West Africa. Seeds presented by Archibald Brooks, Director, Department of Agriculture. Received May 15, 1929.

80412. ADANSONIA DIGITATA L. Bombacaceae.
Baobab.

A tree about 60 feet high and sometimes 30 feet in diameter, native to tropical Africa, with palmate leaves divided into five to seven lanceolate leaflets, white flowers 6 inches across, and large gourdlike fruits with edible pulp.

For previous introduction see No. 77271.

80412 and 80413—Continued.

80413. FICUS VOGELLI Miquel. Moraceae.
Fig.

A beautiful shade tree of moderate size with large oblong elliptic leaves which are mostly gathered at the ends of the twigs. The small fruits are attractively grouped on the branches and produce many viable seeds. Native to tropical Africa.

For previous introduction see No. 70946.

80414 to 80416. MYOPORUM ACUMINATUM ANGUSTIFOLIUM Benth.

From South Australia. Seeds presented by W. J. Spafford, Deputy Director of the Department of Agriculture, Adelaide, South Australia. Received May 7, 1929.

An erect glabrous shrub with alternate nearly linear leaves 1 to 3 inches long, axillary clusters of two to four small campanulate white flowers, followed by slightly succulent fruits about a quarter of an inch in diameter. It is native to Queensland, Australia.

80414. Obtained from a tree about 14 feet high, growing in Rochester.

80415. Obtained from a shrub about 9 feet high, growing in Pekina.

80416. Obtained from a shrub about 9 feet high, growing in Port Germein.

80417 to 80421. FICUS spp. Moraceae.
Fig.

From Manila, Philippine Islands. Seeds presented by W. H. Brown, Director of the Bureau of Science, Manila. Received May 16, 1929.

80417. FICUS CALOPHYLOIDES Elmer.

A large spreading tree, 70 feet high and 4 feet in diameter, native to the Philippine Islands, with elliptic leaves 5 inches long and flattened globose yellowish-brown fruits.

For previous introduction see No. 77657.

80418. FICUS INDICA L.

A tree up to 50 feet high, which resembles the banyan but does not take root from its branches. The leaves are 4 to 7 inches long, with four to six pairs of nerves, and the yellowish-red globose fruits, a third of an inch in diameter, are crowded together in sessile pairs. Native to tropical Asia and Malaya.

80419. FICUS MINAHASSAE (Teysm. and De Vr.) Miquel.

A rather small tropical tree, native to the Netherland East Indies, with a soft spongy trunk, irregularly heart-shaped acute leaves, and numerous small fruits about one-fourth of an inch long.

80420. FICUS NUDA Miquel.

A tropical woody plant, native to the Philippine Islands, which is closely related to *Ficus benjamina.* The elliptic or oblong leaves are somewhat leathery, and the small sessile fruits are globular.

80421. FICUS ODORATA (Blanco) Merr.

A tree, native to the Philippine Islands, 15 to 18 feet high. It is marked

80417 to 80421—Continued.

by its very rough, fragrant leaves which are sublanceolate with a 1-sided rounded margin at the base.

For previous introduction see No. 50698.

80422. CUCURBITA MAXIMA Duchesne. Cucurbitaceae. **Squash.**

From Doleib Hill, Nalakal, Anglo-Egyptian Sudan, Africa. Seeds presented by H. B. Gephardt, American Mission. Received May 20, 1929.

A pumpkin which requires a long growing season. It has a hard greenish rind when ripe, is of fair quality, and is a good keeper.

80423 to 80433.

From Newry, Ireland. Plants purchased from T. Smith, Daisy Hill Nursery. Received May 7, 1929.

80423 to 80431. CYTISUS spp. Fabaceae. **Broom.**

80423. CYTISUS ARDOINI Fourn.

A low decumbent shrub less than a foot high, with slightly grooved villous branchlets, trifoliolate leaves with obovate villous leaflets about half an inch long, and racemes of golden-yellow flowers. It is native to the southeastern part of France.

80424. CYTISUS BEANII Nichols.

This hybrid between *Cytisus ardoini* and *C. puryans* is a semiprostrate shrub 1 to 2 feet high, with simple linear pubescent leaves and clusters of one to three deep-golden flowers.

80425. CYTISUS PURPUREUS Scop.

Variety *incarnatus*. A form with flesh-colored flowers.

80426 to 80431. CYTISUS SCOPARIUS ANDREANUS Dipp. **Paradise broom.**

80426. *Prostratus*. A prostrate form.

80427. *Daisy Hill*. A variety bearing red and cream-colored flowers.

80428. *Dragonfly*. An upright shrub with slender green branches, small obovate leaflets, and flowers an inch across in shades of crimson and old gold.

80429. *Fairy*. An upright shrub with slender green branches, small obovate leaflets, and flowers an inch across, which are cream and pink.

80430. *Firefly*. An upright shrub with slender green branches, small obovate leaflets, and scarlet and yellow flowers an inch in diameter.

80431. *Newry Gold*. An upright shrub with slender green branches, small obovate leaflets, and flowers an inch across.

80432. DAPHNE BLAGAYANA Freyer. Thymelaeaceae. **Balkan daphne.**

A low diffusely branched shrub native to the mountains of southeastern Europe. The obovate leaves, 1 to 2 inches long, are crowded at the end of the branchlets, and the yellowish-white fragrant flowers, borne in heads, are followed by globose pinkish-white fruits.

For previous introduction see No. 40613.

80423 to 80433—Continued.

80433. DAPHNE CNEORUM L. Thymelaeaceae.

Variety *major*. A form having a more vigorous growth than the type and also larger flowers.

80434 and 80435.

From Angol, Chile. Seeds presented by D. S. Bullock, Escuela Agrícola de "El Vergel." Received May 7, 1929.

80434. LAPAGERIA ROSEA Ruiz and Pav. Liliaceae. **Red Chile-bells.**

This, the national flower of Chile, has been occasionally grown in northern greenhouses. It is an evergreen climber of slow growth, with slender, wiry stems, alternate narrowly ovate leaves, and bright-crimson, pendent tubular flowers about 3 inches long in the axils of the upper leaves or in terminal racemose clusters.

For previous introduction see No. 69168.

80435. LARDIZABALA BITERNATA Ruiz and Pav. Lardizabalaceae.

A shrubby evergreen climber with ternate or biternate dark-green leathery leaves 2 to 4 inches long which are either entire or armed with one or two spinelike teeth. The purple-brown flowers are dicœcious. The staminate ones, about an inch across, are produced in a dense drooping raceme, while the pistillate flowers are larger and solitary, developing into edible oblong fleshy fruits 2 or 3 inches long. Native to southern Chile.

For previous introduction see No. 35960.

80436 to 80450.

From Kirkee, Poona, Bombay, India. Seeds presented by the Superintendent of the Ganeshkhind Botanical Gardens, through William H. Beach, American Vice Consul in Charge, Bombay. Received May 20, 1929.

80436 to 80444. CITRULLUS VULGARIS Schrad. Cucurbitaceae. **Watermelon.**

80436. A black-seeded variety.

80437. A white-seeded variety.

80438. No. 4. The fruits are large and long, with black skin, red flesh, and brown seeds.

80439. No. 5. A variety with small, long fruits which have black skin, red flesh, and black seeds.

80440. No. 6. A variety producing long, large fruits with grayish white skin, red flesh, and black seeds.

80441. No. 7. A variety producing small, round fruits with grayish white skin, rose-colored flesh, and brown seeds.

80442. No. 8. The fruits are large and long, with black skin, red flesh, and whitish seeds.

80443. No 9. A variety with long, white fruits which have red flesh and black seeds.

80444. No. 10. The fruits are large and round, with white skin, red flesh, and black seeds.

80436 to 80450—Continued.

80445 to 80450. CUCUMIS MELO L. Cucurbitaceae. **Cucur-Melon.**

80445. Mixed seeds.

80446. *Chibud.*

80447. *Narri.*

80448. No. 1. A variety producing oblate fruits with white flesh.

80449. No. 2. A variety producing oblate fruits with red flesh.

80450. No. 3. *Jaw.* A variety producing very sweet globular fruits.

80451. VOANDZEIA SUBTERRANEA (L.) Thouars. Fabaceae.

From Bibanga, District du Lomami, Belgian Congo, Africa. Seeds presented by Walter D. Pettis, American Presbyterian Congo Mission, Luebo, Belgian Congo. Received May 17, 1929.

Nyimu. A plant which thrives best on a red sandy soil and matures in less than six months from the time it is planted. It is not of very much value as a human food, but as a stock food it may be well worth trying.

For previous introduction see No. 78255.

80452 to 80454. PISTACIA VERA L. Anacardiaceae. **Pistache.**

From Damghan, Persia. Nuts obtained from Jalil K. Hashimzade, Ministry of Public Works, Department of Roads, Teheran, through Augustin Ferrin, American Consul, Teheran. Received May 25, 1929.

80452. A variety producing large nuts. The shells are tinted pink inside.

80453. A variety producing medium-sized nuts with mostly dark-colored shells.

80454. A variety producing small nuts with mostly light-colored shells.

80455 to 80498.

From Japan. Bulbs and seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 27, 1929.

80455. LILIUM sp. Liliaceae. **Lily.**

No. 111. April 23, 1929. Bulbs obtained in the market at Tokyo. A species used as a vegetable and also probably as an ornamental.

80456 and 80457. ZINZIBER OFFICINALE Roscoe. Zinziberaceae. **Ginger.**

80456. No. 115. April 23, 1929. Roots of a commercial ginger obtained in the market at Tokyo.

80457. No. 123. April 27, 1929. Roots sent from Tokyo by a nurseryman specializing in the growing of ginger.

80458. ZINZIBER sp. Zinziberaceae.

No. 114. April 23, 1929. Forcing roots obtained at Tokyo.

80459 to 80498. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soybean.**

80459. No. 2. Obtained at the National Japanese Food Show held at Uyeno Park, Tokyo, April 5, 1929. A mixed sample taken from a basket of seed showing the soybeans used in the manufacture of bean curd, or tofu.

80455 to 80498—Continued.

80460. No. 13. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. *Maru Kuro.* A black-seeded variety said to be used as a candied bean, as which it is called *Mimame.*

80461. No. 14. Obtained from Nishigahra, Tokyo, April 11, 1929. *Wase Eda Mame.* A greenish-yellow seeded variety originally grown in Hokushu. It is said to be used green.

80462. No. 15. Obtained in the suburbs of Tokyo, April 11, 1929. *Furisode.* A greenish-yellow seeded variety originally grown in Hokushu. It is said to be used in the manufacture of bean curd or tofu, soy sauce, and miso.

80463. No. 16. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. *Tsurunoko.* A large yellow-seeded variety said to be used in making bean curd or tofu, miso, soy sauce, and natto.

80464. No. 17. Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. *Hira Sata Kuro Daizu.* A medium large flat black-seeded variety said to be used as a candied bean.

80465. No. 31. From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally grown in the Tokyo district. *Chusei O Saya Eda Mame.* A large yellow-seeded variety for garden purposes, said to be used principally as a green bean, being cooked in the pod.

80466. No. 32. Obtained at Nichigahara, Tokyo, April 15, 1929. *Okuro Maru Daizu.* A round black-seeded variety grown in Hokushu. It is said to be used as a candied bean, when it is called *Mimame.*

80467. No. 33. Obtained in Takadacho, Tokyo, April 15, 1929, and originally grown in Hokushu. *Ao Daizu.* A large greenish-yellow seeded variety said to be used in making bean curd, miso, natto, and soy sauce. It is also used for forage and green manure.

80468. No. 34. Obtained in Takadacho, Tokyo, April 15, 1929, and originally from Hokushu. *Tsurunoko Daizu.* A large yellow-seeded variety said to be used in making bean curd, soy sauce, natto, and miso. It is also used for forage and green manure.

80469. No. 35. Obtained in Takadacho, Tokyo, April 15, 1929, and originally from Hokushu. *Kuro Maru Daizu.* A large black round-seeded variety said to be used principally as candied beans.

80470. No. 36. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Souseikurome O Saya Daizu.* An early variety with large greenish-yellow black-eyed seeds and large pods. It is said to be used for oil, soy sauce, miso, natto, and bean curd.

80471. No. 37. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Sousei Kuro Sakigake.* An early variety with large black seeds, said to be used principally as candied beans.

80455 to 80498—Continued.

80472. No. 38. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Chusei O Saya Eda Mame.* A large yellow-seeded variety said to be the largest soybean used for garden purposes and to have a sweet flavor. It is said to be used principally as a green bean, being cooked in the pod.

80473. No. 39. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Cha Mame.* A large brown-seeded variety said to be used as a green bean when boiled in the pod.

80474. No. 40. Obtained at Nishigahara, Tokyo, April 15, 1929, and originally from Hokushu. *Shiro Tsubu.* A yellow-seeded variety said to be used in making bean curd or tofu, natto, and soy sauce.

80475. No. 41. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from the Tokyo district. *Higan Mame.* A rather late yellow-seeded variety said to have white sweet meat and to be used as a green bean, being cooked in the pod.

80476. No. 42. Obtained from the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally from the Tokyo district. *Sousei O Saya Eda Mame.* One of the earliest varieties of garden soybeans with large pods and large yellowish-green seeds. It is said to be very sweet as a green bean, being cooked in the pod.

80477. No. 43. From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally from Hokushu. *Sousei Ao Sakigake.* An early green variety with medium, small yellowish-green seeds. It is said to be used in making soy sauce, bean curd, miso, and natto.

