

UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 75



Washington, D. C.

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SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1923 (NOS. 56791 TO 57679)

CONTENTS

	Page
Introductory statement.....	1
Inventory.....	3
Index of common and scientific names.....	32

INTRODUCTORY STATEMENT

When the first Inventory of Seeds and Plants Imported was prepared in 1898, there were practically no government plant-breeding institutions in existence, and almost all of the plants introduced were for direct trial as new crops. Few wild forms were represented, and almost no collections of seeds which were the result of the hybridization or selection work of foreign plant breeders. To-day, as is particularly evident in this inventory, an exchange between the plant breeders of the world is going on which shows a remarkable activity in this field. This practice should be encouraged, for it opens up a wide field of trial for any new variety, and it can be confidently predicted that out of these newly made and plastic forms are likely to come many great commercial varieties of the future. Forms which in the country of their origin have proved inferior to others may prove superior in some other environment.

This inventory contains a record of many selected and previously studied varieties of plants sent by foreign plant-breeding institutions: A collection of peanut varieties from the Department of Agriculture at Buitenzorg, Java (*Arachis hypogaea*; Nos. 56842 to 56849); a new strain of red clover from Dr. H. N. Knudsen's selection station in Denmark (*Trifolium pratense*; No. 56850); two new Hungarian wheats, one a selection of the famous Canadian Marquis wheat originated by Charles Saunders (*Triticum aestivum*; Nos. 56858 and 56859); a new oat from Dr. R. J. Mansholt, of the Royal Netherlands College of Agriculture (*Avena sativa*; No. 56892); three new strains of red clover from Dr. G. Martinet, of the Seed-Control Station, Lausanne, Switzerland (*Trifolium pratense*; Nos. 56896 to 56898); two recently evolved varieties of oats from the Svalof Seed-Breeding Station of Sweden (*Avena sativa*; Nos. 56899 and 56900); eight selected potato strains resistant to disease from the station for potato culture of Czechoslovakia (*Solanum tuberosum*; Nos. 56912 to 56919); over 200 selected seedlings of the sweetpotato (which seldom seeds in the United States) from J. B. Thompson, of the experiment station of the Virgin Islands (*Ipomoea batatas*; Nos. 56920 to 57012, 57395 to 57514); a collection of 22 varieties of barley from the Cambridge School of Agriculture, England (*Hordeum* spp.; Nos. 57013 to 57034); a hardy variety of red clover selected by Doctor Knudsen, of the Danish Royal Agricultural Society (*Trifolium pratense*; No. 57036); a large collection of varieties of barley, rye, and wheat from L. Dekapreleevitch, Director of Plant Breeding, Tiflis, Transcaucasia (Nos. 57094 to 57210); a collection of clover varieties from Prof. N. I. Vavilov, of Petrograd (*Trifolium* spp.; Nos. 57229 to 57247); 12 strains of cotton, including the American Pima variety after being grown three generations in Egypt, from Dr. R. H. Forbes, formerly of Arizona (*Gossypium* spp.; Nos. 57248 to 57259); and a collection of grass and cereal varieties from the Russian experiment station of Ekaterinoslav (Nos. 57515 to 57611).

The growing volume of the selections which are being made by foreign plant breeders indicates a greater appreciation on the part of governments of the value of plant varieties in the agriculture of their countries.

The special explorations made by Dr. H. V. Harlan through North Africa, extending into India, in search of certain useful plant characters, which through sporting or otherwise have made their appearance in the barley fields of these regions, mark, it is believed, a turning point in the development of plant introduction and plant breeding alike. They attract attention to the value of a character, such as that of silkiness instead of harshness of awns, as a desirable thing to introduce and incorporate into American barleys through crossing. In the beginning new varieties were introduced because they might themselves be better than those we had. Varieties are now being introduced which are known to be inferior to those already grown in all but perhaps one or two characters, for the purpose of incorporating these superior characters into new and superior strains. Doctor Harlan's collections, a few of which appear in this inventory, will be found described under Nos. 57042 to 57074 and 57612 to 57664 (which include what is reported to be the original Mariout barley that has been so successful in America).

Of the other introductions in this seventy-fifth inventory, the following appear unusually interesting to the writer:

Rock's wild apple from the Likiang Snow Range of Yunnan, *Malus yunnanensis* (No. 57225), which grows at altitudes of 10,000 feet among the rocks on the borderland of Tibet and bears large corymbs of yellow and red fruits about an inch in diameter, and his fragrant-scented rich-pink-flowered *Luculia* (No. 56825) which he found on the Shweli-Salwin Divide in Yunnan and that he declares is "one of the handsomest shrubs of which I know," with salver-shaped flowers 2 inches across; Matsuda's three wild varieties of the Japanese persimmon, or kaki, from the mountains of Kyusiu Island, Japan, one of which may prove to be the wished-for ideal stock for the fine cultivated varieties now assuming rapid commercial importance (*Diospyros kaki*; Nos. 56831 to 56833); Mundy's "perennial Sudan grass," a variety which volunteers readily from seed, especially on cultivated land, and is a form of *Sorghum arundinaceum* (No. 56801); Roberts's long, fleshy cucumber (*Cucumis sativus*; No. 56805) from the Malwa Plateau of Rajputana, India, which is grown there in the hot rainy season and may prove adapted to cultivation in our Southern States in the summer; the eight varieties of bor, or Indian jujube (*Ziziphus mauritiana*; Nos. 56812 to 56819), sent in by G. S. Cheema from Poona, India, a species that has already become naturalized in southern Florida through the efforts of this office and is being used as a stewed fruit by a number of people; Nilsson's mutation of the ordinary European aspen *Populus tremula* (Nos. 56871 and 56872), which was found in the woods of western Sweden (it is fastigate, resembling the Lombardy poplar, and may prove useful for dooryards); Cooper's seed of the beautiful yellow flowering shrub, *Prinsepia sinensis* (No. 57087), from the mountains back of Patung, Hupeh. The early-flowering hardy character of this Chinese shrub, as Professor Sargent has already pointed out, will make it popular throughout the North Atlantic States, where it is hardy. The handsome deep-blue flowering *Evacuum zeylanicum macranthum* (No. 57260), relative of our gentian, which Frank B. Noyes, of Washington, brought back from the mountains of Ceylon, may thrive in Florida and southern California. The supply of seeds of the grumichama of Brazil, *Eugenia dombeii* (No. 57270), which Willis T. Pope sent from Honolulu, is of interest because this highly ornamental new fruiting shrub has proved hardy in southern Florida, and its cherrylike fruits are sure to be appreciated by those who can grow it. Johansen's *Triplaris cumingiana* (No. 57092), a striking ornamental tree from the Isthmus of Panama, deserves a place in the parks of the tropical world. A remarkable collection of seeds of hardy trees and shrubs presented by A. D. Woeikoff, director of the experimental farm at Echo, Manchuria, and including such rare species as *Betula davurica* (No. 57278), *Acanthopanax senticosum* (No. 57274), *Euonymus hamiltonianus* (No. 57281), *Prunus maackii* (No. 57310), *Tilia amurensis* (No. 57345), *T. mandshurica* (No. 57346), *Viburnum burejaeticum* (No. 57366), and *Prinsepia sinensis* (No. 57309), can not fail to be valuable in the ornamental plantings of the parks and dooryards in the Northwest.

As during the years past, the work of determination of the names of the various species introduced has been done by H. C. Skeels. The descriptive notes have been prepared by Paul Russell, who has had general supervision of this inventory.

DAVID FAIRCHILD,

Senior Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., May 25, 1925.

INVENTORY¹

56791. DILLENIA INDICA L. Dillenia- ceæ.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received May 25, 1923.

A handsome medium-sized tree with a round compact crown; the dark-green leaves are 15 inches long and 3 inches wide. The large white flowers are fragrant and very attractive. The smooth greenish heart-shaped fruits, 3 inches long and 4 inches wide, are produced in great profusion, maturing in September and October. The edible part consists of the large fleshy sepals which inclose the carpels and are pleasantly acid, suggesting the flavor of an unripe apple. In India the sepals are used in making jelly and cooling drinks and are also used in curries. (Adapted from *Philippine Agricultural Review*, vol. 10, p. 16.)

For previous introduction, see S. P. I. No. 49713.

56792. PRUNUS SEROTINA Ehrh. Amygdalaceæ. Capulin.

From Cuenca, Ecuador. Seeds presented by Dr. Federico Malo. Received May 26, 1923.

"Capulin seeds of a number of good varieties, collected in the vicinity of the Challuabamba Valley, about 11 kilometers from Cuenca, Ecuador." (Malo.)

To be grown for selection of promising seedlings.

For previous introduction, see S. P. I. No. 55765.

56793. TRIFOLIUM INCARNATUM L. Fabaceæ. Crimson clover.

From Paris, France. Seeds presented by H. Fauchet and A. Plessis. Received May 26, 1923.

Locally grown seed introduced for department specialists engaged in clover breeding.

56794. CUCUMIS sp. Cucurbitaceæ.

From Johannesburg, South Africa. Seeds presented by A. J. Bester. Received May 23, 1923.

"A 'cucumber' which I found being grown by the natives. It makes a very fine salad." (Bester.)

56795. TRIFOLIUM PRATENSE L. Fa- baceæ. Red clover.

From Wellington, New Zealand. Seeds presented by A. H. Cockayne, biologist, Department of Agriculture. Received May 29, 1923.

"Grown on the Canterbury Plains in the South Island, New Zealand." (Cockayne.)

Locally grown seed introduced for department specialists engaged in clover breeding.

56796 and 56797. LYCOPERSICON ESCU- LENTUM Mill. Solanaceæ. Tomato.

From Nancy, France. Seeds presented by Edmond Gain, director, Botanic Garden. Received May 31, 1923.

Introduced for department specialists engaged in the study of tomato diseases.

56796. Var. *puriforme*. A pear-shaped form of the common tomato.

56796 and 56797—Continued.

56796. Var. *pimpinellifolium*. A South American form, sometimes called the "currant tomato," with 2-ranked racemes of red fruits somewhat larger than a large red currant. The plant grows wild in Peru and Brazil, is very vigorous and comparatively hardy, and the fruits are excellent for preserving. (Adapted from *Sturtevant, Notes on Edible Plants*, p. 547.)

56798. STYLOSANTHES ERECTA Beauv. Fabaceæ.

From Boma, Belgian Congo. Seeds presented by the General Secretary, Belgian Congo Government General. Received May 26, 1923.

"This plant prospers in sandy soils, but does not thrive in black, humid soils. It is very drought resistant. In Guadeloupe horses search through the pastures for this plant." (*The General Secretary*.)

A copiously branched ascending shrub about 4 feet high, with broad, rather stiff, compound leaves, and terminal oblong heads of inconspicuous flowers. It is native to tropical Africa. (Adapted from *Oliner, Flora of Tropical Africa*, vol. 2, p. 156.)

Introduced for department forage-crop specialists.

56799. GARCINIA BUCHANANI Baker. Clusiaceæ.

From Dominica, British West Indies. Seeds presented by Alfred Keys, assistant curator, Botanic Gardens. Received June 6, 1923.

A tropical African relative of the mangosteen (*Garcinia mangostana*), introduced for breeding experiments with the mangosteen.

56800. PHYTOLACCA CLAVIGERA W. W. Smith. Phytolaccaceæ.

From Edinburgh, Scotland. Seeds presented by William W. Smith, regius keeper, Royal Botanic Garden. Received May 19, 1923.

A robust perennial about 4 feet high, first discovered in Yunnan, China, by George Forrest. It bears rounded terminal spikes of small rosy flowers which are followed by dense club-shaped masses of black fruits. The plant has flowered and fruited freely at the Royal Botanic Garden, Edinburgh, Scotland. (Adapted from *Gardeners' Chronicle*, ser. 3, vol. 71, p. 39.)