80478. No. 60. Obtained from the Japan Seed Co., Shibuya, Tokyo, April 19, 1929, and originally from Fukushima Ken. *Chusei O Saya Daizu.* A middle-season variety with yellow seeds. It is used as a green vegetable or as dried beans in making tofu.

80479. No. 62. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Iwate Ken, northeastern Japan. *Shikou Oobikuri Daizu.* A sweet greenish-yellow variety said to be used as a green vegetable, and also when ripe in making miso and bean curd.

80480. No. 63. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from the Saitama Ken. *Gokuwase Daihosan Shinbon Daizu.* One of the earliest varieties with an abundance of pods containing yellow seeds. It is said to be used especially as a green vegetable and is the earliest of the varieties used for this purpose.

80481. No. 64. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. *Roknsun Daizu.* Six-inches soybean, meaning that 10 beans equal 6 inches. A large flat yellow-seeded variety used as a green vegetable like the green Lima bean.

80482. No. 65. From the Japan Seed Co., Shibuya, Tokyo, April 19, 1929, and originally from Fukushima Ken, northeastern Japan. *Sousei O Saya Daizu.* An early large-podded soybean with large greenish-yellow seeds. It is said to be used as a green vegetable, and when dry it is used for bean curd and miso.

80483. No. 66. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Nagano Ken, central Japan. It is said to be used principally as a green vegetable. This variety is called "seaweed" because of its flavor.

80484. No. 67. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, and originally from Saitama Ken. *Sato Daizu.* A black seeded soybean said to be used as candy beans.

80485. No. 68. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Saitama Ken. *Chusei Hattoku Daizu.* A middle-season variety with yellow seeds. It is said to be used as a green vegetable.

80486. No. 69. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Saitama Ken. *Bansei Gokudai Tsukimi Daizu.* A large late harvest-moon soybean with large yellow seeds. It is said to be used as a green vegetable.

80487. No. 72. From the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929, and originally from Saitama Ken. *Shin Honen Daizu.* A new soybean with an abundance of pods containing yellow seeds. It is used for miso, soy sauce, and bean curd.

80488. No. 97. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Chaurame.* An early tea-colored variety with medium-large brown seeds. It is said to be used green like the Lima bean.

80489. No. 98. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Ao Sakigake.* One of the earliest of the green vegetable soybeans with medium-sized greenish-yellow seeds. It is said to be used like the Lima bean.

80490. No. 99. From T. Sakata & Co., Yokohama, April 26, 1929, and originally from Tamba Province, Kyoto Prefecture. *Tamba Otsubu Daizu.* A variety with medium-large yellow seeds used green like the Lima bean, the dried beans being used for bean curd or tofu.

80491. No. 100. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Kuro Sakigake.* An early variety with medium-large round black seeds, used for cooking with sirup as a candied bean.

80455 to 80498—Continued.

80492. No. 201. From T. Sakata & Co., Yokohama, April 26, 1929. *Eda Mame Uase Kurome Dzaya.* An early large-podded variety with medium-sized greenish-yellow seeds which have black seed scars. It is used green in the same way as Lima beans.

80493. No. 202. From T. Sakata & Co., Yokohama, April 26, 1929. *Daikoku Eda Mame* (Daikoku's black vegetable soybean). A medium-sized slightly compressed black-seeded variety said to be grown in Hokushu. It is used as a candied bean.

80494. No. 203. From T. Sakata & Co., Yokohama, April 26, 1929. *Tsurunoko Daizu.* A small, round, smooth-skinned variety with medium-sized yellow seeds. It is used as a green vegetable and also dried, and is especially good for making bean curd. It is said to have a high protein content.

80495. No. 204. From T. Sakata & Co., Yokohama, April 26, 1929. *Otsubu Muriname.* A medium-large seeded variety with black seed slightly compressed. It is used for cooking in sirup as a candied bean.

80496. No. 205. From T. Sakata & Co., Yokohama, April 26, 1929. *O Tsuba Uase Aoshiro Eda Mame.* An early large variety with medium-sized greenish-yellow seeds, said to be grown in Hokushu. It is used green like the Lima bean, and the dried beans are used for making soy sauce, miso, natto, and been curd.

80497. No. 206. From T. Sakata & Co., Yokohama, April 26, 1929. *Yedamame Uase Higanmame.* An early equinoctial variety with medium-large, yellow seeds with a brown hilum. It matures about the 18th of September. It is used as a green vegetable, and the dried beans are used for soy sauce, bean curd, and natto.

80498. No. 207. From T. Sakata & Co., Yokohama, April 26, 1929. *O Tsubu Aojiro Daizu.* A large greenish-yellow seeded variety said to be grown in Hokushu. It is said to be used as a green vegetable, and the dried beans are sometimes used in making white miso and natto.

80499. XIMENIA AMERICANA L. Olacaceae. **False sandalwood.**

From the Juba region, Italian Somaliland, Africa. Seeds presented by Dr. Mario Calvino, San Remo, Italy. Received May 31, 1929.

A widely distributed tropical tree with clustered oblong-obtuse leaves, small yellow flowers, and yellow, plumlike fruits inclosing a white nut. In Somaliland, where the fruit is known as "ciunducua," the natives eat the nut, the flesh being too acid.

80500. HUFELANDIA ANAY Blake. Lauraceae. **Anay.**

From Guatemala. Budwood presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received May 24, 1929.

Budwood from a tree planted in the grounds of the United Fruit Co.'s hospital, Quirigua, Guatemala, in 1917. A rather slender tree between 60 and 70 feet high, with nearly smooth, rich red-brown bark which is grayish in places. The young leaves are softly pubescent below and sparsely hairy above. It is said that the flowers are borne during May. The smooth, glossy, purplish-black fruits, 4 to 6 inches long, are slender pyriform, sometimes curved, and pointed at the apex. They ripen during August and September.

For previous introduction see No. 43432.

80501 to 80524.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 27, 1929.

80501 and 80502. CANAVALIA ENSIFORMIS (L.) DC. Fabaceae. **Jack bean.**

80501. No. 27. Obtained in Nishigahara, Tokyo, Aprli 11, 1929. *Tsurunashi.* A large white-seeded bean of the bush type grown in the Tokyo district. It is said to be used for cooking, pickling, and medicinal purposes.

80502. No. 208. Obtained from T. Sakata & Co., Yokohama, April 26, 1929. *Kodachi Natamame.* A white-seeded bean of the bush type which appears about the same as that now grown in the United States. The young pods are used for pickling.

80503 to 80505. CANAVALIA GLADIATA (Jacq.) DC. Fabaceae. **Sword bean.**

80503. No. 29. Obtained in Nishigahara, Tokyo, April 11, 1929. *Aka Natamame.* A red-seeded variety of the runner type grown in the Tokyo district. It is said to be used for cooking, pickling, and for medicinal purposes.

80504. No. 30. Obtained in Nishigahara, Tokyo, April 11, 1929. *Shiro Natamame.* A white-seeded variety of the runner type grown in the Tokyo district. It is said to be used for cooking, pickling, and for medicinal purposes.

80505. No. 209. From T. Sakata & Co., Yokohama, April 26, 1929. *Shiro Natamame.* A white-seeded variety of the runner sword bean. The young pods, 3 to 4 inches long, are used for pickling.

80506 to 80509. DOLICHOS LABLAB L. Fabaceae. **Hyacinth bean.**

80506. No. 28. Obtained in Nishigahara, Tokyo, April 11, 1929. *Fujimame.* A brown-seeded bean of the runner type grown in the Tokyo district. The beans are said to be used for cooking.

80507. No. 53. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Shirobana Tsuruari Fugimame.* A brown-seeded bean of the white-flowered runner variety grown in the Tokyo district. The dried beans are said to be used for cooking.

80508. No. 54. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Akabana Tsuruaru Fugimame.* A brown-seeded bean of the red-flowered runner variety grown in the Tokyo district. The beans are dried for use.

80501 to 80524—Continued.

80509. No. 55. Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929. *Furnichi Fugimame.* A very dark-brown seeded variety of bush bean developed by Professor Furnichi, Tokyo Agricultural College, Tokyo. It is said to be used as green beans boiled in the pod, and the beans are also used when dried.

80510 to 80517. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Fabaceae. **Adzuki bean.**

80510. No. 18. *Azuki.* Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used chiefly in the manufacture of a jellylike flour for confections.

80511. No. 19. *Sarashi Au.* Obtained in Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80512. No. 20. *Azuki Dainagon.* Obtained in Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80513. No. 21. *Azuki Dainagon.* Obtained in the suburbs of Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80514. No. 22. *Usukawa Azuki.* Obtained in Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A red-seeded variety said to be used in the manufacture of a jellylike flour for confections.

80515. No. 61. *Shiro Azuki.* From the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929, and originally from near Tokyo, Saitama Ken. It is said to be used for making confections and for flour which is cooked at once and then dried for future use.

80516. No. 70. *Dainagon Azuki.* Obtained in Shibuya, Tokyo, April 19, 1929, and originally from Hokushu. A large red-seeded variety said to be used in making many confections and as a flour.

80517. No. 210. *Dainagon Azuki.* From T. Sakata & Co., Yokohama, April 26, 1929. A large reddish-brown seeded variety used for making all kinds of confections.

80518 and 80519. PHASEOLUS AUREUS Roxb. Fabaceae. **Mung bean.**

80518. No. 26. *Yaenari* or *Ao Azuki.* Obtained in Nishigahara, Tokyo, April 11, 1929. A small green bean of the bush type grown in the Tokyo district. It is said to be used for bean sprouts and in making confections.

80519. No. 56. *Yaenari.* Obtained from the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A green mung bean said to be used chiefly for sprouts, but it

80501 to 80524—Continued.

is also used as flour in making confections.

80520 to 80523. VIGNA SESQUIPEDALIS (L.) Fruwirth. Fabaceae. **Asparagus-bean.**

80520. No. 24. *Onage Sasage.* Obtained in Nishigahara, Tokyo, April 11, 1929. A light red-seeded variety of the runner type said to be used as string beans when the pods are young.

80521. No. 25. *Turoku Sasage.* Obtained in Nishigahara, Tokyo, April 11, 1929. A light red-seeded variety of the runner type grown in the Tokyo district. It is said to be used as string beans when the pods are young.

80522. No. 57. *Kuro Sanjoku Sasage.* Obtained in Nishigahara, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A black-seeded variety said to be used as string beans when the pods are young, and the seeds are also dried and used as baked beans.

80523. No. 58. *Juroku Sasage.* Obtained from the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A red-seeded variety said to have pods 2 feet long, and to be used as string beans when the pods are young.

80524. VIGNA SINENSIS (Torner) Savi. Fabaceae. **Cowpea.**

No. 23. *Kintoki Sasage.* Obtained from the suburbs of Tokyo, April 11, 1929. A red-seeded variety of the bush type grown in the Bicchu district (Inland Sea). It is said to be used as a string bean when young; the beans also are used when dried.

80525 and 80526.

From Formosa, Argentina. Seeds presented by Dr. Lorenzo R. Parodi, University of Buenos Aires. Received May 25, 1929.

80525. CHLORIS CASTILLONIANA Lillo and Parodi. Poaceae. **Grass.**

A stiffly erect grass, 4 to 6 feet high, with linear leaves and a plumelike inflorescence 5 to 8 inches long. It is native to Argentina.

80526. PANICUM PAUCISPICATUM Morong. Poaceae. **Grass.**

A coarse grass, native to Argentina, which roots at the lower nodes and later ascends to 3 feet. The lanceolate leaves are 4 to 6 inches long by an inch broad, and the flowers are in a loose spike.

80527 to 80529. CHAYOTA EDULIS Jacq. (*Sechium edule* Swartz). Cucurbitaceae. **Chayote.**

From Guatemala. Fruits presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received November 26, 1928. Numbered in April, 1929.

80527. No. 8. A smooth medium-sized green variety.

80528. No. 11. A large yellowish green variety which is very spiny.

80529. No. 15. A small white variety.

80530. PROSTANTHERA LASIANTHOS Labill. Menthaceae.

From Tasmania. Seeds presented by L. A. Evans, Headquarters and Technical Service of the Department of Agriculture, Hobart. Received May 31, 1929.

Seeds of the so-called Christmas or native lilac of Tasmania, collected by James Bacon, Verona, near the Huon River Estuary. It is a tall erect shrub up to 12 feet high, having lanceolate-serrate leaves 3 inches long and terminal compound racemes of white flowers marked with purple.

For previous introduction see No. 76721.

80531. EUGENIA AQUEA Burm. f. Myrtaceae.

From Medan, Sumatra. Plants presented by J. A. Lörzing. Received July 7, 1928. Numbered in June, 1929.

A medium-sized tree, 20 to 30 feet high, native to the Molukka Islands, with smooth ovate-oblong evergreen leaves about 2 inches long, large white or red flowers in terminal or axillary cymes, and crimson to white ovoid edible fruits 1 to 2 inches long.

For previous introduction see No. 68026.

80532. PERSEA AMERICANA Mill. (*P. gratissima* Gaertn. f.). Lauraceae. **Avocado.**

From Waldo, Fla. Bud sticks presented by C. C. Shooter. Received May 31, 1929.

A tree about 50 feet high with an immense trunk. It survived the freeze in January, 1928, at which time the thermometer went to 15° F. at Gainesville, and the cold lasted several days. The tree, then in full bloom, lost its leaves for the first time, and the branches were cut back about one-third. The smaller seedling trees did not even lose their leaves when orange and grapefruit trees were frozen to the ground. It starts blooming in January and continues through until March, even if frost catches it, and has had as many as 1,000 fruits.

80533 to 80539.

From Tokyo, Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 31, 1929.