56801 and 56802. SORGHUM spp. Poa- ceæ.

From Salisbury, Rhodesia. Seeds presented by H. G. Mundy, Chief Agriculturist and Botanist of the British South Africa Co., through H. N. Vinall, Bureau of Plant Industry. Received June 7, 1923. Quoted notes by Mr. Mundy.

Introduced for department agronomists.

56801. SORGHUM ARUNDINACEUM (Willd.) Stapf.

"This is called locally 'perennial Sudan grass'; it is closely related to Sudan grass. In its natural habitat it grows on heavy, black, fertile lands and is apparently quite

¹ It should be understood that the varietal names 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 Seed and 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 identity fully established, 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 American modes of nomenclature.

56801 and 56802—Continued.

perennial. It does not spread by underground roots but volunteers very freely from seed, especially where the land has been cultivated. The stems are somewhat woody and more canelike than those of Sudan grass."

56802. *SORGHUM VERSICOLOR* Anderss.

"This is called locally 'black Sudan grass.'"

56803. *SOLANUM TUBEROSUM* L. Solanaceæ. **Potato.**

From Bogota, Colombia. Tubers presented by Brother Aristé Joseph. Received June 8, 1923.

"The yellow-fleshed potato is one of the most interesting varieties found in the Andean region, home of many remarkable potatoes. The tubers are rather small and have deep eyes, so that they are not as easily prepared for the table as those of some other varieties; but in point of quality they yield to none that I have tasted. The flesh is the color of American butter and has a rich, nutty flavor suggesting that of the chestnut. It seems to me the variety might be improved, so as to do away with the objectionable eyes, and that it would then be worth extensive cultivation." (*Wilson Popenoe.*)

56804. *TETRASTIGMA* sp. Vitaceæ.

From Belgian Congo. Seeds presented by C. Passau, Kilometer 309, near Kongolo. Received June 5, 1923.

"An annual climber greatly resembling the grape in habit, fruits, and general appearance, with non-woody stems from 30 to 50 feet in length. The plant seems to require having its feet in the shade and its head in the sun; it is never found in real forests, but grows up through underbrush." (*Passau.*)

56805. *CUCUMIS SATIVUS* L. Cucurbitaceæ. **Cucumber.**

From Jaipur, Rajputana, India. Seeds presented by Sir James Roberts. Received April 2, 1923.

"This cucumber is from Malwa, Central India. It is 18 to 20 inches in length and thicker and more fleshy than the ordinary cucumber varieties. It is grown in the rainy season, and as the Malwa Plateau is nearly 2,000 feet above sea level the temperature at that season is lower than in many parts of India. I believe that this variety should do well in the warmer parts of the United States." (*Roberts.*)

56806. *TRIFOLIUM PRATENSE* L. Fabaceæ. **Red clover.**

From Reading, England. Seeds presented by Sutton & Sons. Received April 2, 1923.

Wild red clover.

Introduced for department specialists engaged in clover breeding.

56807. *TRIFOLIUM PRATENSE* L. Fabaceæ. **Red clover.**

From Groningen, Netherlands. Seeds purchased from C. Broekema, manager, Groninger Zaaizaadvereniging.

Rozendaal red clover.

Introduced for department specialists engaged in clover-breeding investigations.

For previous introduction, see S. P. I. No. 54889.

56808 to 56810.

From Verrieres le Buisson, Seine et Oise, France. Presented by A. Meunissier. Received April 3, 1923.

56808. *CARAGANA BOISI* C. Schneid. Fabaceæ.

Seeds of a handsome bush 10 to 12 feet high, with long, arching branches, native to Szechwan and eastern Tibet, China. In May the light-green foliage and numerous yellow flowers make this an especially attractive ornamental. (Adapted from letter of A. Meunissier, May 18, 1923.)

56809 and 56810. *CRATAEGUS LAVALLEI* Herincq. Malaceæ. **Hawthorn.**

"A tree of garden origin with pure-white flowers and red fruits an inch in diameter, well displayed by the rich-brown leaves in autumn." (*H. C. Skeels.*)

For previous introduction, see S. P. I. No. 54078.

56809. Seeds.

56810. Scions.

56811. *IRIS* sp. Iridaceæ. **Iris.**

From western Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received April 3, 1923.

"(February 6, 1923.) Seeds collected from a fruiting plant about 2 feet high found in the snow at an altitude of 8,800 feet on the crater of the extinct volcano Tayinshan, near Tengyueh. The natives say that this is a very handsome plant with large purplish blue flowers." (*Rock.*)

56812 to 56819. *ZIZIPHUS MAURTIANA* Lam. (*Z. jujuba* Lam., not Mill.) Rhamnaceæ. **Bor**

From Poona, Bombay, India. Seeds presented by G. S. Cheema, Horticulturist to the Government of Bombay, College of Agriculture. Received April 4 and 11, 1923.

"The bor, or Indian jujube, is grown throughout India for its fruits, which are usually small and more or less spherical in the wild forms. The cultivated kinds which have been selected are larger and ova or oblong in shape. When cooked some of the varieties have a very pleasing acid flavor not unlike that of plums. The bor is a valuable fruit for the warmer parts of Florida and other Southern States and merits serious consideration as a home fruit in these sections." (*C. C. Thomas.*)

For previous introduction, see S. P. I. No. 55484

56812. No. 13.

56816. No. 17.

56813. No. 14.

56817. No. 19.

56814. No. 15.

56818. No. 21.

56815. No. 16.

56819.

56820. *ROSA SEMPERVIRENS* L. Rosaceæ. **Rose**

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received April 1, 1923.

A shrubby wild rose which grows in hedgerow and rather dry situations in the southern and western parts of France. The shining green leaf composed of five to seven leaflets, are persistent throughout all or part of the winter, and the single white flowers appear from May to July. They are a number of horticultural forms cultivated; ornamentals. (Adapted from *Bonnier, Flore Complexe de France, vol. 4, p. 6, pl. 181.*)

For previous introduction, see S. P. I. No. 3296

56821. ANDROCYMBIUM PUNCTATUM (Cav.) Baker. Melanthaceæ.

From Tripoli, Libia, North Africa. Bulbs presented by E. O. Fenzi. Received April 4, 1923.

A stemless ornamental of the Amaryllid family, native to the Cape of Good Hope. The flowers, whitish with green veins and purple stamens, are in a dense umbel surrounded by about four narrow, spreading, bright-green leaves 5 or 6 inches long. (Adapted from *Gardeners' Chronicle*, vol. 1, new series, p. 786.)

56822. GARCINIA MANGOSTANA L. Clusiaceæ. **Mangosteen.**

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, General Experiment Station, Department of Agriculture, Industry, and Commerce. Received April 11, 1923.

Mangosteen seeds introduced from Java for testing in our tropical dependencies.

For previous introduction, see S. P. I. No. 56667.

56823 to 56829.

From Yunnan, China. Seeds collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received April 2, 1923. Quoted notes by Mr. Rock.

56823. GORDONIA sp. Theaceæ.

"(No. 7884. Tienyfnssu. January, 1923.) A shrub about 8 feet high found at an altitude of 6,000 feet. The handsome white flowers are $1\frac{1}{2}$ inches across, and the fruit is a woody capsule."

56824. LIGUSTRUM sp. Oleaceæ. **Privet.**

"(No. 7877. Wolung. January, 1923.) A very ornamental shrub 10 feet high which grows among lava boulders near Tengyueh at an altitude of 6,000 feet. The cream-colored flowers are in large pyramidal clusters."

56825. LUCULIA sp. Rubiaceæ.

"(No. 7824. December, 1922.) A handsome shrub 6 to 18 feet in height which grows on the Shwelli-Salwin Divide in mixed rain forests at an altitude of 8,000 feet and also in open gulches at a slightly lower altitude, even as low as 6,000 feet, but reaches its best development at 8,000 feet. In winter this region is often covered with snow and ice. The bright-green narrow leaves have reddish stems, and the rich-pink flowers are in large terminal corymbs 6 inches wide. The individual flowers are deliciously fragrant and nearly 2 inches across, with a salver-shaped corolla and a tube an inch long. This is one of the handsomest shrubs of which I know."

56826. PITTIOSPORUM sp. Pittosporaceæ.

"(No. 7886. Kaotien. January 21, 1923.) A tree 30 to 40 feet high, handsome in shape and foliage, with cream-colored flowers borne in large terminal panicles and red fruits."

56827 and 56828. RHODODENDRON spp. Ericaceæ.**56827. RHODODENDRON sp.**

"(No. 7865. Homushu. December, 1922.) A shrub 10 to 15 feet high, which grows at an altitude of 8,000 feet on the summit of the Salwin watershed in dense forests but near the margins. The oval dark-green leaves, deeply wrinkled above, are covered with matted brown wool, as is also the inflorescence. The flowers are white."

56823 to 56829—Continued.**56828. RHODODENDRON sp.**

"(No. 7866. Kaotien. January 6, 1922.) A handsome compact shrub 6 to 8 feet high, found in forests 2 days' travel from Tengyueh at an altitude of 6,500 feet. The uniformly green leaves are quite narrow, and the flowers are said to be white."

56829. SCHIMA sp. Theaceæ.

"(No. 7864. Homushu. December, 1922.) A fine tree 30 to 40 feet in height, which grows in dense forests on the Salwin watershed at an altitude of 8,000 feet. The leaves are narrowly oval, the flowers are white, and the fruits are small globular capsules. There are about four species of Schima found in Yunnan, and this one is rarer than the others."

56830. TRIFOLIUM INCARNATUM L. Fabaceæ. **Crimson clover.**

From Valence sur Rhone, France. Seeds purchased from Tézier Frères. Received April 12, 1923.

Locally grown seed introduced for department specialists engaged in clover breeding.

56831 to 56833. DIOSPYROS KAKI L. f. Diospyraceæ. **Kaki.**

From Osaki Machi, Tokyo, Japan. Seeds presented by Sengo Matsuda. Received April 6, 1923. Quoted notes by Mr. Matsuda.

Wild kaki varieties introduced as stocks for the cultivated sorts.

56831. "Gara-gara (prolific bearer). A very stout tree from the mountainous districts of Kyusiu Island. The sour fruits are pickled, and the juice is used for waterproofing purposes."

56832. "Tsurushi-gaki. This is good for using dried."

56833. "Yama-gaki. Sour fruits used for pickles."

56834 to 56837. SOJA MAX (L.) Piper. (*Glycine hispida* Maxim.) Fabaceæ. **Soybean.**

From Liaoyuanchow, Manchuria, China. Seeds presented by H. C. Chang. Received April 12, 1923. Quoted notes by Mr. Chang.

56834. "Black (green inside)."

56835. "Black (yellow inside)."

56836. "Green." **56837. "Yellow."**

56838 to 56841. MANGIFERA INDICA L. Anacardiaceæ. **Mango.**

From Honolulu, Hawaii. Plants presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received April 12, 1923. Quoted notes by Mr. Pope.

56838. "West India No. 9. This variety, now quite common in Hawaii, was introduced about 1885 under this name by Joseph Marsden.

"Description of fruit: Shape resembling the letter S; stem prominent; size from $3\frac{1}{2}$ to $4\frac{1}{2}$ inches long, from $2\frac{3}{4}$ to $2\frac{1}{2}$ inches broad, and from 2 to $2\frac{1}{2}$ inches thick; color before fruit is mature green, turning to a pale yellow when ripe, with a slight blush of pink on the upper end of the exposed side; peeling qualities very good; texture variable but in most specimens rather fibrous; flesh light yellow, sweet but watery; seed small; tree an abundant bearer. The fruit appears to be quite resistant to the attacks of the mango blight."

56838 to 56841—Continued.

56839. "*Kalihi chutney* mango. Original tree supposed to be a cross between West Indian No. 5 and some other mango. It grows near the Kalihi stream, King Street, Honolulu. The tree is vigorous and prolific, and the fruit is large, handsome, and of excellent quality.

"Description of the fruit: Size medium to large; shape almost round with blunt double apex; weight varying from 8 to 12 ounces; weight of seed about three-fourths ounce; color, a beautiful golden apricot, splashed with a few irregular dashes of bright red about the shoulder, yellow dots visible all over the surface of the fruit. Flesh yellow to orange-yellow, firm, with little fiber and of a most delicious rich flavor. An excellent keeper."

56840. "*Victoria* mango. The original tree, *Victoria No. 9*, is a seedling grown on the residence property of Thomas G. Thurum, Honolulu, Hawaii. During the eighties a number of mango seeds were brought from the West Indies by Joseph Marsden, a Government official of Hawaii. Among the seedlings developed from the introduced seeds was one known as No. 9. In 1897 a seed of this No. 9 was given to Mr. and Mrs. George Ashley. Mrs. Ashley germinated this seed, setting it in the front yard in its present location on June 20, 1897, the date of the Diamond Jubilee of Queen Victoria of England. For this reason the tree was called *Victoria No. 9*. When it fruited it was discovered that the fruit was different from any of the other mangos growing in Hawaii, particularly in color. Its qualities are superior to any of those mangos formerly brought to Hawaii by Mr. Marsden.

"The tree has proved to be very prolific, often producing as many as three distinct crops per year. The fruits are but little clustered, generally hanging singly on individual stems. From the time the fruits set they are red, becoming more brilliant on ripening. Like some other mangos, the *Victoria No. 9* reproduces its quality of fruit fairly true on seedling trees.

"Description of the fruit: Size medium, weight about 9 ounces; shape oblong, slightly S shaped and necked somewhat at the stem end; apex broadly rounded with curve ending in a small blunt beak which sometimes contains a small hole-like depression; color when ripe shaded with brilliant vermilion over yellow ground color which is most evident at apex. Surface marked with small yellow dots which become indistinct where red is deepest. Shoulder of fruit has delicate powdery bloom. Skin of medium thickness, strong enough to peel well. Odor pleasant. Ripe flesh a deep rich yellow, of good texture; juice sweet acid and of flavor of the Pirie mango. Seed small, weight three-fourths of an ounce. In marketing qualities this ranks among the best varieties in Hawaii."

For previous introduction, see S. P. I. No. 54690.

56841. "*Whitney* mango. Original tree a seedling of the sweet Hawaiian mango, growing in the yard of Dr. J. M. Whitney, 1325 Punahou Street, Honolulu. This variety grows large and vigorous and is a prolific bearer.

"Description of fruit: Size medium; shape oblong, broader than thick, with a rather extended, pointed apex; weight 8 to 10 ounces; color when ripe light greenish yellow with light dots; skin rather tough; peeling qualities fair. Flesh light yellow, without fiber, melting, sweet, and of excellent flavor. It is claimed that the fruit of this variety has never shown signs of having been stung by the fruit fly. A good variety for the fresh-fruit market."

56842 to 56849. ARACHIS HYPOGAEA L.

Fabaceæ. Peanut.

From Buitenzorg, Java. Seeds presented by Carl Hartley. Received April 12, 1923. Quoted notes by Mr. Hartley.

56842 to 56848. "The following numbers are of the Holle type. This type has a seed considerably heavier than the Broel and, of course, a larger pod. It is also an early-ripening bunch type, though not quite as pronounced in these characters as the Broel. It is ordinarily harvested on low and middle elevations in Java in 100 days after the seed is sown. It is by far the most popular type. It is my understanding that these varieties were tried by the United States Department of Agriculture in South Carolina last year and that they indicated high yielding ability but a much longer growing period than in Java."

56842. "No. 50. Obtained from Menado."

56843 to 56846. "From native sources in Java."

56843. No. 52. 56845. No. 66.

56844. No. 64. 56846. No. 67.

56847. "No. 77. The so-called 'Pure Line 21' of the Department of Agriculture's selection station at Buitenzorg. This is probably the best number from the standpoint of productiveness."

56848. "No. 78. The so-called 'White Hybrid No. 3' of this station."

56849. "*Broel*. This is a mixture of various Broel races from Java and Sumatra. The Broel is a very early ripening bunch type with small pods and short nuts. It is cultivated to a considerable extent in eastern Java on soils which are poor and on which other varieties showed too high a percentage of unfilled pods. In general, it is not as popular as the Holle type. It corresponds very closely to the American type known as 'Spanish.'"

56850. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Copenhagen, Denmark. Seeds presented by H. N. Knudsen, Danish Royal Agricultural Society. Received April 12, 1923.

"*Hersnap*. This is a Danish strain and has given, with us, a higher yield than foreign seed." (Knudsen.)

Introduced for department specialists engaged in clover-breeding investigations.

For previous introduction of this variety, see S. P. I. No. 56285.

56851 and 56852. ANANAS sp. Bromeliaceæ. Pineapple.

From Viosa, Minas Geraes, Brazil. Seeds presented by P. H. Rolfs, director, Escola Superior de Agricultura e Veterinaria. Received April 13, 1923. Quoted notes by Mr. Rolfs.

"These are considered to be wild pineapples and are very abundant here. In general the fruits are cylindrical, about 4 inches in diameter and 6 inches long. The crowns are medium sized in comparison with the size of the fruit, and crown slips are produced as well as basal ones. In color the fruits vary from white to dull green and red. The leaves are long and narrow, with very rigid and very sharp spines set quite a distance apart; they remind one of the leaves of the *Ananas raiou* of the Cubans, which also grows wild here. The bract which subtends each segment of the fruit is so large that, when the fruit is ripe, the bract laps over the subtended segment. These pineapples should be useful in hybridization experiments."

56851 and 56852—Continued.

56851. "(No. 1. March 12, 1923.) From several fruits."

56852. "(No. 2. March 12, 1923.) From one fruit."

For illustrations of this pineapple, see Plate I.

56853. MEDICAGO SATIVA L. Fabaceæ. Alfalfa.

From Tucuman, Argentina. Seeds presented by W. E. Cross, Estación Experimental Agrícola. Received April 13, 1923.

"*Inverniza No. 3.* A new variety which we discovered in this section; it is of the same type as the smooth form of Peruvian alfalfa, but of considerably greater vigor and also of greater permanence when once established." (Cross.)

56854 and 56855.

From Avondale, Auckland, New Zealand. Seeds presented by H. R. Wright. Received April 13, 1923. Quoted notes by Mr. Wright.

56854. CUCURBITA PEPO L. Cucurbitaceæ. Vegetable marrow.

"This is the vegetable marrow as grown by the natives of New Zealand. It is a good keeper and can be used either green or ripe."

56855. PHYSALIS PERUVIANA L. Solanaceæ. Poha.

"*Golden Nugget.* A new variety of Cape gooseberry. It is not a dessert fruit, but is suitable for making jam."

56856. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Helsingfors, Finland. Seeds purchased through Leslie A. Davis, American consul, from Centralandelslaget Labor m. b. t. Received April 13, 1923.

"This strain has been cultivated in Finland for about 34 years." (Ernst Hasselblatt.)

Introduced for the use of department specialists engaged in clover breeding.

56857. RHODODENDRON DELAVAYI Franch. Ericaceæ. Rhododendron.

From Tengyueh, Yunnan, China. Seeds collected by J. F. Rock, Collaborator of the Bureau of Plant Industry.

"(No. 7935. February 20, 1923.) A shrub 5 to 6 feet high which grows on the summit of the extinct volcano, Lutsungshan, at an altitude of 9,050 feet, about 10 miles north of Tengyueh. The very narrow leaves are pale brown beneath, and the crimson flowers, which are not fragrant, are in terminal clusters. This is the first of all the rhododendrons to bloom, the flowers appearing in early February." (Rock.)

For previous introduction, see S. P. I. No. 56355.

56858 and 56859. TRITICUM AESTIVUM L. (T. vulgare Vill.) Poaceæ. Common wheat.

From Magyarovar, Hungary. Seeds presented by J. Gyárfás, director, Hungarian Agricultural Experiment Station for Plant Research. Received April 13, 1923. Quoted notes by Mr. Gyárfás.

56858. "*Bankuti No. 5.* Hungarian selected wheat; one of the best varieties and excellent for baking."

56859. "*Bankuti Marquis No. 4.* Selected Marquis wheat grown in Hungary."

56860 and 56861. VICIA spp. Fabaceæ. Vetch.

From Omagari, Akita Ken, Japan. Seeds presented by Dr. Isabura Nagai, director, Rikuu substation, Agricultural Experiment Station. Received April 17, 1923. Quoted notes by Dr. Nagai except as otherwise stated.

56860. VICIA TETRASPERMA (L.) Moench.

"*Kasuma gusa.*"

An annual vetch found throughout Europe except in the extreme north and south. The stems, usually smooth, climb to a maximum height of 20 inches. The leaflets are very narrow and small, and the flowers vary in color from bluish to lilac, with violet veins. (Adapted from *Ascherson and Graebner, Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 912.)

56861. VICIA UNIJUGA A. Br.

"*Nantenhagi.*"

"An erect-growing plant which would appear to be valuable as a forage plant on wooded pasture ground in the cooler sections of the United States." (Frank N. Meyer.)

A perennial vetch, native to Siberia, with an upright or ascending stem 8 to 16 inches long and rather large, purplish flowers. It is sometimes cultivated in European gardens as an ornamental. (Adapted from *Ascherson and Graebner, Synopsis der Mitteleuropäischen Flora*, vol. 6, pt. 2, p. 919.)

56862 to 56867. ZEA MAYS L. Poaceæ. Corn.

From Krizevac, Croatia, Yugoslavia (Kingdom of the Serbs, Croats, and Slovenes). Seeds presented by the director, Royal Agricultural College, Krizevac, through J. F. McGurk, American consul, Zagreb. Received April 16, 1923. Quoted notes by the director.

56862 to 56865. "Grown at the college for many years."

56862. "*Krizevacka okrugla Hrvatica* (Croatian maid of Krizevac), a very good and fruitful sort, which ripens early and flourishes even in colder parts."

56863. "*Rumski zlatni zuban* (gold-kernel corn of Ruma, a town in Sylvania), a late very prolific kind. It does not always ripen with certainty in Krizevac, but in the lowlands along the Danube, Save, and Theiss Rivers, where the climate is somewhat like that of the steppes, with very hot summers, it ripens well."

56864. "*Kriacki hangari* (Krizevac warrior). An especially early kind, perhaps the earliest known. It originated in the Bosnian Mountains. It can be sown also in high mountain regions, and in upper Croatia it is sown after the field has been cleared of the winter barley, and ripens regularly."

56865. "*Krizevacki Pignoletto*, an early sort with tiny grains, very suitable and popular for human consumption. Has been grown a long time in Krizevac."

56866 and 56867. "Varieties raised by peasants."

56866. "*Krizevacki zuban* from the vicinity of Krizevac, a variety that ripens under conditions halfway between those mentioned in 1 [S. P. I. No. 56862] and 2 [S. P. I. No. 56863]."

56867. "*Hercegovacki* (the Herzegovian) from the mountains of Herzegovina, where the ground is stony, the winters severe, and the summers hot and dry, a climate which is very unfavorable for corn."

**56868 and 56869. ACACIA spp. Mimosa-
osaceæ.**

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received April 19, 1923.

56868. ACACIA CARDIOPHYLLA A. Cunn.

"Weeping wattle. This native tree is one of the most beautiful wattles that I know of." (Baker.)

56869. ACACIA VERNICIFLUA A. Cunn.

A slender, much-branched shrub, with leathery, very narrow phyllodia [leaflike stems] about 2 inches in length, and deep-yellow flowers in small heads which are generally in pairs. It is native to the barren hills around Bathurst, New South Wales. (Adapted from *Curtis's Botanical Magazine*, pl. 3266.)