80533. ASTRAGALUS SINICUS L. Fabaceae.

No. 229. From the Tokyo Seed, Plant & Implement Co., Konon, May 6, 1929. A red-flowered variety quite common in the farming area about Tokyo, where it is said to be used for forage and green manure. It is a winter crop, being planted early in the fall, and was in full bloom about the first of May.

For previous introduction see No. 70969.

80534. MEDICAGO HISPIDA DENTICULATA (Willd.) Urban. Fabaceae. **Bur clover.**

No. 215. *Mokushika.* From the Yamato Seed Co., Takadacho, May 6, 1929. A clover said to be chiefly used for green manure and to some extent as a forage. It is also said to be different from the *Medicago denticulata* grown in the United States.

For previous introduction see No. 60562.

80533 to 80539—Continued.

80535. PISUM SATIVUM L. Fabaceae. **Pea.**

No. 228. *Endo.* From the Tokyo Seed, Plant & Implement Co., Konon, May 6, 1929. A winter variety sown during the early fall in the Tokyo district. The pods are used as a green vegetable when the peas are just commencing to form, and later the peas are used.

80536 and 80537. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soybean.**

80536. No. 134. From the Soy Sauce Laboratory, Imperial Experiment Station, Nishigahara, May 3, 1929. The seeds were originally grown in Manchuria. This sample is apparently mixed and may consist of several strains. It came from a lot used in the manufacture of soy sauce.

80537. No. 212. *Ryokuhi Daizu.* From the Yamato Seed Co., Takadocho, May 6, 1929. A small black-seeded variety said to be used especially as a green-manure crop.

80538 and 80539. VICIA FABA L. Fabaceae. **Broadbean.**

80538. No. 211. *Sora Mame.* From the Yamato Seed Co., Takadocho, May 6, 1929. A variety grown in the Tokyo district and southward. When full grown the beans are used after the manner of the green Lima bean. The dried beans are used in making candied beans by boiling in sirup and they are also roasted.

80539. No. 216. *Issum Sora Mame* (1-inch broad bean). From the Yamato Seed Co., Takadocho, May 6, 1929. A variety grown extensively for food in the Tokyo district and southward. It is planted during the fall. The beans are used especially in making candied beans by boiling in sirup.

80540. PERSEA SCHIEDEANA Nees. Lauraceae. **Coyo.**

From Tela, Honduras. Plants presented by Alfred F. Butler, Horticulturist, Research Department of the United Fruit Co. Received June 3, 1929.

This plant, known as *Yas* in Costa Rica and *Coyo* in Guatemala, occurs from southern Mexico to Panama. In Costa Rica it is found abundantly on the slopes of Irazu at altitudes between 4,000 and 6,000 feet. The fruits greatly resemble avocados. Up to the present the coyo has not shown much promise in Florida or California. It is somewhat slow of growth and probably will not bear until the trees are at least 8 or 10 years old. Efforts are being made to introduce the best seedling varieties from Guatemala and to propagate them by grafting. In this way it may be possible to encourage early fruiting and to have fruit of better quality than would be obtained from most seedlings.

For previous introduction see No. 52787.

80541. SACCHARUM OFFICINARUM L. Poaceae. **Sugarcane.**

From Pasoroean, Java. Cuttings presented by Dr. V. J. Koningsberger, Proefstation voor der Java Suikerindustrie. Received June 6, 1929.

P. O. J. 1337.

80542 and 80543. CANNA EDULIS Ker. Cannaceae. **Edible canna.**

From Pointe à Pitre, Guadeloupe, **French** West Indies. Tubers presented by C. Holman B. Williams, Directeur, Station Agronomique. Received May 23, 1929.

A close relative of the ornamental cannas, cultivated for its edible tubers.

For previous introduction see No. 78852.

80542. *Jaune.* **80543.** *Rouge.*

80544 to 80549. ROSA spp. Rosaceae.

From Ottawa, Canada. Plants presented by W. T. Macoun, Dominion Horticulturist of the Central Experimental Farm. Received May 3, 1929.

80544 to 80547. ROSA HARISONII Rivers. **Harison's yellow rose.**

80544. *Antenor.* A moderate grower bearing double apricot-colored flowers which fade to cream.

80545. *Lucasia.* A moderate grower bearing large, single, cream-colored flowers.

80546. *Orinda.* A vigorous variety which keeps its foliage until late in the season and bears deep-cream semidouble flowers. Suckers are produced freely.

80547. *Silvander.* A moderate grower bearing single yellow flowers.

80548 and 80549. ROSA SPINOSISSIMA L. **Scotch rose.**

For previous introduction and description see No. 80289.

80548. A variety bearing large flowers.

80549. A strong-growing seedling of the Scotch rose which suckers freely and requires no pruning. The foliage is like a hybrid perpetual, and the flowers are very double, flat, and fragrant, but inclined to ball badly in wet weather.

80550. GREWIA OCCIDENTALIS L. Tiliaceae.

From Kirstenbosch, Newlands, near Cape Town, Union of South Africa. Seeds presented by R. H. Compton, Director of the National Botanic Gardens. Received May 24, 1929.

The younger parts of this evergreen shrub are covered with rusty tomentum. The dentate cordate leaves are 1 to 2 inches long, and the small flowers, in axillary or terminal cymes, are followed by purplish 4-lobed fruits the size of small peas. Native to Ethiopia and also the cape region.

For previous introduction see No. 51147.

80551. INODES MEXICANA (Mart.) Standl. (*Sabal mexicana* Mart.) Phoenicaceae. **Palmetto.**

From Georgetown, Demerara, British Guiana. Seeds presented by J. S. Dash, Director of the Department of Agriculture. Received June 5, 1929.

A tall palm up to 60 feet high, with palmate leaves divided into linear segments having numerous long threads on the margins. The inflorescence is short, dense, and recurved, and the fruits are flattened globose and black. It is native to Oaxaca, Mexico.

80552 and 80553. PERSEA AMERICANA Mill. (*P. gratissima* Gaertn. f.) Lauraceae. **Avocado.**

From Habana, Cuba. Bud wood obtained through Alfred F. Butler, Horticulturist, Research Department of the United Fruit Co., Tela, Honduras. Received June 6, 1929.

Large summer varieties of the Pollock type. The varieties were selected by Senator Menocal, Habana, Cuba, who named them *Wilson Popenoe* and *Raul Arango*. Unfortunately, during shipment to Tela, Honduras, the labels were lost, and it is therefore impossible to determine which is which.

80552 **80553**

80554. ULMUS JAPONICA Sarg. Ulmaceae. **Japanese elm.**

From Nikolsk-Ussuriisk, Maritime Province, Siberia, Union of Socialistic Soviet Republics. Seeds presented by the Director of the State Russian Geographical Society. Received June 6, 1929.

A large handsome hardy elm occasionally 90 feet high. Native to northeastern Asia.

For previous introduction see No. 76469.

80555. ARTOCARPUS COMMUNIS Forst. Moraceae. **Breadnut.**

From Summit, Canal Zone. Seeds presented by J. E. Higgins, Agronomist in Charge of the Plant Introduction Gardens. Received June 10, 1929.

A form of the breadfruit in which the seeds are fully developed. These are about the size of chestnuts and are roasted and eaten.

80556 to 80565.

From Cape Town, Union of South Africa. Bulbs presented by W. S. Duke & Co. Received June 10, 1929.

80556. AGAPANTHUS sp. (*Abumon* sp.). Liliaceae.

A dwarf blue-flowered species.

80557 to 80559. ARUM spp. Araceae.

80557. ARUM sp.

A red-flowered species.

80558. ARUM sp.

A yellow-flowered species.

80559. ARUM sp.

A yellow-flowered seedling.

80560. GLADIOLUS sp. Iridaceae.

Painted Ladies.

80561. NERINE sp. Amaryllidaceae.

80562 to 80564. ORNITHOGALUM spp. Liliaceae.

80562. ORNITHOGALUM sp.

Chincherichee. A late-flowering species.

80563. ORNITHOGALUM sp.

Chincherichee. A yellow-flowered form.

80564. ORNITHOGALUM sp.

Chincherichee. A white-flowered form.

80556 to 80565—Continued.

80565. (Undetermined.)

Snowdrops.

80566. CHORDOSPARTIUM STEVENSONI Cheeseman. Fabaceae.

From South Island, New Zealand. Seeds presented by C. J. Reakes, Director General of the New Zealand Department of Agriculture, Wellington. Received June 4, 1929.

A leafless shrub or small tree up to 20 feet high, native to New Zealand, with long slender pendulous branches and racemes, 1 to 2 inches long, of small purple flowers.

For previous introduction see No. 77552.

80567 to 80570.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received in May and June, 1929.

80567. FERONIA LIMONIA (L.) Swingle (*F. elephantum* Correa). Rutaceae. **Wood apple.**

Vilatti. A very graceful small thorny tree, native to India. The round fruits, about 2 inches in diameter, contain rather dry sweetish aromatic pulp, suitable for making jelly.

For previous introduction see No. 48626.

80568. ALBIZZIA LEBBEKOIDES (DC.) Benth. Mimosaceae.

A small feathery-topped ornamental tree which is very drought resistant. It is closely related to the well-known lebbeck tree, *Albizzia lebbek,* but has smaller and more numerous leaflets, smaller flowers, and broader pods. A native of the Philippine Islands.

80569. FICUS sp. Moraceae. **Fig.**

From Ilocos Norte. A large ornamental shiny green-leaved tree of weeping habit.

80570. RADERMACHERA sp. Bignoniaceae.

Growing in coral lime formation in Ilocos Norte. A tree bearing pale-mauve flowers which have yellowish markings on the throat.

80571 to 80574. AMYGDALUS PERSICA L. (*Prunus persica* Stokes). Amygdalaceae. **Peach.**

From the island of St. Helena. Seeds presented by H. Bruins Lich, Horticultural Officer of the Agriculture and Forestry Department. Received June 7, 1929.

80571. No. 1. *Large yellow.* Fruits clingstone with yellow skin and juicy yellow flesh of good flavor.

80572. No. 2. *Carrot.* Fruits freestone with pink skin and pink flesh of good flavor.

80573. No. 3. *Red center.* Fruits freestone with rosy skin and white and red flesh of good flavor.

80574. No. 4. *White.* Fruits freestone with creamy white skin and cream-colored flesh of fair flavor.

80575. ORNITHOGALUM LACTEUM Jacq. Liliaceae.

From Rosebank, near Cape Town, Union of South Africa. Bulbs purchased from Charles Ayres. Received June 10, 1929.

Chincherichee Darling. A variety from Darling, a district about 80 miles from Cape Town. The flowers are white with yellowish centers. They begin blooming about the first of November and usually continue until about the first of December. This variety is only at its best from larger bulbs. Anything of pigeon-egg size or larger is considered good, and under cultivation the bulbs frequently increase to the size of a large hen's egg. It does not increase very freely, however, under cultivation, but can be reproduced very successfully from seed, the seedling bulbs flowering about the third season.

80576 to 80629.

From Tokyo, Japan. Collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 27, 1929.

80576 to 80582. BRASSICA spp. Brassicaceae.

Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929.

80576. BRASSICA sp.

No. 81. *Nagina, Takana.* A variety used as greens and also pickled with salt.

80577. BRASSICA sp.

No. 87. *San tou Sai,* variety *Makino.* A variety which does not form a head. It is used as a pickle when salted, and the young leaves are used as spinach.

80578. BRASSICA sp.

No. 88. *Tai Kai Shun Paku Sai* (large spring Chinese cabbage). A variety which forms a head and is used like ordinary cabbage.

80579. BRASSICA sp.

No. 89. *Katsuona* (Japanese bigstem mustard plant). A variety said to be used as a salted pickle and a green vegetable.

80580. BRASSICA sp.

No. 90. *Seppaku Taisai, Pak Choi* (Japanese whitestem cabbage). A variety which does not form a head. It is said to be used like the Chinese cabbage, and the young leaves are used like spinach. It is also pickled with salt.

80581. BRASSICA sp.

No. 92. *Kekkyu Hakusai* (improved spring white Chinese cabbage). Said to be used like the ordinary Chinese cabbage, *Pe tsai.*

80582. BRASSICA sp.

No. 93. *Uguisa Na, Komatsu Na* (Japanese green cabbage). Said to be used like spinach.

80583. CARICA PAPAYA L. Papayaceae. **Papaya.**

No. 104. Obtained from a fruit stand in Tokyo, where it had been shipped from Taiwan. The fruit shows a star-like arrangement in cross section which has not been previously noted in a papaya.

80576 to 80629—Continued.

80584 and 80585. CITRULLUS VULGARIS Schrad. Cucurbitaceae. **Watermelon.**

Seeds from the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929.

80584. No. 82. *Ka Ho Sui Ka.* Used as the ordinary squash.

80585. No. 91. *Rokoku Ogon Mitsu Suika* (Russian golden sweet watermelon). A variety used as the ordinary watermelon.

80586. COLOCASIA sp. Araceae.

No. 112. Tubers obtained in the market at Tokyo, April 23, 1929.

80587. COLOCASIA sp. Araceae.

No. 113. Corms obtained in the market at Tokyo, April 23, 1929.

80588 to 80591. CUCUMIS MELO L. Cucurbitaceae. **Melon.**

Seeds from the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929.

80588. No. 74. *Ginmakuwa* (Japanese muskmelon). A variety used as the ordinary muskmelon.

80589. No. 77. *Tokyo o Shirouri* (Japanese vegetable melon). Said to be used in making a salted pickle.

80590. No. 83. *Narukomakuwa.* Used as the ordinary muskmelon.

80591. No. 86. *Enaga Shinuri.* Said to be used in making salted pickles.

80592 to 80596. CUCURBITA MOSCHATA Duchesne. Cucurbitaceae. **Cushaw.**

Seeds from the Tokyo Seed, Plant, & Implement Co., Konon, Tokyo, April 19, 1929.