**56870. TRIFOLIUM PRATENSE L. Fab-
raceæ. Red clover.**

From Helsingfors, Finland. Seeds purchased through Leslie A. Davis, American consul, from Keskusosuusliike Hankkija r. i. Received April 13, 1923.

"This strain has been cultivated in Finland for about 34 years." (*Ernst Hasselblatt*.)

Introduced for the use of department specialists engaged in clover breeding.

**56871 and 56872. POPULUS TREMULA
L. Salicaceæ. Aspen.**

From Svalof, Sweden. Presented by N. H. Nilsson, Sveriges Utsädesforening. Received April 24, 1923.

Var. *erecta*.

"This is a mutation of the ordinary aspen and is found in the woods in this vicinity. Especially interesting is the fact that it strongly resembles the Lombardy poplar, which is a very similar mutation of *Populus nigra*." (*Nilsson*.)

56871. Plants. 56872. Cuttings.

**56873 and 56874. ZEA MAYS L. Poa-
ceæ. Corn.**

From Bengazi, Cyrenaica, Libia, North Africa. Seeds presented by the director, Economic and Financial Affairs. Received April 25, 1923. Quoted notes by the director.

"These native varieties of maize are grown under irrigation in Cyrenaica. Attempts to grow them in dry culture have not resulted favorably."

56873. "From Derna."

56874. "From Bengazi."

**56875. CERATONIA SILIQUA L. Cæsal-
piniaceæ. Carob.**

From Lisbon, Portugal. Budwood presented by Capt. Mendes d'Almeida, through W. Stanley Hollis, consul general. Received April 28, 1923.

Sent in response to a request for cuttings of the best varieties of carob grown in Portugal.

For previous introduction, see S. P. I. No. 55464.

**56876 to 56878. TRITICUM AESTIVUM
L. (*T. vulgare* Vill.) Poaceæ.
Common wheat.**

From Villiers Saint Georges, France. Seeds presented by Hector Gagneux. Received April 23, 1923. Quoted notes from catalog of Hector Gagneux, autumn, 1923.

56876 to 56878—Continued.

56876. "*Blé de Silène*. A variety with white straw, a long white head, and white kernels. It is a selection from *Hybride des Alliés*, to which it is superior in its resistance to disease and lodging."

56877. "*Le Cérés*. This is claimed by its originators to be the finest variety known; our experiments with it allow us to confirm in a measure this statement. It is remarkably vigorous with white heads and clear-yellow kernels which are much appreciated in the milling industry. The variety is very resistant to cold and almost never lodges. Season medium early."

56878. "*Hybride Inversable*. An early and very vigorous variety which requires rich and well-prepared soil for its best development. It is very resistant to lodging."

**56879. HAKEA ACICULARIS (Vent.)
Knight. Proteaceæ.**

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received April 12, 1923.

A tall evergreen shrub or small bushy tree, native to Australia, with very handsome foliage which is rigid and spiny, thus serving to protect the plant against animals. The plant is suitable for hedges and shrubberies, is quite hardy, and requires but little moisture or cultivation. (Adapted from *University of California Publications, Botany*, vol. 4, p. 19.)

For previous introduction, see S. P. I. No. 40047.

**56880 to 56882. TRIFOLIUM PRATENSE
L. Fabaceæ. Red clover.**

From Bologna, Italy. Seeds purchased from Ditta E. Pini, through Asher Hobson, American representative, International Institute of Agriculture, Rome. Received April 20, 1923. Quoted notes by Mr. Pini.

Locally grown seed introduced for department specialists engaged in clover breeding.

56880. "From Emilia."

56881. "From Marches."

56882. "From Umbria."

**56883 to 56891. COIX LACRYMA-JOBI
MA-YUEN (Rom.) Stapf. Poaceæ.
Ma-yuen.**

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture, at the request of P. J. Wester. Received April 23, 1923.

The ma-yuen, or adlay, has attracted considerable attention as a cereal for tropical regions. According to P. J. Wester, Bureau of Agriculture, Manila, it is better than upland rice for tropical agriculture in being more drought resistant, a heavier yielder, and much less expensive to cultivate. The seeds can be used largely in the same manner as corn.

56883. *Batangas*.

56884. *Cotabato Brown*.

56885. *Cotabato White*.

56886. *La Union White*.

56887. *Lamao No. 1*.

56888. *Lamao No. 2*.

56889. *Lamao White*.

56890. *Momungan*.

56891. *Mountain Province*.



FIG. 1.—HABITAT OF THE WILD PINEAPPLE (*ANANAS* SP.; S. P. I. NOS. 56851 AND 56852)

The origin of the cultivated pineapple is obscure. The Spaniards found it growing in the gardens of the Indians when they reached tropical America at the end of the fifteenth century. It seems probable that the cultivated varieties were derived from one or more of the wild forms which are still found in the central part of Brazil. The environmental conditions under which one of these forms occurs is shown in the above reproduction of a photograph taken by Professor Rolfs near Vicosa, in the State of Minas Geraes, at an altitude of about 650 meters (approximately 2,130 feet)

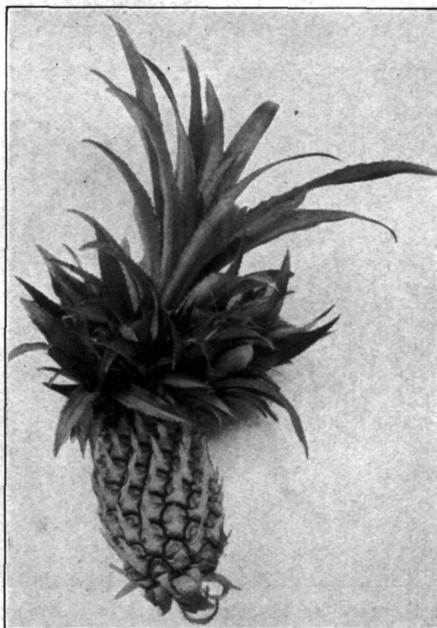


FIG. 2.—A WILD PINEAPPLE FROM CENTRAL BRAZIL (*ANANAS* SP.; S. P. I. NOS. 56851 AND 56852)

Plant breeders occupied with the production of new pineapple varieties will be interested in this wild form sent from the State of Minas Geraes by Professor Rolfs. The fruits, which are about 6 inches long and 4 inches in diameter, are whitish green, dull green, or nearly red; they have whitish flesh of acid flavor. It seems possible that this form may be the wild prototype of some of the cultivated pineapples; it occurs abundantly on the rolling plains of central Brazil. (Photographed by P. H. Rolfs, Vicosa, Minas Geraes, Brazil)



FIG. 1.—BARLEY GROWING IN AN ALGERIAN OASIS (*HORDEUM VULGARE PALLIDUM* SERINGE; S. P. I. NO. 57052)

In the endeavor to secure new cereal strains for use in improving varieties now being cultivated in the United States, the United States Department of Agriculture recently sent abroad an experienced cerealist to look for promising types. Among the places visited were a number of the larger oases in northern Africa. The illustration shows a plat of barley, probably a winter variety, growing in the oasis of Temacin, Algeria. Seeds of this variety were obtained for testing in the warmer portions of the semiarid Southwest. (Photographed by H. V. Harlan, April 5, 1923)



FIG. 2.—MARIOUT BARLEY IN ITS ORIGINAL HOME (*HORDEUM VULGARE PALLIDUM* SERINGE; S. P. I. NOS. 57637 TO 57639)

The semiarid region in the vicinity of Lake Mariut, northern Egypt, has the distinction of being the home of the original Mariout barley, from which many selections have been made. This region probably has the lowest rainfall of any in the world in which crops are grown, and seed was secured here of a number of promising barley types which may prove of great value in sections of the United States where drought resistance in cereals is essential. (Photographed by H. V. Harlan, Burg el Arab, Egypt, May 7, 1923)

56892. AVENA SATIVA L. Poaceæ.

Oats.

From Wageningen, Netherlands. Seeds presented by Dr. R. J. Mansholt, Royal Netherlands College of Agriculture. Received May 1, 1923.

Mansholt III. A variety obtained by selection from *Victoire de Svalof*. Its chief characteristics are straw fairly short, very thick, stiff; grain white and plump like that of *Victoire de Svalof*, but distinctly larger; season early. It is an excellent variety, very resistant to lodging. It should not be grown on poor, light soils, as it requires rich, well-fertilized land. (Adapted from *International Review of the Science and Practice of Agriculture, Monthly Bulletin of Agricultural Intelligence, vol. 15, p. 331.*)

56893 to 56895. TRIFOLIUM INCARNATUM L. Fabaceæ. Crimson clover.

From Paris, France. Seeds purchased from Vilmorin-Andrieux & Co. Received May 1, 1923. Quoted notes by Vilmorin-Andrieux & Co.

Introduced for department specialists engaged in clover breeding.

56893. "A late crimson clover."

56894. "An early crimson clover."

56895. "A very late white-flowered crimson clover."

56896 to 56898. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Lausanne, Switzerland. Seeds purchased from Dr. G. Martinet, director, Seed-Control Station. Received May 1, 1923. Quoted notes by Doctor Martinet.

Introduced for department specialists engaged in clover breeding.

56896. "No. 1021. Descended from the celebrated variety of Winkel, near Bulach, Switzerland. It is of rapid growth, yields heavily, and can be used for two years after seeding."

56897. "No. 943 (*Mattenklee*). A long-enduring variety which yields well and renews itself from time to time. The seeds are almost entirely yellow."

56898. "No. 950 (*Mattenklee*). A long-enduring variety which gives abundant forage and seeds; the latter are dark violet."

56899 to 56901.

From Svalof, Sweden. Seeds presented by N. H. Nilsson, Sveriges Utsädesforening. Received May 1, 1923.

56899 and 56900. AVENA SATIVA L. Poaceæ. Oats.

56899. *Orion*. An early-ripening black oat obtained at Svalof, Sweden, by crossing *Ligovo* and *0668*, a line from a Norwegian variety. *Orion* ripens two days earlier than the earliest variety known in Norrland and is distinctly superior to the variety *Guldregn*. In regard to yield, *Orion* has produced 5.5 per cent more grain and 7.5 per cent more straw than *Mesdag*. In short, *Orion* is very satisfactory because it produces a heavy crop of grain of good quality, ripens early, and has stiff straw. (Adapted from *International Review of the Science and Practice of Agriculture, Monthly Bulletin of Agricultural Intelligence, vol. 13, p. 657.*)

56899 to 56901—Continued.

56900. *Odal*. In the attempt to obtain an early variety of oats with the good qualities of the late variety *Guldregn*, a cross between the latter variety and *Dala* yielded a strain, *01163 b*, in which the desired characters were obtained. *Odal* does not head early, but ripens quickly. In regard to yield, *Odal* produces on an average 9 per cent more grain than *Dala*, but, owing to the shortness of the stems, gives less straw than either *Dala* or *Guldregn*. In its resistance to lodging, *Odal* is nearly equal to *Guldregn*. (Adapted from *International Review of the Science and Practice of Agriculture, Monthly Bulletin of Agricultural Intelligence, vol. 13, p. 321.*)

56901. PHELUM PRATENSE L. Poaceæ.

Timothy.

Gloria. A high-yielding strain, developed at Svalof by Dr. Herfried Witte.

56902 to 56904. ZEA MAYS L. Poaceæ. Corn.

From Peru. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics. Received April 20, 1923. Quoted notes by Mr. Bullock.

56902. "(Cuzco. January, 1923.) From Sr. Gallegos, Comisionado Agronómico."

56903. "(Cuzco. January, 1923.) From T. E. Payne. Grown under irrigation at about 7,000 feet altitude."