80592. No. 75. *Kikuza Nankin, Kabocha.* Said to be used as the ordinary squash.

80593. No. 76. *Chirimeu Nankin* (large curled squash). Said to be used like the ordinary squash.

80594. No. 79. *Gokunase Godan We Sato Nankin, To Nasu* (earliest 50-pound sugar squash). Used as an ordinary cooked squash.

80595. No. 80. *Saikyo Nankin, Tonasu.* Used as an ordinary squash.

80596. No. 85. *Sousei Kurokawa Nankin* (earliest black-skinned Japanese squash). Said to be used as the ordinary squash.

80597 and 80598. CUCURBITA PEPO L. Cucurbitaceae. **Pumpkin.**

Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929.

80597. No. 78. *Shokudo Nozyu o* (table queen). A variety said to have sweet flesh. It keeps well in the winter after harvesting.

80598. No. 84. *Namasu Nankin* (Japanese salad squash). A new variety said to be used raw for salads.

80599. LILIUM sp. Liliaceae. **Lily.**

No. 96. Bulbs of a mountain lily from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. *Yama Yuri.* It is commonly known as

80576 to 80629—Continued.

mountain lily, cooking lily, and *Eizan lily.* Eizan is the name of a mountain where this lily grows abundantly. The stems are 5 to 6 feet high, the leaves broad and striped, and the flowers have a very strong odor and are generally white with the inside of the petals spotted dark red.

80600. FATSIA JAPONICA (Thunb.) Decaisne and Planch. Araliaceae.

No. 116. Seeds obtained at the Botanical Garden in Tokyo, April 23, 1929. This broad-leaved evergreen undershrub is extensively used here in most of the parks so far visited.

80601. IPOMOEA BATATAS (L.) Poir. Convolvulaceae. **Sweetpotato.**

No. 110. Tubers obtained in Tokyo, April 23, 1929. A rather long variety of good size and light pink on the outside.

80602. LACTUCA sp. Cichoriaceae. **Lettuce.**

No. 73. Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. *Ryuzetsu Sai* (alligator's tongue). A green-leaved vegetable generally used as a garnish and for salting down.

80603 to 80623. PHASEOLUS VULGARIS L. Fabaceae. **Common bean.**

Nos. 80603 to 80608 were from Nishigahara, Tokyo, April 11, 1929.

80603. No. 3. *Sapporo Oingen.* A white-seeded variety of runner bean, originally from Hokushu, said to be used for boiling and making jam.

80604. No. 4. *Kintoki Uzura.* A red-seeded variety of runner bean said to be used for boiling and making jam.

80605. No. 5. *Ogon.* A light brown-seeded variety of bush bean, originally grown in Hokushu, said to be used for green beans.

80606. No. 6. *Goishi.* A black and white seeded variety of bush bean originally from Hokushu, said to be used as string beans.

80607. No. 7. *Usuki.* Originally grown in Kokushu. A cream-seeded variety of bush bean said to be used as green beans.

80608. No. 8. *Hoso Suzunari.* Originally grown in Hokushu. A white-seeded variety of the bush type with black spots at each end of the seed scar; said to be used as string beans.

80609. No. 9. *Chunaga Uzura.* From the suburbs of Tokyo, April 11, 1929. A variety of the runner type cream colored mottled with red, said to be used as string beans. The dried beans are used baked.

80610. No. 10. *Kintoki Uzura.* From the suburbs of Tokyo, April 11, 1929. A red-seeded variety of the runner type, said to be used in making a sweet bean jam and used in confections.

80611. No. 11. From Nishigahara, Tokyo, April 11, 1929, originally grown in Hokushu. A variety of the runner type, cream colored mottled with red. This variety is

80576 to 80629—Continued.

said to be used as string beans and also dried.

80612. No. 12. *Isshaku Ingen.* From Nishigahara, Tokyo, April 11, 1929, and originally grown in Hokushu. A light brown-seeded variety of the runner type, said to be used as string beans.

80613. No. 44. *Ao o saya Shirotanc, Shayaku gosum.* From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929. A large white-seeded variety of the bush type, originally grown in the Tokyo district, and said to be used as string beans.

80614. No. 45. *Naga Kintoki Ingen.* From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A very dark red-seeded variety of the runner type, said to be the *Canadian Wonder.* It is used as string beans, and the dried beans are used in making sweet bean jam.

80615. No. 46. *Shakugo Sun Ingen.* From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929. A light brown-seeded variety of the bush type originally grown in the Tokyo district, said to be used as string beans.

80616. No. 47. *Nagauzura Ingen.* From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A cream-colored variety of the bush type mottled with red, used as string beans.

80617. No. 48. *Tsuruari Goku Naga Ingen.* From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929. A long-podded runner bean with large flat cream-colored seeds mottled with black. It is said to be used as string beans.

80618. No. 49. *Otafuku Ingen.* From Nishigahara, Tokyo, April 15, 1929, and originally grown in the Tokyo district. A large white-seeded variety of the bush type said to be used as string beans. The dried beans are used as a dessert after cooking with sirup.

80619. No. 50. *Shiro Tsuro Ingen.* From Takadacho, Tokyo, April 15, 1929, originally grown in Hokushu. A white runner bean with large flat white seeds, said to be used in making all kinds of confections, such as sweet bean jam, etc.

80620. No. 51. *Yamato's Omaru Uzura Ingen.* From the Yamato Seed Co., Takadacho, Tokyo, April 15, 1929, originally grown in the Tokyo district. Seeds selected from the *Golden Carmine* by the Yamato Seed Co. A runner type said to be used as string beans and also in making a sweet jam called kinton.

80621. No. 52. *Gokuwase Fusanari Ingen.* From the Imperial Seed Co., Takinogawa, Tokyo, April 15, 1929, and originally grown in the Tokyo district. One of the earliest of the bunch beans for forcing in the greenhouse or hotbed. A light brown-seeded variety of the bush type said to be sown late in the fall in hotbeds or greenhouses.

80576 to 80629—Continued.

80622. No. 59. *Shima Uzura* (mottled garden bean). From Shibuya, Tokyo, April 19, 1929. A cream-seeded variety of the runner type mottled with red. It is used for green beans and also for making bean jam called kinton.

80623. No. 71. *Tora Maru Ingen* (round tiger bean). From Shibuya, Tokyo, April 19, 1929, originally grown in Hokushu. A mottled white variety of the bush type, said to be used as dried beans in making a sweet jam or paste.

80624. PISUM SATIVUM L. Fabaceae. **Pea.**

No. 1. *Hiroshim Akabana Endo* (earliest garden pea). Seeds from Kagawa Mura, Saiki Gun, Hiroshima Ken, April 5, 1929. Said to be used as the garden pea.

80625. SOLANUM MELONGENA L. Solanaceae. **Eggplant.**

No. 95. *Shinkoko o naga Nasu* (Chinese black snake eggplant). Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. Used as the ordinary eggplant.

80626 to 80628. SOLANUM TUBEROSUM L. Solanaceae. **Potato.**

Tubers from Tokyo, April 23, 1929.

80626. No. 106. Variety *Early White.* The tubers are oblong, small, and of uniform size.

80627. No. 107. White potatoes obtained in the market at Tokyo, said to have been imported from Hokushu.

80628. No. 108. Tubers said to be the same as those sent in under No. 107 [No. 80627], but from another region.

80629. SPINACIA OLERACEA L. Chenopodiaceae. **Common spinach.**

No. 94. *Nihon Norenso.* Seeds from the Tokyo Seed, Plant & Implement Co., Konon, Tokyo, April 19, 1929. Used as ordinary spinach.

80630. CLEMATIS GOURIANA Roxb. Ranunculaceae.

From Gladwyne, Pa. Plants presented by Mrs. J. Norman Henry. Received June 5, 1929.

For previous introduction and description see No. 80119.

80631 and 80632.

From Zacuapam, Huatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received June 5, 1929.

80631. MAXIMILIANEA VITIFOLIA (Willd.) Krug and Urb. (*Cochlospermum hibiscoides* Kunth). Cochlospermaceae.

A deciduous shrub or small tree, native to Central America, with grapelike leaves and large clusters of bright-yellow flowers sometimes 6 inches in diameter.

For previous introduction see No. 77168.

80631 and 80632—Continued.

80632. PRUNUS CAPULI Cav. Amygdalaceae. **Capulin.**

A tree, native to tropical America, up to 40 feet high, with lanceolate long-pointed coriaceous leaves 6 to 8 inches long and stout racemes 4 to 6 inches long of small white flowers which are followed by nearly black globose edible fruits half an inch in diameter.

For previous introduction see No. 77433.

80633 and 80634.

From Dampier Island, near New Guinea. Seeds presented by George J. Fritschel, Dubuque, Iowa. Received June 8, 1929.

80633. CORYPHA sp. Phoenicaceae. **Palm.**

A round-seeded, bushy, fan-leaved palm. In general this is a genus of very tall palms with stout spineless trunks.

80634. MUCUNA sp. Fabaceae.

A perennial leguminous climber.

80635. CITRUS sp. Rutaceae.

From Tres Amigos, San Carlos, Costa Rica. Seeds presented by Mrs. A. Bendus, through O. F. Cook, Bureau of Plant Industry. Received June 5, 1929.

Sweet lemon. A variety bearing almost continually very juicy, sweet fruits about the size of the Florida breakfast orange.

80636 and 80637.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 10, 1929.

80636. CASSIA sp. Caesalpiniaceae.

From Abea. *Bulilising.* A handsome native flowering tree.

80637. STREBLUS ASPER Lour. Moraceae.

Aludig. A drought-resistant tree with drooping branches and dark-green foliage. It produces small yellowish rather sweet fruits somewhat resembling corn kernels in appearance. Native to tropical Asia.

80638. LAPAGERIA ROSEA Ruiz and Pav. Liliaceae. **Red Chile-bells.**

From Angol, Chile. Fruits presented by E. E. Reed, Instituto Agricola Bunster, through Julius G. Lay, Counselor of the American Embassy, Santiago, Chile. Received June 12, 1929.

For previous introduction and description see No. 80434.

80639 to 80642. TRITICUM spp. Poaceae.

From La Moncloa, Madrid, Spain. Seeds presented by Antonio Garcia Romero, Estación Central de Ensayo de Semillas. Received June 11, 1929.

80639 to 80641. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). **Common wheat.**

80639. *Colorado de Alfaro.*

80640. *Portuguese No. 2048.*

80641. *Ruso No. 1.*

80642. TRITICUM DURUM Desf. **Durum wheat.**

Pinet.

80643. CUCUMIS MELO L. Cucurbitaceae. **Melon.**

From Angol, Chile. Seeds presented by E. E. Reed, Instituto Agricola Bunster, through Julius G. Lay, Counselor of the American Embassy, Santiago, Chile. Received June 12, 1929.

A Chilean melon, 14 to 20 inches long and about half as much in diameter, with a yellow rind which is usually smooth, and yellow to orange flesh of very good flavor.

80644. SABINEA CARINALIS Griseb. Fabaceae.

From Dominica, British West Indies. Seeds presented by F. G. Harcourt, Curator and Agricultural Superintendent of the Dominican Agricultural Department. Received June 10, 1929.

A very fine flowering shrub or small tree, known locally as *Bois charibe,* which is considered one of the most showy of the native plants of Dominica. If planted on a dry, rocky hillside where it will be scorched by the sun for a period of three or four months each year it makes a marvelous display with its large scarlet flowers which are borne in clusters of three to five before the featherlike leaves appear.

80645 to 80648.

From Nogent sur Vernisson, Loiret, France. Seeds presented by L. Pardé, Directeur des Ecoles des Barres. Received June 5, 1929.

80645. BERBERIS REPLICATA W. W. Smith. Berberidaceae. **Barberry.**

An evergreen barberry, native to southwestern China, with rather small leaves which have recurved margins and are gray beneath. It is an early and profusely flowering species, bearing its blossoms all along the branches in a very attractive fashion, and the deep-crimson berries make it handsome in the fruiting stage.

For previous introduction see No. 63822.

80646. MALUS SIKKIMENSIS (Hook. f.) Koehne. Malaceae. **Sikkim crab.**

The Sikkim crab is a small tree, rather bushy in habit, which grows wild in the interior of Sikkim, India, at altitudes up to 10,000 feet. The narrowly oval leaves are very woolly beneath, and the white flowers, rosy in the bud, are about an inch across and are borne very freely in 4-flowered to 8-flowered clusters. The pear-shaped fruits are dark red with paler dots and are about half an inch wide.

For previous introduction see No. 62026.

80647. PIERIS TAIWANENSIS Hayata. Ericaceae.

An evergreen shrub or small tree, native to Taiwan, with oblong spatulate-serrulate leaves 2 to 5 inches long and small urceolate white flowers in terminal drooping panicles up to 6 inches long.

80648. ROSA FOETIDA Herrmann (*R. lutea* Mill.). Rosaceae. **Austrian brier rose.**

A hardy shrubby rose up to 10 feet high, with slender prickly stems and bright-yellow single flowers of characteristic scent. Native to western Asia.

For previous introduction see No. 78944.

80649. CITRUS VANGASAY Bojer. Rutaceae.

From near Tamatave, Madagascar. Seeds presented by the Station Agricole de l'Ivoloina, through Charles F. Swingle, Bureau of Plant Industry. Received May 31, 1929.

A shrub cultivated in the rural districts of Madagascar for the sake of its thick-skinned orangelike fruits which are flattened at both ends.

80650 to 80653.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received May 31, 1929.

80650. BRASSICA OLERACEA VIRIDIS L. Brassicaceae. **Kale.**

No. 213. *Hanahabotan* (ornamental cabbage flower). From the Yamato Seed Co., Takadacho, Tokyo, May 6, 1929. In Japan it is used as an ornamental, and is grown in pots or small dishes.

80651. CHRYSANTHEMUM CORONARIUM L. Asteraceae. **Crowndaisy.**

No. 219. *Shungiku*. From the Yamato Seed Co., Takadacho, Tokyo, May 6, 1929. This is said to be the edible chrysanthemum or vegetable chrysanthemum. The leaves are used as a garnish, flavoring, and also cooked as spinach.

80652. TAONABO JAPONICA (Thunb.) Szysz. (*Ternstroemia japonica* Thunb.). Theaceae.

No. 124. Obtained from trees in a small park on the road to the Samkaido Building, Tokyo, April 30, 1929. A small evergreen Japanese tree about 12 feet high, with a much branched head, leathery entire oblong leaves, and small yellowish-white fragrant flowers. The globose fruits, about the size of a cherry, are yellow tinged with rose on the sunny side. The smooth timber is used for cabinetwork and interior decorating, and the bark is used for dyeing. The plants are dicœcious.

80653. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

No. 133. From the Soy Sauce Laboratory of the Imperial Experiment Station, Nishigahara, Tokyo, May 3, 1929. This wheat, originally grown in the Tokyo district, is roasted, ground or coarsely cracked, mixed with boiled soybeans, and then rice bacteria are added in the making of soy sauce.

80654 to 80656.

From Darjiling, India. Seeds presented by J. E. Leslie, Curator, Lloyd Botanic Garden. Received June 7, 1929.

80654. GERBERA KUNZEANA Braun and Aschers. Asteraceae.

A herbaceous perennial with a rosette of ovate entire or pinnatifid leaves, woolly beneath, and scapes a foot high with filiform bracts, and bearing daisylike flower heads. It is native to the temperate slopes of the Himalayas in India.

For previous introduction see No. 39017.

80655. MAESA RUGOSA C. B. Clarke. Myrsinaceae.

A stout shrub or small tree, native to India at an altitude of 8,000 feet, with narrowly lanceolate coriaceous leaves 6 to 8 inches long and small white flowers borne in racemose panicles.

80656. RHODODENDRON CAMPANULATUM Don. Ericaceae.

A large evergreen shrub of stiff, spreading habit, sometimes 12 feet high, with oval leaves which are densely covered beneath with a red-brown felt. The flowers, of various rosy purple shades and about 2 inches across, are borne during April in rather loose clusters about 4 inches in diameter. It is native to India at an altitude of 13,000 feet.

For previous introduction see No. 75966.

80657. GOSSYPIUM sp. Malvaceae. **Cotton.**

From Bamoa, Sinaloa, Mexico. Seeds obtained from Dr. A. W. Morrill, through C. E. Bellis, United States Plant Quarantine and Control Administration. Received June 13, 1929.

80658. PERSEA sp. Lauraceae.

From Chichavac, Guatemala. Seeds presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received June 17, 1929.

Aguacate de Monte. A species growing at an altitude of 9,000 feet.

80659 and 80660.

From Victoriaborg, Akkra, Gold Coast, Africa. Seeds and tubers presented by L. A. King-Church, Conservator of Forests. Received June 14, 1929.

80659. FIRMIANA BARTERI (Masters) Schum. (*Sterculia barteri* Masters). Sterculiaceae.

An ornamental tree, native to tropical Africa, with rounded cordate leaves and loose panicles of small coral-pink flowers. The wood is light and used for fishnets and floats, and the fiber is used for making rope.

For previous introduction see No. 73054.

80660. LISSOCHILUS sp. Orchidaceae. **Orchid.**

A terrestrial orchid.

80661 and 80662.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received June 11, 1929.

80661. CLEMATIS GOURIANA Roxb. Ranunculaceae.

For previous introduction and description see No. 80119.

80662. CITRUS WEBBERII Wester. Rutaceae. **Alsem.**

Kalpi. A small handsome tree, 15 to 30 feet high, which is very drought resistant. It is particularly abudant in the Mountain Province, Nueva Vizcaya, and southern Luzon. The better forms have oblate, very juicy acid fruits somewhat like the mandarin in appearance and up to 2½ inches in diameter; these may be used like the lemon. The species is very variable, and appears promising as a citrus stock.

For previous introduction see No. 62658.

80663. ORYZA SATIVA L. Poaceae. **Rice.**

From Howrah, Bengal, India. Seeds obtained from the Deputy Director of Agriculture, Western Circle, Calcutta, through R. Y. Jarvis, American Consul in Charge, Calcutta. Received June 14, 1929.

Patnai paddy.

80664 to 80667.

From Pretoria, Union of South Africa. Seeds obtained from E. Percy Phillips, Principal Botanist, Botanical Station, Division of Plant Industry, Department of Agriculture. Received June 15, 1929.

80664. ACACIA ALBIDA Delile. Mimosaceae.

A low much-branched tree, native to tropical Africa, with whitish bark, axillary spikes of white flowers, and flat oblong pods. It yields a gum similar to gum arabic. The leaves are eaten by goats, and the bark is used in curing leather.

For previous introduction see No. 55419.

80665. ACACIA LASIOPETALA Oliver. Mimosaceae.

A shrub or small tree with the young growing parts softly tomentose. The compound leaves are divided into 14 to 22 pairs of pinnæ, each with 20 to 30 pairs of leaflets. The small flowers, with silky petals, are in small heads on axiliary penduncles 1 to 2 inches long. Native to the Mozambique district of southeastern Africa.

80666. BOLUSANTHUS SPECIOSUS (Bolus) Harms (*Lonchocarpus speciosus* Bolus). Fabaceae.

A small ornamental tree native to South Africa, with compound leaves and long racemes of violet flowers resembling those of wisteria. The tree is subtropical in its requirements, grows best in good deep soil, and is propagated only by seeds. The hard white durable timber is used for wheel spokes.

For previous introduction see No. 76860.

80667. PALLASIA CAPENSIS Christm. (*Calodendrum capensis* Thunb.). Rutaceae.

A large handsome tree with spreading branches in pairs or in threes. The ovate evergreen opposite leaves are 3 to 4 inches long. The white flowers, with linear-oblong reflexed petals 1 to 2 inches long, are in terminal panicles, and the shining black seeds the size of hazelnuts are borne in hard thick capsules. It is native to South Africa.

80668. VIROLA sp. Myristicaceae.

From Aguna, Guatemala. Seeds presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received June 17, 1929.

Collected at an altitude of 1,400 feet. A large tree, 50 to 100 feet tall, native to tropical America. The seeds, resembling nutmegs, are rich in oil which is of evident value for making soap.

80669. ARGANIA SPINOSA (L.) Skeels (*A. sideroxylon* Roem. and Schult.). Sapotaceae. **Argan.**

From Mogador, Morocco. Seeds obtained from Mr. Besson, Inspecteur des Eaux et Forêts. Received June 17, 1929.

The argan tree of western Morocco is very limited in its range, occurring only in that part of the African Continent. It grows to a large size and bears an abundance of light-yellow fruits somewhat resembling small plums in shape. Cattle and goats are said to feed upon these fruits, which are exceedingly acrid to the taste. The seeds are very thick-walled and contain an oil which is used as food and also for illuminating purposes. Apparently the tree is not injured by considerable frost, and it may thrive wherever the hardy citrus grows.

For previous introduction see No. 65467.

80670 and 80671.

From Japan. Seeds collected by P. H. Dorsett and W. J. Morse, Agricultural Explorers, Bureau of Plant Industry. Received June 15, 1929.

80670. SCOPOLINA JAPONICA (Maxim.) Kuntze. Solanaceae.

No. 175. Obtained from Dr. Eishero Wakabayashi, Chief Officer of the Experimental Farm for Cultivation of Medicinal Plants, Kasukabecho, Saitama Ken, May 15, 1929. Doctor Wakabayashi states that the roots, branches, leaves, and flowers are used in nervous troubles.

For previous introduction see No. 32258.

80671. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soybean.**

No. 251. *Sode Furi Daidzu.* From Tokyo, May 15, 1929. A greenish-yellow, medium-large soybean generally used for bean curd, soy sauce, and in cooking.

80672 and 80673. GUNDELIA TOURNEFORTII L. Asteraceae.

From Kurdistan, Turkey. Seeds presented by George E. Lamsa, Mission House, New York, N. Y. Received June 19, 1929.

A perennial herb much resembling a thistle, with milky juice and spiny many-lobed leaves and flower heads which produce seeds somewhat like those of the sunflower, *Helianthus annuus*. It is native to Kurdistan and Persia, where the young shoots are eaten as a vegetable. The seeds are also eaten.

For previous introduction see No. 51142.

80672. From northwestern Kurdistan.

80673. From southeastern Kurdistan.

80674 and 80675. BRASSICA RUGOSA (Roxb.) Prain. Brassicaceae.

From Java. Seeds collected by W. A. Wiren and presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 27, 1929.

A vegetable extensively grown in India and Java. It is an early cold-weather crop in the hills of the central, eastern, and western Himalayas. The permanent radical leaves form a loose cabbagelike head a foot in diameter. Later a stout stem, 4 to 6 feet high, is formed, its

80674 and 80675—Continued.

branches ascending to make a narrow pyramidal head 6 to 10 inches across. The succulent leaves, 12 to 15 inches long and 8 to 9 inches wide, taper into thick white fleshy stalks 3 to 4 inches long and over an inch wide. The plant is cultivated in Nepal where its leaves are picked almost as fast as they are developed and are used as a vegetable. An oil is extracted from the seeds.

For previous introduction see No. 53542.

80674. *Sesawi idjo.*

80675. *Sesawi puti.*

80676. CASSIA sp. Caesalpiniaceae.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received June 27, 1929.

A small tree, about 20 feet high, which reminds one of *Sesbania grandiflora.*

80677. ANACARDIUM OCCIDENTALE L. Anacardiaceae. **Cashew.**

From Tananarive, Madagascar. Seeds obtained from Paul Dean Thompson, American Vice Consul. Received July 26, 1928. Numbered in June, 1929.

A tropical evergreen tree, 30 to 40 feet high, with large leathery leaves. It is native to the West Indies. The small kidney-shaped nuts are borne on large swollen, pear-shaped, juicy, acidulous stalks, 2 to 4 inches long, which are preserved. The edible seeds are roasted and served as a dessert and are now becoming well-known in the markets of the eastern United States, along with other salted nuts.

For previous introduction see No. 52582.

80678. EXOECARIA BICOLOR (Hassk.) Zoll. Euphorbiaceae.

From Singapore, Straits Settlements. Plants collected by David Fairchild, Agricultural Explorer, Bureau of Plant Industry, with the Allison V. Armour Expedition. Received July 19, 1926. Numbered in June, 1929.

No. 822. Botanic Gardens, May 31, 1926. A handsome shrub with leaves glossy green above and wine-red on the under surface.

80679 and 80680.

From Mountain Province, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 24, 1929.

80679. RUBUS COPELANDII Merr. Rosaceae.

A robust bramble with ascending arching spiny canes 10 feet long. It is native to the Philippine Islands at altitudes between 5,000 and 8,000 feet. The leaves are trifoliolate, and the orange-red berries are juicy and edible, but lacking in flavor.

For previous introduction see No. 76797.

80680. VACCINIUM BARANDANUM Vidal. Vacciniaceae.

A shrub or small tree, 12 to 30 feet high, native to the island of Luzon. It has coriaceous undulate-margined leaves 4 to 6 inches long and campanulate red flowers nearly an inch long in axillary racemes. It is found at altitudes between 4,000 and 7,000 feet.

80681 to 80709.

From Guatemala. Seeds presented by Wilson Popenoe, Research Department of the United Fruit Co., Tela, Honduras. Received June 20, 1929.

80681. ACACIA sp. Mimosaceae.

Obtained at Chichavac at an altitude of 8,300 feet.

80682. APEIBA ASPERA Aubl. Tiliaceae.

Peine de mico. Obtained at Caballo Blanco at an altitude of 250 feet. A large handsome tree 40 feet high, with grayish bark, oval smooth green leaves 5 inches long, and terminal racemes of yellow flowers. Native to tropical South America.

80683. CALOCARPUM VIRIDE Pittier. Sapotoceae. **Green sapote.**

Injerto. Obtained in the market in the city of Guatemala. A tree, native to Guatemala, which, unlike its near relative, the sapote (*Lucuma mammosa*), grows at an altitude of 5,000 to 6,000 feet. It is about 40 feet high, with long, slender leaves and commonly round to oval fruits often pointed at the tip. The fruits are 2 to 3½ inches in diameter, smooth, dull yellow-green, sometimes becoming almost dull yellow. The skin is not thick and adheres closely to the red-brown flesh, which is soft and melting with a sweet flavor. The one or two large deep-brown seeds are hard and polished and are easily removed from the pulp.

For previous introduction see No. 43788.

80684. CALOPHYLLUM INOPHYLLUM L. Clusiaceae.

A large tree with leaves like those of a magnolia and producing fruits about an inch in diameter. A bitter, aromatic greenish oil is extracted from the seeds and used for burning by the poorer classes and is also used as an application in rheumatism. The green oil, on saponification, yields a bright-yellow soap. The strong durable reddish wood is useful for the joiner and cabinetmaker, and in India it is used for masts, railway sleepers, etc.