56904. "(Same.) From Sr. Mendoza. Grown at a low altitude under irrigation."

56905. ZEA MAYS L. Poaceæ. Corn.

From La Paz, Bolivia. Seeds presented by D. S. Bullock, agricultural commissioner, Bureau of Agricultural Economics. Received April 20, 1923.

"(January, 1923.) Bought in the market." (*Bullock.*)

56906. PHYLLOCARPUS SEPTENTRIONALIS Donn.-Smith. Cæsalpiniaceæ.

From El Barranquillo, Guatemala. Seeds purchased from Fernando Carrera through A. C. Frost, American consul, Guatemala. Received May 3, 1923.

"A magnificent flowering tree found in sandy loam in eastern Guatemala at 1,500 to 2,000 feet altitude. It is of broad, spreading habit, 40 to 50 feet high, with light-green compound leaves. In January and February the tree is a mass of crimson-scarlet flowers, each about an inch broad, borne in small clusters." (*Wilson Popeoec.*)

For previous introduction, see S. P. I. No. 51409.

56907. ANANAS sp. Bromeliaceæ.

Wild pineapple.

From Bello Horizonte, Minas Geraes, Brazil. Seeds presented by P. H. Rolfs, director, Escola Superior de Agricultura e Veterinaria. Received May 5, 1923.

"A wild pineapple known locally as 'ananás.' The fruit is more cylindrical than that of *Red Spanish*." (*Rolfs.*)

Introduced for department specialists engaged in pineapple breeding.

56908 and 56909.

From Nice, France. Seeds presented by Dr. A. Robertson Prochowsky. Received May 5, 1923.

56908. *ABUTILON MOLLISSIMUM* (Cav.) Sweet. Malvaceæ.

An annual bushy plant, usually 4 to 5 feet high, but reported to reach a height of 10 feet in Peru, where it is native. The stem and the large, very soft, heart-shaped leaves are quite hairy, and the solitary axillary flowers, about an inch long, are sulphur yellow. (Adapted from *Caranilles, Secunda Dissertatio Botanica, p. 49, No. 67.*)

56909. *FRANCOA SONCHIFOLIA* (Willd.) Cav. Saxifragaceæ.

A rather shrubby ornamental about 3 feet high, with bright-green, downy, wavy-margined leaves, handsome lilac-colored flowers in long, erect, spikelike racemes. The plant is native to Chile. (Adapted from *Curtis's Botanical Magazine, pl. 3309.*)

56910. *POA AUSTRALIS* R. Br. Poaceæ.

From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agricultural and Stock Department. Received June 6, 1923.

"Collected near Lake Tiberias at an altitude of about 1,400 feet. This is a rather cold area with a light rainfall." (*Evans.*)

This is the most abundant grass in many districts of South Island, New Zealand, and is also plentiful in the elevated central portions of North Island. It is seldom eaten by stock, however, except in the absence of better feed. (Adapted from *Cheeseman, Manual of the New Zealand Flora, p. 908.*)

Introduced for department agrostologists.

For previous introduction, see S. P. I. No. 31503.

56911. *COLOCASIA ESCULENTA* (L.) Schott. Araceæ. Dasheen.

From Canton, China. Tubers presented by G. Weidman Groff, director, Canton Christian College. Received May 7, 1923.

"A taro, or dasheen, of good quality. The sprouts are distinctly reddish. The tubers are said to be small and quite uniformly elliptical and the leaves dark green. The variety is also reported to yield well." (*R. A. Young.*)

56912 to 56919. *SOLANUM TUBEROSUM* L. Solanaceæ. Potato.

From Nemecky Broad, Czechoslovakia. Tubers presented by the Czechoslovakia Experiment Station for Potato Culture. Received May 14, 1923.

"These Czechoslovakian varieties came from the Czechoslovakia Experiment Station for Potato Culture, where they were grown under careful supervision and are claimed to be free from disease. They are introduced for breeding and disease-resistance investigations." (*Dr. E. H. Myers.*)

56912. *Cesky zelenac.*

56913. *Fakutske.*

56914. *Janošky.*

56915. *Nolcovy rohlicky.*

56916. *Podhajky.*

56917. *Ranne Hradce.*

56918. *Vaclavaka.*

56919. *Visnarske rohlicky.*

56920 to 57012. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceæ. Sweetpotato.

From St. Croix, Virgin Islands. Seeds presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received May 2, 1923. Quoted notes by Mr. Thompson.

56920. "No. 7. A Big Wig seedling. The vine is 3 to 4 feet in length. It is very leafy and covers the ground completely with a dense leafy mass. The leaves are green, broadly shouldered, and lanceolate. The roots are red."

For introduction of tubers under this number, see S. P. I. No. 56714.

56921. "No. 11. A Big Wig seedling. The vines are 2 to 3 feet in length. The leaves are lanceolate and range from small to medium in size. The roots are white."

56922 to 56928. "No. 18. A Big Wig seedling. This is a rampant grower, the vines reaching out for 8 or 10 feet or more on either side of the row. It flowers profusely. The roots are red."

For introduction of tubers under this number, see S. P. I. No. 56717.

56922. (No. 1.) 56926. (No. 5.)

56923. (No. 2.) 56927. (No. 6.)

56924. (No. 3.) 56928. (No. 7.)

56925. (No. 4.)

56929 to 56931. "No. 26. A Big Wig seedling. In the nursery row this seedling shows short vine growth with rather sparse foliage. The stems are short and stout, attaining a maximum length of 2 to 3 feet. The leaves are lanceolate with a wine-colored midrib. The tubers are dark red and grow at the ends of fleshy roots that are 12 to 18 inches long. The tubers are traversed by a number of pronounced ribs or veins. The original seedling yielded 4 pounds of tubers under very adverse conditions."

For introduction of tubers under this number, see S. P. I. No. 56722.

56929. (No. 1.) 56931. (No. 3.)

56930. (No. 2.)

56932 and 56933. "No. 36. A Big Wig seedling. Stems rather slender to medium and 2 to 4 feet in length. Leaves small and cordate. The original seedling plant produced 1 pound 6 ounces of smooth white tubers."

56932. (No. 1.) 56933. (No. 2.)

56934 and 56935. "No. 31. A Big Wig seedling. In the nursery row the vines are strong but short and sparsely leaved. The leaves are small with five deeply cut lobes. This variety shows a tendency to produce tubers at the nodes of the vines where they attach themselves to the soil. The tubers are a light red or rose. The original seedling yielded 38 tubers weighing $5\frac{1}{4}$ pounds."

For introduction of tubers under this number, see S. P. I. No. 56726.

56934. (No. 1.) 56935. (No. 2.)

56936 to 56940. "No. 36."

For description, see S. P. I. Nos. 56932 and 56933.

56936. (No. 3.) 56939. (No. 6.)

56937. (No. 4.) 56940. (No. 7.)

56938. (No. 5.)

56920 to 57012—Continued.

56941. "No. 45. A Big Wig seedling. In the nursery row this bore short leafy stems 24 to 30 inches long which afforded perfect protection to the hill. The leaves are dark green and cut and lobed similar to those of the Big Wig parent. The original seedling plant yielded eight small tubers weighing 15 ounces. The tubers are dark red. The flesh is yellow with a pink underskin."

56942. "No. 50. A Black Rock seedling. In the nursery row this seedling had short stems 12 to 18 inches long. The leaves are deeply cut with five lobes and are dark green with red midribs and veins. The tubers are dark red."

56943 and 56944. "No. 55. A Black Rock seedling. The stems are 2 to 3 feet long in our nursery row. The leaves are somewhat variable in form but usually lancetlike and bearing some resemblance to those of the variety grown at this station under the name of the Key West 'yam.' The tubers are dark red and are borne on the ends of long fleshy roots. The original seedling plant yielded 30 tubers weighing a total of 4¾ pounds."

For introduction of tubers under this number, see S. P. I. No. 56729.

56943. (No. 1.) 56944. (No. 2.)

56945. "No. 58. A Black Rock seedling. The vine is 2 to 3 feet in length and very leafy. The leaves are cordate and rounded and the younger ones are wine colored, especially around the margins. The tubers are dark red. The original seedling plant bore 37 tubers weighing 5 pounds."

For introduction of tubers under this number, see S. P. I. No. 56731.

56946. "No. 74. A Big Wig seedling. Stems slender, leafy, 3 to 5 feet long or more. The leaves are small and have five lobes. The roots are red."

56947. "No. 75. A Big Wig seedling. Vines 2 to 4 feet in length and leafy. Leaves dark green, broad, 3 pointed; midribs and veins red. Tubers red. The original seedling plant yielded 18 tubers weighing 2¼ pounds."

56948 to 56951. "No. 92. A Big Wig seedling. Vines long and slender. Leaves small, broad as compared with length, lobed but not deeply cut. The yield of the original seedling plant was 19 tubers weighing 1 pound. The tubers were small, red, and borne at the nodes as far as 10 feet from the hill."

56948. (No. 1.) 56950. (No. 3.)

56949. (No. 2.) 56951. (No. 4.)

56952. "No. 103. A Big Wig seedling. A small, bunching, rather unthrifty vine. The roots are of a light red or rose."

56953 to 56955. "No. 106. A Big Wig seedling. The vines are from 1 to 3 feet long and sparsely clothed with small green lanceolate leaves. The original seedling hill yielded three tubers weighing 10 ounces. The tubers were dark red."

56953. (No. 1.) 56955. (No. 3.)

56954. (No. 2.)

56956. "No. 112. A Big Wig seedling. Vines 1 to 3 feet in length and rather sparsely leaved. Leaves small, light green with three or five lobes and green midribs and veins. The original seedling plant bore three light-red tubers weighing 6 ounces."

56920 to 57012—Continued.

56957. "No. 122. A Big Wig seedling. Vines 12 to 30 inches in length. This was like the preceding, No. 112 [S. P. I. No. 56956], in that it yielded from the original seedling plant three small red tubers weighing 6 ounces."

56958. "No. 123. A Big Wig seedling. This forms bunching plants with leafy stems 12 to 18 inches long. The original seedling plant bore three light-red tubers weighing 13 ounces."

56959. "No. 125. A Big Wig seedling. The plant is rather bunching in habit. The stems are 1 to 2 feet long and leafy. Leaves dark green, cordate, resembling its Black Rock parent. The original seedling plant bore seven dark-red tubers weighing 1 pound 9 ounces."

56960 to 56963. "No. 138. A Big Wig seedling. The stems are long and leafy. The leaves are dark green and 5 lobed."

56960. (No. 1.) 56962. (No. 3.)

56961. (No. 2.) 56963. (No. 4.)

56964 to 56966. "No. 153. A Big Wig seedling. The vines were from 3 to 6 feet in length with sparse growth of leaves. The leaves were lanceolate or sometimes 3 lobed. The original seedling plant yielded 10 dark-red tubers with a total weight of 1½ pounds."

56964. (No. 1.) 56966. (No. 3.)

56965. (No. 2.)

56967. "No. 162. A Big Wig seedling. The stems are stout and 1 to 2 feet in length. The leaves are large, cordate, and strikingly ornamental. The original seedling plant yielded five tubers of a coppery red, having a total weight of 1½ pounds."

56968 to 56970. "No. 169. A Black Rock seedling. Vines in the nursery row grew to a maximum distance of 6 feet from the hill and were sparsely covered with leaves. Leaves dark green when mature, but immature ones were dark wine colored. Tubers a light yellowish pink. The original seedling plant yielded four tubers weighing 3 ounces."

56968. (No. 1.) 56970. (No. 3.)

56969. (No. 2.)

56971. "No. 188. A Black Rock seedling. The stems are long and slender and in the nursery row run to a maximum distance of 8 feet from the hill. The vine is not densely covered with leaves and makes a thin covering for the ground. The tubers are light red. The original seedling plant yielded 14 tubers weighing a total of 2 pounds 2 ounces."