For previous introduction see No. 52595.

80685. CEDRELA sp. Meliaceae.

Obtained in Monte Grande at an altitude of 600 feet.

80686. CHAMAEDOREA sp. Phoenicaceae. **Palm.**

Pacaya. Obtained in Aguna at an altitude of 1,400 feet.

80687. CITRULLUS VULGARIS Schrad. Cucurbitaceae. **Watermelon.**

Sandia. Obtained in Monte Grande at an altitude of 600 feet.

80688. CRATAEGUS STIPULOSA (H. B. K.) Steud. Malaceae. **Manzanilla.**

From Chichavac, at an altitude of 8,100 feet. A large shrub or small erect slender tree about 20 feet tall, with elliptic-lanceolate serrate leaves and bearing in the spring white flowers resembling apple blossoms. The subglobose fruits, about an inch in diameter, look like small apples and are yellow with russet dots and a blushed cheek. The thin skin surrounds a rather dry, yellowish, mealy pulp and three large seeds.

80681 to 80709—Continued.

In the early fall, commencing about October, the fruits ripen, and from this month until after Christmas they are quite abundant.

For previous introduction see No. 73755.

80689. DAHLIA MAXONII Safford. Asteraceae.

Flor de Santa Catarina. From Xetzac, near Tecpam, at 6,500 feet altitude. A tree dahlia, native to Guatemala, where it becomes about 15 feet high and bears clusters of large lilac-pink flowers. A detailed description of this tree dahlia with a discussion of its horticultural possibilities is given in the Journal of Heredity, vol. 11, pp. 265 to 268, 1920.

For previous introduction see No. 73687.

80690. ENTEROLOBIUM CYCLOCARPUM (Jacq.) Griseb. Mimosaceae.

Conacaste. From Escuintla. One of the most beautiful and largest trees of the Pacific region of tropical America, where it grows at an altitude of about 2,700 feet. The trunk sometimes becomes 3 feet in diameter. The compound leaves close up during the night, and the pods are twisted into a short spiral. The leaves and pods are much relished by cattle.

For previous introduction see No. 51406.

80691. GLIRICIDIA SEPIUM (Jacq.) Kunth (*G. maculata* H. B. K.). Fabaceae.

Madre Cacao. From Monte Grande, at an altitude of about 600 feet.

80692. HONCKENYA FICIFOLIA Willd. Tiliaceae.

From Lancetilla. A very striking ornamental shrub native to western tropical Africa. The branches are purplish and covered with yellowish hairs. The hairy leaves are more or less deeply 3-lobed to 7-lobed, and the large purple flowers, 2 to 4 inches wide, are in terminal racemes.

For previous introduction see No. 73513.

80693. LUEHEA SEEMANNII Planch. and Triana. Tiliaceae.

Tapisquit. A tropical tree with alternate oblong-elliptic irregularly serrulate leaves and rather small white or pink flowers in terminal cymes. Native to Colombia.

80694. PARMENTIERA EDULIS DC. Bignoniaceae.

Guajilote. A small tree up to 30 feet high, with the branches armed with short stout recurved spines. The trifoliolate leaves have three ovate entire leaflets, the greenish yellow flowers are in clusters on the old wood, and the edible yellowish green fruits are 4 to 6 inches long and about an inch in diameter. Native to Mexico, Guatemala, and El Salvador.

80695. PHASEOLUS sp. Fabaceae.

Choreque. From Monte Grande, at an altitude of about 600 feet.

80696. PHYLLOCARPUS SEPTENTRIONALIS Donn. Smith. Caesalpiniaceae.

Flor de Mico. A handsome flowering tree native to eastern Guatemala at altitudes between 1,500 and 2,000 feet. It is

80681 to 80709—Continued.

of broad spreading habit, 40 to 50 feet high, with small light-green compound leaves and clusters of small crimson-scarlet flowers borne in great profusion during January and February.

For previous introduction see No. 59768.

80697. PINUS OOCARPA Scheide. Pinaceae. **Pine.**

A white pine from Concepción, Chiquimula, at an altitude of 1,800 feet.

For previous introduction see No. 50651.

80698. PLATYMISCIUM POLYSTACHYUM Benth. Fabaceae.

Hormigo, Palo de Marimba. From Monte Grande, at an altitude of 600 feet. A handsome tropical leguminous tree with opposite, shining-green, compound leaves made up of three to five ovate leaflets and racemes of small flowers. The wood is hard, streaked black and red, and is considered excellent for cabinetwork.

80699. SENECIO SALIGNUS DC. Asteraceae.

Chilca. From Xetzac, Tecpam, at an altitude of 6,500 feet. A glabrous shrub 4 to 8 feet high, native to Mexico and Guatemala. The narrowly lanceolate sessile leaves are 1 to 5 inches long, and the bright-yellow daisylike flowers are borne in a terminal cyme.

80700 and 80701. SICANA ODORIFERA (Vell.) Naud. Cucurbitaceae. **Casabanana.**

Melocotón. A subtropical ornamental cucurbitaceous vine producing large fruits a foot or more long, which are edible but insipid.

For previous introduction see No. 72986.

80700. From Monte Grande at an altitude of 600 feet.

80701. From the market in Sololá.

80702. SIDEROXYLON TEMPISQUE Pittier. Sapotaceae.

Tempisque. From the market in the city of Guatemala, and probably originating in Antigua. A large tree, glabrous throughout, native to El Salvador and Guatemala. The coriaceous elliptical leaves are 2 to 4 inches long on long petioles; the small greenish-yellow flowers are in dense clusters on the old wood and are followed by ovoid 1-seeded fruits 1 to 2 inches long.

80703. STERCULIA sp. Sterculiaceae.

Castano. From Santa Cruz.

80704. SYMPHONIA GLOBULIFERA L. f. Clusiaceae.

Leche Amarilla. A large tropical tree up to 80 feet high, with oblong-lanceolate short-stemmed leathery leaves and red flowers, either solitary or in many-flowered umbels. Native to tropical Africa and also tropical America.

80705 to 80707. TABEBUIA spp. Bignoniaceae.

80705. TABEBUIA DONNELL-SMITHII Rose.

Matilisguate. From Monte Grande, at an altitude of 600 feet. A tree up to 80 feet high, with a trunk often 4 feet in diameter, native to Guatemala. The palmately compound evergreen leaves are made up of five to

80681 to 80709—Continued.

seven serrate-ovate leaflets 8 to 10 inches long, and the panicles of beautiful golden-yellow tubular-campanulate flowers are borne in great profusion.

80706. TABEBUIA PENTAPHYLLA (L.) Hemsl.

Roble. From Monte Grande, at an altitude of 600 feet. A handsome tropical deciduous tree, about 35 feet high, native to Central America. During its flowering period, from January to March, the numerous large clusters of pink flowers make the tree very attractive.

For previous introduction see No. 73286.

80707. TABEBUIA sp.

Cortez. From Monte Grande, at an altitude of 600 feet.

80708. TRIBROMA BICOLOR (Humb. and Bonpl.) O. F. Cook (*Theobroma bicolor* Humb. and Bonpl.). Sterculiaceae.

Cacao pataste. From the market of Sololá.

80709. TRIPLARIS AMERICANA L. Polygonaceae.

Mulato. From Caballo Blanco, at an altitude of 265 feet. A large tropical timber tree with curious 3-angled woody fruits. Native to Central America.

For previous introduction see No. 73287.

80710 to 80712. ZEA MAYS L. Poaceae. **Corn.**

From Soochow, Kiangsu, China. Seeds presented by H. L. Reaves, American Presbyterian Mission, South. Received June 25, 1929.

80710. Changshu soft corn.

80711. No. 1. **80712.** No. 2.

80713 to 80717.

From Nikolsk-Ussuriisk, Maritime Province, Siberia, Union of Socialistic Soviet Republics. Seeds presented by the Director of the State Russian Geographical Society. Received June 10, 1929.

80713. FRAGARIA ORIENTALIS A. Los. Rosaceae. **Strawberry.**

A wild strawberry, native to northern Chosen, with erect hairy stems up to 8 inches high, broad coarsely serrate hairy leaflets, and small red conical or spheroidal fruits.

80714. LONICERA MAXIMOWICZII Maxim. Caprifoliaceae. **Honeysuckle.**

An ornamental shrub up to 10 feet high, with purplish branchlets, ovate leaves 1 to 3 inches long, smooth and dark green above, lighter and pubescent below, and violet-red flowers produced in pairs, followed by red fruits. It is native to the Amur region of Siberia.

80715. SAMBUCUS LATIPINNA Nakai. Caprifoliaceae. **Elder.**

A low shrub with compound leaves made up of three to five broadly elliptic leaflets, and hemispheric clusters of small white flowers followed by scarlet or orange-red fruits. Native to Chosen.

80713 to 80717—Continued.

80716. SAMBUCUS RACEMOSA L. Caprifoliaceae.

Variety *Buergeriana.* Received as *Sambucus buergeriana* Blume, which appears to be a herbarium name that has not been published.

80717. SYRINGA WOLFI C. Schneid. (*S. robusta* Nakai). Oleaceae. **Lilac.**

An ornamental shrub remarkable for its peculiar foliage; the elliptic oblong leaves are up to 6 inches long, cuneate, and grayish green beneath. The fragrant, dark-lilac flowers are in much-branched panicles. Native to Manchuria and Chosen.

80718 to 80725. AVENA spp. Poaceae. **Oats.**

From Cowra, New South Wales, Australia. Seeds presented by J. T. Pridham, Experimental Farm, through T. R. Stanton, Bureau of Plant Industry. Received June 27, 1929.

80718. AVENA sp.

Belar.

80719. AVENA sp.

Gidgee.

80720. AVENA sp.

Guyra.

80721. AVENA sp.

Palestine.

80722. AVENA sp.

No. 4385–C. (*Red Sprig* × *Sunrise*) × *Reid.*

80723. AVENA sp.

No. 4386–C. (*Red Sprig* × *Sunrise*) × *Reid.*

80724. AVENA sp.

No. 4387–C. (*Red Sprig* × *Sunrise*) × *Reid.*

80725. AVENA sp.

No. 4865–C. (*Sunrise* × *Reid*) × *Lachlan.*

80726 to 80759. TRITICUM spp. Poaceae.

From Afghanistan. Seeds collected by Prof. N. I. Vavilov, Institute of Applied Botany and New Cultures, Leningrad. Received June 27, 1929.

80726 to 80756. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). **Common wheat.**

80726. No. 12353. A spring wheat.

80727. No. 12369. Mixture of spring and winter wheat.

80728. No. 12370. Spring wheat from nonirrigated fields.

80729. No. 12391. From the vicinity of Gherat, Shankhai, at an altitude of about 3,600 feet. Bearded pubescent spring wheat.

80730. No. 12481. From Akhalgaran, at an altitude of about 7,800 feet. Mixture of spring and winter wheat.

80731. No. 12482. From Shakharah, at an altitude of about 8,250 feet. Inflatum forms of spring wheat for irrigated fields.

80726 to 80759—Continued.

80732. No. 12483. *Triticum compactum.* From Daulet, at an altitude of about 7,800 feet. Spring wheat.

80733. No. 12486. From Piandzhau, at an altitude of about 9,000 feet. Semibearded spring wheat for irrigated fields.

80734. No. 12491. *Triticum compactum.* From Kabul District, at an altitude of about 6,000 feet. Mixture of winter and spring wheat.

80735. No. 12587. From Khadzhi-Durbar, at an altitude of about 3,300 feet. Spring wheat for nonirrigated fields.

80736. No. 12611. From Masar and Sheriff, at an altitude of about 1,500 feet. Mixture of spring and winter wheat for nonirrigated fields.

80737. No. 12621. From Sukhte-Tchinar, at an altitude of about 8,700 feet. Winter wheat for irrigated fields.

80738. No. 12629. *Triticum compactum.* From Navi, at an altitude of about 7,000 feet. Winter wheat.

80739. No. 12636. From Tcharikar, at an altitude of about 5,700 feet. Mixture of spring and winter wheat for irrigated fields.

80740. No. 12657. *Speltiforme.* From Du Ab, at an altitude of about 6,600 feet. Spring wheat for nonirrigated fields.

80741. No. 12667. From Masar and Sheriff, at an altitude of about 1,500 feet. Mixture of spring and winter wheat for nonirrigated fields.

80742. No. 12668. From Masar and Sheriff, at an altitude of about 1,500 feet. Winter wheat for nonirrigated fields.

80743. No. 12669. *Triticum compactum.* From Masar and Sheriff, at an altitude of about 1,500 feet. Spring wheat for nonirrigated fields.

80744. No. 12687. From Kabul District, at an altitude of about 5,700 feet. Winter wheat.

80745. No. 12715. *Triticum compactum.* From Sheikhabad, Kandagar Road, at an altitude of about 6,300 feet. Winter wheat.

80746. No. 12721. From Kabul District, at an altitude of about 5,700 feet.

80747. No. 12722. From Kabul District, at an altitude of about 5,700 feet.

80748. No. 12749. From Kabul District. Inflatum type of a beardless wheat, harvested in 1924, obtained from a German orchardist.

80749. No. 12768. From Kandagar, along the Argendabu River, at an altitude of about 3,000 feet. Mixture of spring and winter wheat. Winter wheat for irrigated fields.

80750. No. 12772. From Darvagi. Mixture of spring and winter wheat. Winter wheat for irrigated fields.

80751. No. 12841. From Mashet District, vicinity of Faisabad, at an altitude of about 4,200 feet. Spring wheat.

80726 to 80759—Continued.