56972. "No. 191. A Black Rock seedling. A low bunching leafy plant. Leaves deeply cut, with five lobes."

56973 and 56974. "No. 196. A Black Rock seedling. Stems 12 to 30 inches long, with few leaves. Leaves small, cordate, pointed."

56973. (No. 1.) 56974. (No. 2.)

56975 and 56976. "No. 204. A Black Rock seedling. Stems long and slender, 8 or 10 feet long. Leaves comparatively small in size, 3 pointed, lanceolate. The original seedling had dark-red roots but no tubers."

56975. (No. 1.) 56976. (No. 2.)

56920 to 57012—Continued.

56977 to 56980. "No. 217. A Black Rock seedling. The stems are long and slender, attaining a length of 8 to 10 feet or more. The original seedling yielded 24 tubers weighing an aggregate of 3 pounds. The tubers have creamy yellow skin and yellow flesh."

56977. (No. 1.) 56979. (No. 3.)
56978. (No. 2.) 56980. (No. 4.)

56981 and 56982. "No. 223. A Key West 'yam' seedling. Tubers dark red. The original seedling plant yielded 12 tubers weighing 1 pound 13 ounces."

56981. (No. 1.) 56982. (No. 2.)

56983 to 56985. "No. 226. A Key West 'yam' seedling grown at the Virgin Islands Experiment Station in 1922. The original seedling plant had yellow roots but no tubers."

56983. (No. 1.) 56985. (No. 3.)
56984. (No. 2.)

56986 to 56988. "No. 235. A Black Rock seedling. Original seedling plant had dark-red roots but no tubers."

56986. (No. 1.) 56988. (No. 3.)
56987. (No. 2.)

56989 and 56990. "No. 240. A Black Rock seedling. The original seedling plant yielded 26 smooth coppery red tubers with a total weight of 5¼ pounds."

For introduction of tubers under this number, see S. P. I. No. 56742.

56989. (No. 1.) 56990. (No. 2.)

56991 to 56993. "No. 247. A Black Rock seedling. The original seedling plant bore six white tubers weighing 1 pound 2 ounces."

56991. (No. 1.) 56993. (No. 3.)
56992. (No. 2.)

56994. "No. 251. A Black Rock seedling. The original seedling plant produced 14 yellow tubers weighing 1 pound 11 ounces."

For introduction of tubers under this number, see S. P. I. No. 56743.

56995. "No. 306. A Black Rock seedling. This is a volunteer seedling which sprang up in the Black Rock plot after the latter was harvested."

56996 and 56997. "Big Wig variety. It is not known whence this variety came. It was obtained by the station from Estate Strawberry Hill in 1920 or 1921 and has since been grown continuously at the station. It is of bunching vineless growth and bears many dark-green deeply cut 5-lobed leaves. The original form as obtained by the station has red tubers. The seed collected has all been from the ordinary red Big Wig."

56996. (No. 1.) 56997. (No. 2.)

56998 to 57000. "Black Rock variety. This was introduced from Barbados by Dr. Longfield Smith, of this station, in 1911 and is undoubtedly the most popular variety grown in St. Croix. The vines are vigorous, bearing dark-green, cordate leaves. The tubers, which are long and often ill shaped, are dark purplish red and attain large size under favorable conditions. The variety has the reputation of keeping longer in storage than other varieties."

56998. (No. 1.) 57000. (No. 3.)
56999. (No. 2.)

56920 to 57012—Continued.

57001 and 57002. "Hug-me-tight variety. A few tubers of this variety were purchased on the St. Thomas market in May, 1922, under the above name. The tubers were said to have been grown on the island of Tortola, a British island some miles off the east coast of St. Thomas. The tubers are white."

57001. (No. 1.) 57002. (No. 2.)

57003 and 57004. "John Siddon variety. A few tubers of this variety were obtained at the same time and came from the same source as those of Hug-me-tight [S. P. I. Nos. 57001 and 57002]. The tubers are light red."

57003. (No. 1.) 57004. (No. 2.)

57005 to 57010. "Key West 'yam.' This variety was obtained from the Federal Experiment Station at Mayaguez, Porto Rico, and planted at the Virgin Islands Experiment Station some two or three years ago. After growing this variety in a number of comparative tests, in which a large number of local varieties were represented, the Porto Rico Experiment Station pronounced this the best variety tested under the conditions at Mayaguez. It has shown considerable merit in St. Croix, but has not fully established its superiority over the Black Rock and Big Wig varieties. The vines are medium in length, and the leaves are of a very noticeably yellow-green. The tubers are yellow."

57005. (No. 1.) 57008. (No. 4.)
57006. (No. 2.) 57009. (No. 5.)
57007. (No. 3.) 57010. (No. 6.)

57011 and 57012. "Wrenchy variety. This is an old local variety the history of which is not known. The vines are long and slender and the tubers are white. This variety is said to yield comparatively well on hard or poorly plowed land."

57011. (No. 1.) 57012. (No. 2.)

57013 to 57034. HORDEUM spp. Poaceæ. Barley.

From Cambridge, England. Seeds presented by Prof. F. L. Engledon, School of Agriculture, Cambridge, through Dr. H. V. Harlan, United States Department of Agriculture. Received April 24, 1923.

A collection of local barley strains introduced for department cerealists.

57013 and 57014. HORDEUM DEFICIENS Steud.

57013. No. 1. 57014. No. 6.

57015. HORDEUM DISTICHON NIGRICANS Seringe. Two-rowed barley. No. 13.

57016. HORDEUM DISTICHON NUDUM L. Two-rowed barley. No. 8.

57017 to 57022. HORDEUM DISTICHON PALMELLA Harlan. Two-rowed barley.

57017. No. 4. 57020. No. 14.

57018. No. 9. 57021. No. 16.

57019. No. 10. 57022. No. 19.

57023. HORDEUM INTERMEDIUM HAXTONI Koern. No. 7.

57013 to 57034—Continued.

57024. *HORDEUM VULGARE COELESTE* L.
Six-rowed barley.
No. 22.
- 57025 and 57026. *HORDEUM VULGARE HORSFORDIANUM* Wittmack. Six-rowed barley.
57025. No. 3. 57026. No. 5.
- 57027 and 57028. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven. Six-rowed barley.
57027. No. 12. 57028. No. 17.
- 57029 to 57034. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
57029. No. 2. 57032. No. 18.
57030. No. 11. 57033. No. 20.
57031. No. 15. 57034. No. 21.

57035. *TRIFOLIUM PHYSODES* Stev.
Fabaceæ. Clover.

From Kew, England. Seeds presented by Dr. A. H. Hill, director, Royal Botanic Gardens. Received May 7, 1923.

A perennial prostrate clover with oval leaflets and roundish heads of pink flowers which open in July and August. Native to southeastern Europe. In the flowering stage this species resembles white clover, but it does not creep. (Adapted from *Ascherson und Graebner, Synopsis der Mitteleuropäischen Flora, vol. 6, pt. 2, p. 525.*)

For previous introduction, see S. P. I. No. 56675.

57036. *TRIFOLIUM PRATENSE* L. Fa-
baceæ. Red clover.

From Copenhagen, Denmark. Seeds presented by H. N. Knudsen, Danish Royal Agricultural Society. Received May 7, 1923.

Tystofte No. 40 originated in a 2-year plot of Rozen-daal clover. Seed of this variety was sown in 1900, and the clover was thus subjected to the hard winter of 1901. In 1902 the strongest plants from this test were selected, one of which was No. 40. Later this strain was compared with others in several tests. In three of four tests all the clovers made vigorous growth during the first year, and in this respect No. 40 averaged well above the others. In all four tests No. 40 gave the largest crop, fully 20 per cent better than that of the next best. These results agree well with the results of earlier tests at Lyngby and Tystofte, in which this strain decidedly surpassed all others. (Adapted from *Beretning fra Statens Forsøgsvirksomhed i Plantekultur, No. 95, p. 401.*)

For previous introduction, see S. P. I. No. 54739.

57037 to 57041. *ORYZA SATIVA* L. Poa-
ceæ. Rice.

From the island of Guam. Seeds presented by J. Guerrero, assistant in horticulture, Guam Agricultural Experiment Station. Received May 7, 1923.

Varieties of seed rice introduced for department specialists engaged in rice breeding.

57037. *Guam.*
57038. *Guam Experiment Station Selection.*
57039. *Inantipolo II.*
57040. *Mangasa.*
57041. *Mayoro II.*

57042 to 57074.

From Algeria. Seeds collected by Dr. H. V. Harlan, Bureau of Plant Industry. Received May 9, 1923. Quoted notes by Doctor Harlan.

Introduced for department cerealists.

57042. *AVENA LUDOVICIANA* Durieu. Poa-
ceæ. Oats.
“(No. 52. Biskra. April 8, 1923.) Wild oats collected in barley fields. No oats are cultivated near Biskra.”
57043. *AVENA STERILIS* L. Poaceæ. Oats.
“(No. 60. Algiers. April 21, 1923.) The only sample of oats seen in the native market. It appears to be screenings from other grain.”
- 57044 and 57045. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.) Poaceæ. Sorghum.

57044. “(No. 57. Algiers. April 21, 1923.) Purchased in the native market.”

57045. “(No. 62. Algiers. April 21, 1923.) A poor sample collected in the native market.”

57046 to 57065. *HORDEUM* spp. Poaceæ. Six-rowed barley.

57046. *HORDEUM VULGARE NIGRUM* (Willd.) Beaven.

“(No. 53. Biskra. April, 1923.) A black barley from Biskra. The Arabs tell me that before the big famine of 20 years ago when seed was imported black barley was often grown. The few seeds under this number were found by picking over many samples in the market. They may be from widely separated points.”

57047 to 57065. *HORDEUM VULGARE PALLIDUM* Seringe.

57047. “(No. 30. Tuggurt. April 3, 1923.) Purchased in the market. Probably grown on this or a nearby oasis.”

57048. “(No. 33. Tuggurt. April 5, 1923.) Barley from the Oasis of Tuggurt, purchased in the market.”

57049. “(No. 35. Tuggurt. April 5, 1923.) Barley from the Oasis of Tuggurt, purchased in the market.”

57050. “(No. 36. Biskra. March 31, 1923.) The barley was grown under irrigation. The spikes collected represented variation present in the field. Few spikes were taken, as they were not fully ripe and a larger sample might be damaged by heating.”

57051. “(No. 37. El Outaia. April 1, 1923.) Conditions similar to No. 36 [S. P. I. No. 57050] and similar selections made.”

57052. “(No. 38. Temacin. April 5, 1923.) The barley at Temacin was grown beneath the date palms of the oasis. This may be a winter variety or at least one related to those of Lower Egypt.”

For an illustration of this barley, see Plate II, Figure 1.

57042 to 57074—Continued.

57053. "(No. 39. Temacin. April 5, 1923.) Collected from a small plat under date palms; a fairly pure variety of the Peruvian or Portuguese type not seen at Biskra."
57054. "(No. 40. Biskra. May 8 and 13, 1923.) Barley spikes collected from fields about the town. Several types are included."
57055. "(No. 42. Biskra. April 13, 1923.) Barley of the new crop purchased in the market at Biskra."
57056. "(No. 43. El Kantara. April 10, 1923.) Purchased in the market at El Kantara. The 1922 crop is probably from Batna or Setif."
57057. "(No. 46. Biskra. April 13, 1923.) Barley purchased in the market. Said to have been grown at Soada, 20 miles southeast of Biskra. From the 1923 crop."
57058. "(No. 47. Biskra. April 13, 1923.) New crop from Soada, 20 miles southeast of Biskra."
57059. "(No. 48. Biskra. April 13, 1923.) Purchased in the market place. The dealer claimed the shipment came from Morocco."
57060. "(No. 50. El Outaia. April 13, 1923.) Barley of the 1923 harvest purchased in Biskra. Grown at El Outaia."
57061. "(No. 51. Biskra. April 13, 1923.) Barley of the 1923 harvest purchased in the market."
57062. "(No. 55. Setif. April 20, 1923.) Barley of the 1922 crop obtained from the grower."
57063. "(No. 58. Algiers. April 21, 1923.) Barley purchased in the native market."
57064. "(No. 59. Algiers. April 21, 1923.) Barley purchased in the native market."
57065. "(No. 61. Algiers. April 21, 1923.) Barley purchased in the native market. Appears to be a mixture of 2-rowed and 6-rowed barleys. Probably imported."