80752. No. 12842. From Argu, at an altitude of about 5,700 feet. Spring wheat for nonirrigated fields.

80753. No. 12846. South of Faisabad, at an altitude of about 3,800 feet. Winter wheat for irrigated fields. Great admixture of rye.

80754. No. 12850. From Dzhurum, Badakhshan, at an altitude of about 4,400 feet. Spring wheat for nonirrigated fields.

80755. No. 12857. From Dan, at an altitude of about 8,400 feet. Spring wheat, liguleless, for irrigated fields.

80756. No. 12874. From Tchekhosarai, at an altitude of about 4,500 feet. Mixture of winter and spring wheat. Winter wheat for irrigated fields.

80757 to 80759. TRITICUM TURGIDUM L. **Poulard wheat.**

80757. No. 12379. From Gherat, Bazaar, at an altitude of about 2,800 feet. Mixture of spring and winter wheat.

80758. No. 12385. *Triticum compactum.* East of Gherat, at an altitude of about 3,600 feet. Admixture of black-eared forms. Mixture of spring and winter wheat.

80759. No. 12489. *Triticum compactum.* Between Seri-Tcheshme and Koti-Ashrou, at an altitude of about 8,400 feet. Winter wheat with an admixture of beardless wheat.

80760. AVENA sp. Poaceae. **Oats.**

From Cowra, New South Wales, Australia. Seeds presented by J. T. Pridham, Experimental Farm, through T. R. Stanton, Bureau of Plant Industry. Received March 21, 1929.

Kareela C. 28.

80761 to 80768.

From Georgetown, Demerara, British Guiana. Seeds presented by J. S. Dash, Director of the Department of Agriculture. Received June 5, 1929.

80761. ACROCOMIA VINIFERA Oerst. Phoenicaceae. **Palm.**

A palm 40 feet high, native to Central America, with a spiny ringed trunk, large arching pinnate leaves with numerous linear pinnae, and a spathe about 3 feet high. It is closely related to *Acrocomia lasiospatha.*

80762. ASTROCARYUM AUREUM Gris. and Wendl. Phoenicaceae. **Palm.**

A palm, closely related to Elaeis, with a prickly trunk and pinnately divided leaves of linear-lanceolate segments, shining above and greenish-golden beneath. It is native to Trinidad.

80763. EUTERPE VENTRICOSA C. H. Wright. Phoenicaceae. **Palm.**

An erect slender spineless pinnate-leaved palm, 20 to 30 feet high, with oblong-lanceolate pinnæ about 2 feet long, a much-branched spadix, small white flowers, and brown pealike fruits one-fourth of an inch in diameter. It is native to tropical South America.

80761 to 80768—Continued.

80764. LICUALA ELEGANS Blume. Phoenicaceae. **Palm.**

A fan palm, native to Sumatra, with a short thick trunk about 4 feet high and a crown of orbicular leaves on petioles 3 to 5 feet long, having linear-lanceolate lobes obliquely truncate at the end.

80765. LINOMA ALBA (Bory) O. F. Cook. Phoenicaceae. **Palm.**

Variety *aurea.*

80766. LIVISTONA OLIVAEFORMIS Mart. Phoenicaceae. **Palm.**

A fan palm, native to Brazil, with a medium-sized trunk, leaves on petioles spiny at the base, and the segments divided into long linear pendent lobes 12 to 15 inches long and solitary olive-shaped fruits.

For previous introduction see No. 79570.

80767. ENGLEROPHOENIX sp. (*Maximiliana* sp.). Phoenicaceae. **Palm.**

Tall spineless palms with pinnately divided leaves, related to the Attaleas.

80768. ROYSTONEA REGIA (H. B. K.) O. F. Cook (*Oreodoxa regia* H. B. K.). Phoenicaceae. **Royal palm.**

Variety *jenmani.*

80769 to 80772.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received June 27, 1929.

80769. ACACIA sp. Mimosaceae.

From Ilocos Norte. A tall shrub with long slender branches, growing on dry sandy soil in a region where the dry season is long.

80770. FLACOURTIA RUKAM Zoll. and Mor. Flacourtiaceae.

From Manila.

For previous introduction and description see No. 80120.

80771. PROSOPIS CHILENSIS (Molina) Stuntz (*P. juliflora* DC.). Mimosaceae. **Algaroba.**

From Laoag, Ilocos Norte. A spineless form.

For previous introduction see No. 50094.

80772. VIGNA LUTEA (Swartz) A. Gray (*V. retusa* Walp.). Fabaceae.

A tropical perennial vine or creeper, native to the Philippines, where it has been found useful as a cover crop. It has also made good forage for cattle.

For previous introduction see No. 74587.

80773. SOCRATEA EXORRHIZA (Mart.) Wendl. (*Iriartea exorrhiza* Mart.). Phoenicaceae. **Palm.**

From Paramaribo, Dutch Guiana. Seeds presented by S. Sahal, Director of the Agricultural Experiment Station. Received June 28, 1929.

A tall handsome spineless palm, native to tropical South America, bearing small yellow flowers and olive-green fruits. It has a swollen cylindrical trunk elevated on a pyramid of exposed roots, giving it a remarkable appearance. The trunk, 35 feet or more high, bears at its summit a crown of large, irregularly pinnate leaves.

For previous introduction see No. 59279.

80774. KENTIA sp. Phoenicaceae. **Palm.**

From Trinidad, British West Indies. Seeds collected by Allison V. Armour. Received April 10, 1929.

Trinidad Botanic Gardens. The kentias are ornamental spineless palms with pinnate leaves composed of linear-lanceolate leaflets. They are closely related to the betel palm, *Areca catechu.*

80775 to 80779. GOSSYPIUM spp. Malvaceae. **Cotton.**

From Paramaribo, Dutch Guiana. Seeds presented by S. Sahal, Director of the Agricultural Experiment Station. Received June 28, 1929.

Seeds collected on cotton trees by the Carib Indians of Torelinde and Bisri, south of Paramaribo.

80775. GOSSYPIUM sp.

Amana Ma ulu.

80776. GOSSYPIUM sp.

Ateriri Ma ulu.

80777. GOSSYPIUM sp.

Ma ulu ne, Kumbo enulu.

80778. GOSSYPIUM sp.

Parana Ma ulu.

80779. GOSSYPIUM sp.

Tapulu Ma ulu.

80780 to 80809. PHOENIX DACTYLIFERA L. Phoenicaceae. **Date palm.**

From Iraq. Offshoots obtained by Roy W. Nixon, Bureau of Plant Industry, United States Department of Agriculture. Received May 2, 1929.

80780. *Allona.* A medium to small, amber-colored date, resembling somewhat, both in appearance and in quality, the *Amir Haj* [No. 80781], of which it may be a seedling. It occurs only in the Oasis of Mandali, where there are probably fewer than 100 palms.

80781. *Amir Haj.* A variety perhaps the most famous in northern Iraq; known to the United States Department of Agriculture by reputation for 30 years. The fruit is medium-sized, oblong, deep amber, very translucent, with light bloom, thin skin, and rich flavor. The variety is rated by the natives as being a good producer. There is some shipment of fruit to other points in Iraq, but chiefly as gifts or special orders, for it is highly esteemed. It occurs only in the Oasis of Mandali, where there are probably several thousand palms, although any one garden seldom has more than a few specimens.

80782. *Ashrasi.* Obtained at Mandali. A medium to large, ovate, amber-colored date intermediate between the soft and the dry types, possessing many desirable qualities of both. The few specimens of this variety already growing

80780 to 80809—Continued.

in the Coachella Valley of California have attracted attention on the one hand because of the excellence of the fruit and on the other because the flower clusters have seldom set many fruits. From investigations in Iraq it appears that this handicap is diminished by planting on heavy soil and pollinating very promptly after the flowers open. The variety is well known and widely distributed in Iraq, but was not found in abundance except at Mandali.

80783. *Azrakani.* Obtained at Mandali. A medium to small-sized, amber-colored date somewhat similar to *Allona* [No. 80780], and also very likely a seedling of *Amir Haj* [No. 80781]. A rare variety found chiefly at Mandali.

80784. *Badami.* Obtained at Mandali. An inferior variety, probably a seedling of *Zaheedy,* to which the fruit has some resemblance, though oblong rather than obovate.

80785. *Bahrab.* Obtained at Mandali. A variety fairly well known north and east of Baghdad, but nowhere very abundant. It is a long, narrow, amber-colored date of good flavor, resembling the *Okt Fteemy* variety from North Africa. It cures well and is said to be one of the earliest ripening varieties in northern Iraq.

80786. *Bairakdar.* Obtained at Mandali. A medium to large-sized amber-colored date of fair quality local to Mandali.

80787. *Banawish.* Obtained at Mandali.

80788. *Barhi.* Obtained near Basra. An ovate amber date of excellent quality, already known from a few specimens growing in the Coachella Valley of California. It is found chiefly in southern Iraq, where it is rare but well known and highly esteemed. It is one of the few varieties which are sweet in the "khalal" stage—the period immediately preceding the softening which accompanies complete maturity.

80789 and 80790. *Bedraya.* Probably the best dry date in Iraq. The fruit is medium to large, oblong, straw colored, and mild flavored. The variety is well known in northern Iraq. It was not found in large numbers in any of the localities visited, but was said to be more abundant in Bedra, the oasis of its origin.

80789. Obtained at Mandali.

80790. Obtained from the Oasis of Bedra through the courtesy of J. F. Webster, Inspector General of Agriculture in Iraq.

80791. *Braim.* Obtained at Basra. A medium-sized oblong amber date common on the Shaat Al Arab. Almost the entire crop in southern Iraq is harvested in the "khalal" or preripe stage, boiled, dried and exported to other parts of Iraq and to India, Persia, and Arabia.

80792. *Dairi.* Obtained at Basra. A common variety in southern Iraq, said to be almost on a par with *Sayer* [No. 80808] in its resistance to adverse conditions. The purplish-brown fruit is medium to large, oblong-elliptical, and of good quality. It now appears that there are a number of palms of this variety already growing in the Coachella Valley of California, although their identity was in doubt prior to the recent investigations of this department in Iraq.

80793. *Digal Iman Husain.* Obtained at Mandali. A seedling date of which only a few palms have been propagated locally. The fruit is oblong, rather large, and of the amber type, characterized by a darker color at the base than at the apex.

80794. *Digal Umad.* A local variety in Mandali. The fruit resembles somewhat the *Khadrawy* of northern Iraq.

80795. *Fursi.* Obtained in Basra. A variety occurring, though not very common, in southern Iraq. Observations on a specimen of this variety, now fruiting at the United States Experiment Date Garden, Indio, Calif., indicate that it is promising for testing in more humid date areas. The fruit is nearly black, medium sized, oblong-elliptical, and of good quality.

80796. *Gantar.* Obtained in Basra. A small subspherical amber date said to be late ripening. It is said that nearly 2 per cent of the adult female palm population of the Shaat Al Arab belong to this variety. It is also not uncommon in the date gardens of the Tigris and the lower Euphrates.

80797. *Gnami.* A male variety of southern Iraq obtained in Basra.

80798. *Jaafary.* Obtained in the Oasis of Mandali, where this variety is chiefly found. A good soft black date from northern Iraq. It is medium to large and oblong to broadly elliptical.

80799. *Karunfuli.* A local variety occurring at Mandali. The medium-sized fruit is of the black type and resembles the *Jaafary* [No. 80798] in quality, but differs in shape, being ovate rather than oblong.

80800. *Khadrawy of northern Iraq.* Obtained in Mandali. An entirely different variety from the Khadrawy of Basra, southern Iraq, which has already become established in the southwestern United States. Owing partly to the fact that they do not occur in the same localities, it was not recognized in Iraq prior to the investigations of the United States Department of Agriculture that two of their important varieties were going under the same name. The fruit of the northern variety is very similar to that of the southern variety, but is larger and later in ripening.

80801. *Khasab.* Obtained in Basra. A medium-sized black date said to be the latest-ripening variety in southern Iraq. Sometimes the dates are allowed to remain on the palms until the coming of the Christmas frosts. Although the flavor is but indifferent, yet a date which so lengthens the season for fresh fruit does not lack popularity. About 1 in 6,000 palms on the banks of the Shaat Al Arab is of this variety, and it is to be found on the banks of the Tigris as far north as Baghdad, but has not been found on the Euphrates.

80802. *Khatooni.* A local variety in Mandali. The fruit is small to medium sized, oblong, purplish black, and of fair quality.

80780 to 80809—Continued.

80803 and 80804. *Maktum.* A medium to large, oblong, amber date with a mild flavor. It is late ripening and is of excellent quality. It is already well known in the southwestern United States, where there are a limited number of palms. The variety is widely distributed in Iraq, but is nowhere very abundant, existing largely as specimen palms for the use of garden owners rather than for commercial purposes.

80803. Obtained in Basra.

80804. Obtained in Mandali.

80805. *Nabaty.* A single offshoot brought in by one of the natives who assisted in packing at Basra and who said it was a very fine date. It is probably a seedling.

80806. *Salany.* Obtained in Mandali. A medium to large-sized reddish-brown date of fair quality.

80807. *Shalany.* A local variety obtained in Mandali.

80808. *Sayer.* Obtained in Basra. The commonest variety in southern Iraq, said to compose about 45 per cent of the total palm population. It is not generally regarded very highly in Iraq, but has certain qualities which make it desirable for testing in prospective date areas in the United States. It is very resistant to adverse conditions, survives drought better than any other variety, and is said to be less subject to insect attacks. In Iraq it is generally planted on the poorest soil, which may have something to do with the poor quality of the fruit obtained. The fruit is medium sized, oblong, deep red, cures well, and seems adapted to commercial handling.