57066 to 57072. TRITICUM spp. Poaceæ.

57066 to 57071. TRITICUM DURUM Desf.
Durum wheat.

57066. "(No. 31. Tuggurt. April 3, 1923.) Wheat from the Oasis of Tuggurt. Purchased in the market. All wheat here is of the durum type, probably because of its wide use in the manufacture of kushos"
57067. "(No. 34. Tuggurt. April 5, 1923.) The sample of wheat was the best quality seen in the market."
57068. "(No. 41. Ghouff. April, 1923.) Wheat with a little barley secured by Capt. M. W. Hilton-Simpson from the Rossira Valley, Aures Mountains. It may be an old variety long established there. This is a remote locality, and Roman ruins are common."

57042 to 57074—Continued.

57069. "(No. 45. El Kantara. April 10, 1923.) Purchased at El Kantara, probably originally from Batna. 1922 crop."
57070. "(No. 49. Biskra. April 13, 1923.) Wheat from a native mill. Source not known, but probably from the plateau."
57071. "(No. 56. Setif. April 20, 1923.) Wheat of the 1922 crop obtained from the grower."
57072. TRITICUM VENTRICOSUM (Tausch) Ces. Pass. and Gib.
"(No. 54. Biskra. April, 1923.) The seeds under this number were obtained by picking over samples of barley for sale in the Biskra market."
- 57073 and 57074. ZEA MAYS L. Poaceæ.
Corn.
57073. "(No. 32. Tuggurt. April 5, 1923.) The seed of this sample shelled from a single ear purchased in the market. No other type of corn was on sale here."
57074. "(No. 44. Biskra. April 13, 1923.) Purchased in the market. Grown at Mgous, where, according to the Arabs, more corn than wheat or barley is grown."

57075 and 57076. DIOSPYROS KAKI L. f.
Diospyraceæ. Kaki.

From Weihsien, Shantung, China. Scions presented by Rev. J. A. Fitch, American Presbyterian Mission. Received May 22, 1923. Quoted notes by Mr. Fitch.

"These are reported to be nonstringent."

57075. "*Tie shi dze* (iron kaki)."

57076. "*Toa shi dze* (palm-of-the-hand kaki)."

57077. LYCOPERSICON ESCULENTUM
Mill. Solanaceæ. Tomato.

From St. Vincent, British West Indies. Seeds presented by T. Jackson, agricultural superintendent, Botanic Gardens. Received May 19, 1923.

"A small native variety said to be immune to point-rot." (Jackson.)

57078. SABINEA CARINALIS Griseb.
Fabaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, Botanic Gardens. Received May 21, 1923.

This tree is known locally as *bois charibe* and is one of the most showy of our native plants. It is a very fine flowering tree, and I have seen nothing in the Tropics to surpass it as a mass of color. If grown on fairly good land it will not make a good show, but 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 of flowers." (Jones.)

A shrub or small tree with featherlike leaves and large scarlet flowers which are borne in clusters of three to five, appearing before the leaves. (Adapted from Grisebach, *Flora of the British West Indies*, p. 183.)

57079. AGATI GRANDIFLORA (L.) Desv.
(*Sesbania grandiflora* Poir.) Fabaceæ.

From Honolulu, Hawaii. Seeds presented by Dr. H. L. Lyon, in charge, department of botany and forestry, experiment station of the Sugar Planters' Association. Received May 22, 1923.

A small, rapid-growing, soft-wooded tree 15 to 20 feet in height, with pinnate leaves and large pendulous white flowers, followed by long sickle-shaped pods. The fleshy petals are used in curries and soups in the Indian Archipelago, where this tree is native. The leaves and young shoots are sometimes used as fodder. (Adapted from *Watt, Dictionary of the Economic Products of India*, vol. 6, pt. 2, p. 544.)

For previous introduction, see S. P. I. No. 54928.

57080. JUNIPERUS CEDRUS Webb. Pin-
juncæ. **Juniper.**

From Kew, England. Seeds presented by Dr. A. W. Hill, director, Royal Botanic Gardens. Received May 22, 1923.

A Canary Island relative of the common juniper, differing only in minor botanical characters and also in being less hardy. Dr. Georges Perez, of Drotava, Canary Islands, reports trees of this species with trunks a yard or more in diameter. The leaves are uniformly awl shaped and in whorls of threes. The wood is very pleasantly perfumed. Adapted from *Bean, Trees and Shrubs Hardy in the British Isles*, vol. 1, p. 689.)

57081 to 57088.

From Ichang, China. Seeds presented by Albert S. Cooper, American Church Mission. Received May 22, 1923. Quoted notes by Mr. Cooper except as otherwise stated.

"Collected on the mountains back of Patung, Lupeh, at altitudes of 6,000 to 8,000 feet."

57081. *BERBERIS* sp. Berberidaceæ. **Barberry.**

57082. *CELASTRUS* sp. Celastraceæ.

57083. *COTONEASTER* sp. Malaceæ.
"An evergreen growing prostrate on rocky surfaces."

57084. *DELPHINIUM* sp. Ranunculaceæ. **Larkspur.**

57085. *ILEX* sp.
"A small-leaved holly."

57086. *ILEX* sp.
"This bore an especially abundant lot of berries."

57087. *PRINSEPIA SINENSIS* Oliver. Amygdalaceæ.

"*Prinsepia sinensis* is a species which has been comparatively unknown to horticulturists until recent times. It is quite distinct from *P. utilis*, which yields a cooking oil common in India, but is closely similar to *P. uniflora*, which has been introduced by this office several times. Like *P. uniflora*, it is a Chinese ornamental shrub with gray or whitish bark and small gray spines. But while *P. uniflora* has white flowers, dark-purple fruits, and thick linear-lanceolate leaves, *P. sinensis* is distinguished by yellow flowers, deep-red fruits, and thin ovate-lanceolate leaves. The shrub is said to be somewhat harder than *P. uniflora*. The plant is of striking habit, and the clusters of large bright-yellow flowers must make it a brilliant sight on its native Mongolian hills from Mukden to the Yaboo. It is early blooming, but at the Arnold Arboretum it bears only a few fruits." (*D. C. Peattie.*)

For previous introduction, see S. P. I. No. 55711.

57081 to 57088—Continued.

57088. *THEA SASANQUA* (Thunb.) Nois.
(*Camellia sasanqua* Thunb.) Theaceæ.

A large, wide-spreading ornamental shrub or small tree common throughout the warmer parts of Japan. The branches are very slender, and in the wild plant the flowers are always white. It is a popular garden shrub; and, under cultivation, forms with pink and rose-colored flowers are common. The seeds contain an inferior sort of oil used by the Japanese women for dressing their hair. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 394.)

For previous introduction, see S. P. I. No. 50646.

57089 to 57091.

From Hankow, China. Seeds presented by Rev. William Ruhl, Minhsien, Kansu, through P. S. Heintzleman, consul general. Received May 23, 1923. Quoted notes by Mr. Heintzleman.

57089. *HORDEUM VULGARE COELESTE* L. Poaceæ. **Barley.**

"This is planted about the middle of April and harvested the first week in August."

57090. *PISUM SATIVUM* L. Fabaceæ. **Pea.**

"These are planted about the end of April and harvested the latter part of September."

57091. *VICIA FABA* L. Fabaceæ. **Broad bean.**

"These are planted about the end of April and harvested the latter part of September."

57092. TRIPLARIS CUMINGIANA Fisch.
and Mey. Polygonaceæ.

From Balboa Heights, Canal Zone. Seeds presented by Holger Johansen, agronomist. Received May 24, 1923.

"A native tree about 20 feet in height, generally of pyramidal habit, which prefers moist situations, such as the borders of lakes and streams. From February until the middle of April it is ablaze with red, produced by the bracts surrounding the capsules, and forms an exceedingly striking object in the landscape. As a beautiful ornamental this tree is well worthy of further distribution." (*Johansen.*)

57093. TITHONIA DIVERSIFOLIA
(Hemsl.) A. Gray. Asteraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received May 24, 1923.

"A perennial composite with large yellow flowers which are produced in great abundance during the autumn and early winter months. It should therefore be a good ornamental for southern Florida during the tourist season." (*Wester.*)

For previous introduction, see S. P. I. No. 54461.

57094 to 57210.

From Tiflis, Transcaucasia. Seeds presented by L. Dekapreleritch, director, Plant-Breeding Department, Botanic Garden. Received May, 1923. Quoted notes by Mr. Dekapreleritch.

Local varieties of cereals introduced for department specialists.

57094 to 57114. *HORDEUM* spp. Poaceæ. **Barley.**

57094 and 57095. *HORDEUM DISTICHON*
PALMELLA Harlan.

57094. No. 1. 57095. No. 2.

57094 to 57210—Continued.

57096 to 57114. HORDEUM VULGARE PAL- LIDUM Seringe.			
57096.	No. 1.	57106.	No. 11.
57097.	No. 2.	57107.	No. 12.
57098.	No. 3.	57108.	No. 13.
57099.	No. 4.	57109.	No. 14.
57100.	No. 5.	57110.	No. 15.
57101.	No. 6.	57111.	No. 16.
57102.	No. 7.	57112.	No. 17.
57103.	No. 8.	57113.	No. 18.
57104.	No. 9.	57114.	No. 19.
57105.	No. 10.		
57115 to 57138. SECALE CEREALE L. Poa- ceæ.			
"From the Government of Tiflis."			
57115.	No. 1.	57127.	No. 13.
57118.	No. 2.	57128.	No. 14.
57117.	No. 3.	57129.	No. 15.
57118.	No. 4.	57130.	No. 16.
57119.	No. 5.	57131.	No. 17.
57120.	No. 6.	57132.	No. 18.
57121.	No. 7.	57133.	No. 19.
57122.	No. 8.	57134.	No. 20.
57123.	No. 9.	57135.	No. 21.
57124.	No. 10.	57136.	No. 22.
57125.	No. 11.	57137.	No. 23.
57128.	No. 12.	57138.	No. 24.
57139 to 57210. TRITICUM spp. Poaceæ.			
57139 to 57185. TRITICUM AESTIVUM L. (<i>T. vulgare</i> Vill.) Common wheat.			
"From the Government of Tiflis."			
57139.	No. 1.	57163.	No. 25.
57140.	No. 2.	57164.	No. 26.
57141.	No. 3.	57165.	No. 27.
57142.	No. 4.	57166.	No. 28.
57143.	No. 5.	57167.	No. 29.
57144.	No. 6.	57168.	No. 30.
57145.	No. 7.	57169.	No. 40.
57146.	No. 8.	57170.	No. 41.
57147.	No. 9.	57171.	No. 42.
57148.	No. 10.	57172.	No. 43.
57149.	No. 11.	57173.	No. 44.
57150.	No. 12.	57174.	No. 45.
57151.	No. 13.	57175.	No. 46.
57152.	No. 14.	57176.	No. 47.
57153.	No. 15.	57177.	No. 48.
57154.	No. 16.	57178.	No. 49.
57155.	No. 17.	57179.	No. 50.
57156.	No. 18.	57180.	No. 51.
57157.	No. 19.	57181.	No. 52.
57158.	No. 20.	57182.	No. 53.
57159.	No. 21.	57183.	No. 54.
57160.	No. 22.	57184.	No. 55.
57161.	No. 23.	57185.	No. 56.
57162.	No. 24.		