80809. *Red Maktum.* Obtained in Mandali. An inferior seedling having no resemblance either in palm or in fruit to the real *Maktum* as far as could be observed. It is a medium-sized date of a dull reddish brown.

80810. BUDDLEIA MACROSTACHYA Benth. Loganiaceae.

From Gangtok, Sikkim, India. Seeds presented by the Sikkim Forest Manager. Received May 15, 1928. Numbered in June, 1929.

A tender shrub, 3 to 8 feet high, with white, woolly, oblong-lanceolate leaves up to 8 inches long and white flowers with an orange throat, in dense spikes 4 to 10 inches long. Native to the Himalayas.

INDEX OF COMMON AND SCIENTIFIC NAMES

Cocos amara. See *Rhyticocos amara.*
Colocasia spp., 80586, 80587.
Corn. See *Zea mays.*
Corypha sp., 80633.
Cotoneaster spp., 80361, 80394–80398.
harroviana, 80394.
Cotton. See *Gossypium* spp.
Cowpea. See *Vigna sinensis.*
Coyo. See *Persea schiedeana.*
Crab, Sikkim. See *Malus sikkimensis.*
Crapemyrtle, queen. See *Lagerstroemia speciosa.*
Crataegus stipulosa, 80688.
Croton sp., 80249.
Crowndaisy. See *Chrysanthemum coronarium.*
Cucumber. See *Cucumis sativus.*
Cucumis melo, 80117, 80445–80450, 80588–80591, 80643.
sativus, 80031.
Cucurbita maxima, 80422.
moschata, 80592–80596.
pepo, 80597, 80598.
Cushaw. See *Cucurbita moschata.*
Cynodon dactylon, 80145, 80146.
Cyrilla racemiflora, 80049.
Cytisus spp., 80325–80327.
albus, 80308.
alschingeri. See *Laburnum anagyroides alschingeri.*
ardoini, 80423.
austriacus, 80309.
beanii, 80424.
biflorus, 80310, 80311.
candicans. See *C. monspessulanus.*
dallimorei, 80312.
decumbens, 80313.
monspessulanus, 80314.
multiflorus incarnatus, 80315.
nigricans carlieri. See *C. nigricans elongatus.*
nigricans elongatus, 80316.
praecox, 80194.
praecox albus, 80317.
purgans, 80318.
purpureus, 80425.
rochelii, 80319.
scoparius, 80320–80324.
scoparius andreanus, 80426–80431.
Daffodil, petticoat. See *Narcissus bulbocodium citrinus.*
Dahlia maxonii, 80689.
Daphne, Balkan. See *Daphne blagayana.*
Daphne blagayana, 80432.
cneorum, 80433.
Deguelia trifoliata, 80052.
Delphinium sp., 80362.
Derris uliginosa. See *Deguelia trifoliata.*
Desmodium tiliaefolium. See *Meibomia tiliaefolia.*
Deutzia spp., 80400, 80401.
schneideriana laxiflora, 80399.
Dialium guineense, 80180.
Diospyros kaki, 80118.
Dolicholus phaseoloides, 80090.
Dolichos lablab, 80506–80509.
Dombeya mastersii. See *Assonia mastersii.*

Eggplant. See *Solanum melongena.*
Elaeis guineensis, 80181.
Elder. See *Sambucus latipinna.*
Elm, Japanese. See *Ulmus japonica.*
Englerophoenix sp., 80767.
Enterolobium cyclocarpum, 80690.
Erica arborea alpina, 80328.
carnea, 80329–80333.
ciliaris, 80334.
cinerea, 80335.
mackaiana. See *E. mackaii.*
mackaii, 80336.
mediterranea, 80337.
tetralix, 80338.
williamsii, 80339.
Eriobotrya hookeriana, 80079.
Erythrina acanthocarpa, 80251.
Escallonia sp., 80101.
Eucalyptus corymbosa, 80066.
gummifera. See *E. corymbosa.*
siderophloia, 80067.
Eugenia aquea, 80531.
Euonymus verrucosus, 80402.
Euterpe ventricosa, 80763.
Exoecaria bicolor, 80678.

Fatsia japonica, 80600.
Feronia elephantum. See *F. limonia.*
limonia, 80567.
Ficus sp., 80569.
benjamina, 80080.
calophylloides, 80417.
carica, 80150–80153, 80294–80299.
conora, 80047.
hispida, 80081.
hookeri, 80082.
indica, 80418.
minahassae, 80419.
nuda, 80420.
odorata, 80421.
vogelii, 80413.
Fig. See *Ficus* spp.
Benjamin. See *F. benjamina.*
common. See *F. carica.*
Fir. See *Abies* sp.
Firethorn. See *Pyracantha* sp.
Firmiana barteri, 80659.
Flacourtia rukam, 80120, 80770.
Fragaria spp., 80108–80116, 80140–80143.
orientalis, 80713.

Gentian. See *Gentiana brachyphylla.*
Himalayan. See *G. tibetica.*
milkweed. See *G. asclepiadea.*
Gentiana asclepiadea, 80271.
baicaliensis, 80272.
brachyphylla, 80195.
burseri, 80273.
fetisowii, 80274.
freyniana, 80275.
grombczewskii, 80276.
kurroo, 80277.
macrophylla, 80278.
olivieri, 80279.
pannonica, 80280.
phlogifolia, 80281.
przewalskii, 80282.
saponaria, 80283.
septemfida, 80284.
tibetica, 80285.
walujewi, 80286.
Gerbera kunzeana, 80654.
Ginger. See *Zinziber officinale.*
Gladiolus sp., 80560.
Gliricidia maculata. See *G. sepium.*
sepium, 80691.
Glycine hispida. See *Soja max.*
Goldenchain. See *Laburnum anagyroides alschingeri.*
Gossypium spp., 80213, 80657, 80775–80779.
cernuum, 80208.
jamaicense, 80209.
kirkii, 80210.
purpurascens, 80211.
schottii, 80212.
Grammatophyllum speciosum, 80252.
Grape. See *Vitis* spp.
European. See *V. vinifera.*
sand. See *V. rupestris.*
Grass, Bermuda. See *Cynodon dactylon.*
See also *Chloris castilloniana, Panicum paucispicatum, Saccharum spontaneum,* and *Spartina townsendi.*
Grevillea hilliana, 80068.
Grewia occidentalis, 80550.
Gundelia tournefortii, 80672, 80673

Halfordia drupifera, 80069.
Heath. See *Erica* spp.
Biscay. See *E. mediterranea.*
crossleaf. See *E. tetralix.*
fringed. See *E. ciliaris.*
spring. See *E. carnea.*
twisted. See *E. cinerea.*
Helenium autumnale, 80059, 80356.
Hemlock. See *Tsuga dumosa.*
Holly. See *Ilex* spp.
Honckenya ficifolia, 80692.
Honeysuckle. See *Lonicera* spp.
Hordeum vulgare pallidum, 80121.
Hufelandia anay, 80500.
Hyophorbe verschaffelti, 80182.

Ilex sp., 80363.
insignis, 80083.
pernyi, 80403.
purpurea, 80095.
Incarvillea grandiflora, 80364.
Inodes blackburniana, 80183.
mexicana, 80551.
Ipomoea batatas, 80601.
macalusoi, 80046.
Iriartea exorrhiza. See *Socratea exorrhiza*.
Iris, Clarke. See *Iris clarkei*.
Iris spp., 80365–80367.
clarkei, 80084, 80404.
Ironbark, broadleaf. See *Eucalyptus siderophloia*.

Kale. See *Brassica oleracea viridis*.
Kennedia rubicunda, 80070.
Kentia sp., 80774.
macarthuri. See *Ptychosperma macarthuri*.
Kigerukkan. See *Merope angulata*.
Kitaibelia lindemuthi, 80405.
Kokia drynarioides, 80267.

Laburnum anagyroides alschingeri, 80406.
Lachenalia rubida, 80350.
tricolor aurea, 80351.
Lactuca sp., 80602.
Lagerstroemia flos-reginae. See *L. speciosa*.
speciosa, 80184.
Lapageria rosea, 80434, 80638.
Lardizabala biternata, 80435.
Larkspur. See *Delphinum* sp.
Latania commersonii, 80185.
Leatherwood. See *Cyrilla racemiflora*.
Lettuce. See *Lactuca* sp.
Licuala elegans, 80764.
Ligustrum sp., 80287.
Lilac. See *Syringa* spp.
Lilium spp., 80455, 80599.
Lily. See *Lilium* spp.
Linoma alba, 80765.
Lissochilus sp., 80660.
Livistona australis, 80186.
chinensis, 80187.
olivaeformis, 80766.
Lomatia fraxinifolia, 80071.
longifolia. See *Tricondylus myricoides*.
Lonicera sp., 80407.
maximowiczii, 80714.
Lonchocarpus speciosus. See *Bolusanthus speciosus*.
Luehea seemannii, 80693.
Lycopersicon esculentum, 80032.

Maesa rugosa, 80655.
Malus sp., 80368.
sikkimensis, 80646.
Manzanilla. See *Crataegus stipulosa*.
Martinezia corallina, 80188.
Maximiliana sp. See *Englerophoenix* sp.
Maximiliancea vitifolia, 80631.
Meconopsis integrifolia, 80369.
Medicago hispida denticulata, 80534.
Meibomia tiliaefolia, 80085.
Melon. See *Cucumis melo*.
Melothria odorata, 80086.
Merope angulata, 80122.
Milkvetch. See *Astragalus* sp.
Monkshood. See *Aconitum* sp.
Morning-glory. See *Ipomoea macalusoi*.
Mucuna sp., 80634.
Myoporum acuminatum angustifolium, 80414–80416.

Narcissus bulbocodium citrinus, 80196.
cyclamineus, 80197.
Necklacetree. See *Ormosia monosperma*.
Nerine sp., 80561.
Nicotiana tabacum, 80250.

Oats. See *Avena* spp.
Omphalodes verna, 80198.
Orange, mandarin. See *Citrus nobilis deliciosa*.
Satsuma. See *C. nobilis unshiu*.
Orchid. See *Grammatophyllum speciosum* and *Lissochilus* sp.
Oreodoxa regia. See *Roystonea regia*.
Ormosia monosperma, 80091.
Ornithogalum spp., 80562–80564.
arabicum, 80352.
lacteum, 80575.
pyrenaicum, 80215.
speciosum, 80353.
thyrsoides aureum, 80354.
Oryza sativa, 80050, 80051, 80389–80392, 80663.

Pallasia capensis, 80667.
Palm, African oil. See *Elaeis guineense*.
Australian fan. See *Livistona australis*.
betel. See *Areca catechu*.
Chinese fan. See *Livistona chinensis*.
date. See *Phoenix dactylifera*.
Fiji fan. See *Styloma pacifica*.
fishtail. See *Caryota mitis*.
MacArthur. See *Ptycosperma macarthuri*.
Palmyra. See *Borassus flabellifer*.
rootspine. See *Acanthorhiza aculeata*.
royal. See *Roystonea regia*.
spindle. See *Hyophorbe verschaffelti*.
See also *Acrocomia vinifera*, *Archontophoenix alexandrae*, *Astrocaryum aureum*, *Attalea spectabilis*, *Chamaedorea* sp., *Corypha* sp., *Englerophoenix* sp., *Euterpe ventricosa*, *Kentia* sp., *Licuala elegans*, *Linoma alba*, *Livistona olivaeformis*, *Martinezia corallina*, *Rhyticocos amara*, *Inodes mexicana*, and *Socratea exorrhiza*.
Palmetto, blackburn. See *Inodes blackburniana*.
Panicum paucispicatum, 80526.
Papaya. See *Carica papaya*.
Parmentiera edulis, 80694.
Pea. See *Pisum sativum*.
darling. See *Swainsona galegifolia*.
Peach. See *Amygdalus persica*.
Pear. See *Pyrus* sp.
Pea-tree, dwarf. See *Caragana pygmaea*.
Pedicularis gracilis, 80199.
integrifolia, 80200.
megalantha, 80201.
roylei, 80202.
schizorrhyncha, 80203.
trichoglossa, 80204.
Persea sp., 80658.
americana, 80532, 80552, 80553.
gratissima. See *P. americana*.
schiedeana, 80540.
Persimmon, kaki. See *Diospyros kaki*.
Phaseolus sp., 80695.
angularis, 80510–80517.
aureus, 80518, 80519.
vulgaris, 80370, 80603–80623.
Phoenix dactylifera, 80780–80809.
Phyllocarpus septentrionalis, 80696.
Phyllostachys sp., 80149.
edulis, 80034.
Pieris taiwanensis, 80647.
Pigeon pea. See *Cajanus indicus*.
Pine, Armand. See *Pinus armandi*.
Pine. See *Pinus* spp.
Pinus armandi, 80096.
insularis, 80044.
merkusii, 80103.
nigra mauritanica, 80106.
oocarpa, 80697.
Pistache. See *Pistacia* spp.
Pistacia integerrima, 80035.
vera, 80452–80454.
Pisum sativum, 80535, 80624.
Platymiscium polystachyum, 80698.
Polymnia edulis, 80100.
Portlandia grandiflora, 80189.
Potato. See *Solanum tuberosum*.
Primrose. See *Primula* spp.
Primula anisodora, 80054.
forrestii, 80372.
Pritchardia pacifica. See *Styloma pacifica*.
Privet. See *Ligustrum* sp.
Prosopis chilensis, 80771.
juliflora. See *P. chilensis*.

U. S. GOVERNMENT PRINTING OFFICE: 1930