57094 to 57210—Continued.

57186 to 57205. TRITICUM DURUM Desf. Poaceæ.		Durum wheat.	
57186.	No. 1.		
"From Elisabethpol."			
57187 to 57189.			
"From Baku."			
57187.	No. 2.	57189.	No. 4.
57188. No. 3.			
57190. No. 5.			
"From Elisabethpol."			
57191 to 57193.			
"From Baku."			
57191.	No. 6.	57193.	No. 8.
57192. No. 7.			
57194 and 57195.			
"From Tiflis."			
57194.	No. 9.	57195.	No. 10.
57196 and 57197.			
"From Baku."			
57196.	No. 11.	57197.	No. 12.
57198. No. 13.			
"From Tiflis."			
57199. No. 14.			
"From Baku."			
57200. No. 15.			
"From Tiflis."			
57201 and 57202.			
"From Baku."			
57201.	No. 16.	57202.	No. 17.
57203 to 57205.			
"From Tiflis."			
57203.	No. 18.	57205.	No. 20.
57204. No. 19.			
57206 to 57210. TRITICUM TURGIDUM I Poaceæ.		Poulard whea	
57206 to 57209.			
"From Baku."			
57206.	No. 1.	57208.	No. 3.
57207.	No. 2.	57209.	No. 4.
57210. No. 5.			
"From Tiflis."			
57211. HAKEA NODOSA R. Br. Prote- aceæ.			
From Hobart, Tasmania. Seeds presented by L. A. Evans, Secretary of Agriculture, Agri- cultural and Stock Department. Received June 29, 1923.			
An ornamental Australian shrub 2 to 6 feet height, with slender branches, short, needlelike extremely narrow leaves crowded on the stems, ar axillary clusters of very small flowers. (Adapt from <i>Bentham, Flora Australiensis, col. 5, p. 514.</i>)			
57212. AGROPYRON CRISTATUM (L Gaertn. Poaceæ.		Gras	
From Ekaterinoslav, Russia. Seeds present by the Russian Bureau of Applied Botan through D. Borodin, New York, N. Y. R ceived June 14, 1923.			
"No. 685. 1921 crop." (<i>Borodin.</i>)			
From the Ekaterinoslav Agricultural Experime Station; introduced for department agrostologis			

57213. SOLANUM COMMERSONII Dunal.
Solanaceæ.

From Montevideo, Uruguay. Tubers presented by Luis Guillot, Dirección General de Paseos Públicos. Received May 31, 1923.

Introduced for department horticulturists engaged in potato breeding.

A wild relative of the potato which is found native in humid situations in the vicinity of Montevideo, Uruguay. In general appearance the wild plant resembles that of the potato, having dark-green leaves composed of two to four pairs of leaflets, white flowers, small green fruits, and small potato-like tubers with a bitter flavor. Under cultivation in France a lavender-flowered variety developed, with larger tubers which were only slightly bitter and fragrant. It has been thought that this species might be one of the parents of some of the European varieties of the potato. (Adapted from *Revue Horticole*, vol. 78, p. 303.)

For previous introduction, see S. P. I. No. 53846.

57214. CHRYSALIDOCARPUS BARONII
Beccari. Phœnicaceæ. Palm.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut, Government botanist. Received June 5, 1923.

A medium-sized palm, native to central Madagascar, with a cylindrical stem about 3 inches in diameter and regularly pinnate leaves about 4 feet long, with very narrow pinnæ 16 to 18 inches long. Native name *Jarihazo*. (Adapted from *Engler, Botanische Jahrbücher*, vol. 38, *Beiblatt* 87, p. 33.)

57215. TACSONIA sp. Passifloraceæ.

From Bogota, Colombia. Seeds presented by Brother Ariste Joseph. Received June 5, 1923.

"One of the curubas from the region of Bogota, where there are several, esteemed both for their ornamental value and their fruits, which are usually the size of small cucumbers and of sprightly acid flavor. Worthy of trial in California and Florida." (*Wilson Popenoe*.)

57216. THUNBERGIA GRANDIFLORA
Roxb. Acanthaceæ.

From St. Clair, Trinidad, British West Indies. Plants presented by R. T. Williams, superintendent, Royal Botanic Gardens. Received June 11, 1923.

"The typical form of *Thunbergia grandiflora* is well known in tropical gardens, where it is highly esteemed for its large sky-blue flowers and the ornamental effect of its foliage. The white form (var. *alba*) is less widely cultivated, though perhaps as meritorious as the type. It is a strong-growing climber, useful for covering pergolas and fences, and is sufficiently frost resistant for cultivation in the warmer parts of Florida and the most favored sections of southern California." (*Wilson Popenoe*.)

57217. ARECA sp. Phœnicaceæ. Palm.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received June 6, 1923.

"A very graceful dwarf palm, with a slender trunk about 2 inches in diameter, from Palawan. It ought to be a good conservatory plant." (*Wester*.)

57218. AMPELOCISSUS ACAPULCENSIS
(H. B. K.) Planch. Vitaceæ. Grape.

From Juatusco, Vera Cruz, Mexico. Seeds presented by Dr. C. A. Purpus. Received June 27, 1923.

"This was collected on very dry, rocky mountain slopes near Jalisco in Chiapas. The vine bore enormous bunches of red grapes and was in flower at the same time. It had no leaves. The fruits were partly ripe at the end of April and in May and I believe would make excellent jelly." (*Purpus*.)

57219. SOLANUM MAGLIA Schlecht. Solanaceæ.

From Lima, Peru. Tubers presented by the director, Estación Central Agronómica. Received June 28, 1923.

A nearly glabrous wild potato, native to Chile, with angled, winged stems about 2 feet high, light-green leaves 4 to 8 inches long, and cymes of white flowers an inch in width. The subglobose or oblong tubers are about 1½ inches long, with smooth, reddish brown surfaces. When boiled the tubers shrink and become watery and insipid. (Adapted from *Curtis's Botanical Magazine*, pl. 6756.)

Introduced for department specialists engaged in potato breeding.

For previous introduction, see S. P. I. No. 53445.

57220. CALYDOREA SPECIOSA (Hook.)
Herbert. Iridaceæ.

From Santiago, Chile. Bulbs presented by Dr. Carlos Camacho. Received June 1, 1923.

An ornamental bulbous plant about 4 inches high, native to Chile, where it generally prefers the lower altitudes. The flower, about 2 inches wide, is a bright navy blue with a golden center. The bulbs are eaten boiled, roasted, or baked. (Adapted from *note of José D. Husbands*, under S. P. I. No. 30074.)

57221 and 57222. AGROPYRON spp.
Poaceæ. Grass.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Quoted notes by Mr. Borodin.

From the Ekaterinoslav Agricultural Experiment Station; introduced for department agrostologists.

57221. AGROPYRON ELONGATUM (Host)
Beauv. (*A. rigidum* Beauv.)

"No. 368. 1920 crop. Originally from Pamir."

57222. AGROPYRON SIBIRICUM (Willd.)
Beauv.

"No. 819. 1918 crop. Originally from Krasnikut."

57223. CROTALARIA JUNCEA L. Fabaceæ. Sunn hemp.

From Calcutta, India. Seeds purchased from Messrs. Barnard & Co. Received June 11, 1923.

Introduced for testing as a green manure, for which purpose it is used in India. It is also used in that country as a fiber plant and as a catch crop.

57224. ARTOCARPUS COMMUNIS Forst.
Moraceæ. Breadfruit.

From Honolulu, Hawaii. Plants presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received June 27, 1923.

"There is but one kind of breadfruit in Hawaii; while there are slight variations, due probably to local conditions, there are no true varietal differences." (*Pope*.)

This variety, which now grows wild throughout the Hawaiian Islands, was originally introduced from Tahiti. It has large, rough, ovate, deeply lobed leaves, and the staminate flowers appear in large yellow catkins. The large-stemmed fruit is either round or oblong and varies from 5 to 8 inches in diameter. The thick, tough rind, which is brownish at maturity, incloses a firm, very starchy, and somewhat fibrous pulp, which becomes mealy when cooked, slightly resembling a dry sweet potato, and is much esteemed as an article of diet. The tree is propagated by suckers or by layering. (Adapted from *G. P. Wilder, Fruits of the Hawaiian Islands*, p. 100, pl. 48, under *A. incisa*.)

For previous introduction, see S. P. I. No. 44908.

57225. MALUS YUNNANENSIS (Franch.)
C. Schneid. (*Pyrus yunnanensis*
Franch.) Malacæ. **Apple.**

From Yunnan, China. Fruits collected by J. F. Rock, Agricultural Explorer of the Bureau of Plant Industry. Received June 19, 1923.

"(No. 6760. October, 1922.) One of the finest apple trees of the Likiang Snow Range, where it grows in rocky situations at altitudes of 9,600 to 10,000 feet. It becomes 30 feet in height, with velvety leaves, and the exceedingly handsome yellow and red fruits, about 1 inch in diameter, are borne in December in large corymbs at the ends of the branches." (Rock.)

For previous introduction, see S. P. I. No. 56320.

57226 and 57227. RUBUS MACRAEI A. Gray. Rosacæ. **Akala.**

From Hilo, Hawaii. Seeds presented by L. W. Bryan, Hawaiian Sugar-Planters' Association. Received June 19, 1923.

"The Hawaiian giant raspberry, occurring at an altitude of about 6,000 feet. It is a straight bush with the older branches thornless. The fruits, borne at the drooping tips of the branches, are very numerous, about 2 inches in diameter, and exceedingly juicy; the seeds are comparatively small. The flesh is slightly bitter but otherwise delicious. This berry is of great promise, as it grows in a region where frost is not uncommon in the winter months. It should grow well in the regions of the Pacific coast." (J. F. Rock.)

For previous introduction, see S. P. I. No. 53480.

57226. Red variety. 57227. Yellow variety.

57228. RUBUS ELLIPTICUS J. E. Smith. Rosacæ. **Raspberry.**

From Naini Tal, United Provinces, India. Seeds presented by Rev. N. L. Rockey. Received June 18, 1923.

"This is the most common wild yellow raspberry, which grows here in great profusion. The bush is tall, thorny, and hairy. The fruit, which ripens in early May, is a trifle insipid in its sweetness and full of seeds, but it is very tender and we enjoy it. I believe it will be valuable for breeding purposes. The native name is *hissauloo*." (Rockey.)

57229 to 57247. TRIFOLIUM spp. Fabacæ.

From Petrograd, Russia. Seeds presented by Prof. N. I. Vavilov, Bureau of Applied Botany. Received June 19, 1923. Quoted notes by Professor Vavilov.

Locally grown strains introduced for department agronomists engaged in clover breeding.

57229 to 57231. *TRIFOLIUM HYBRIDUM* L. **Alsike clover.**

57229 and 57230. "From the 'Schloss Sagnitz' estate, Province of Livonia."

57229. No. 72. 57230. No. 460.

57231. "No. 798. From the Marussino Forage-Plant Selection Station, District of Morshansk, Province of Tambov."

57232 to 57245. *TRIFOLIUM PRATENSE* L. **Red clover.**

57232. "No. 207. From the 'Schloss Sagnitz' estate, Province of Livonia."

57233. "No. 763. From the Province of Kasar."

57229 to 57247—Continued.

57234 to 57237. "From Kolodino, District of Poshekhonje, Province of Yaroslavl."

57234. No. 767. 57236. No. 769.

57235. No. 768. 57237. No. 770.

57238. "No. 776. From the Agricultural Plant-Breeding Station at Ekaterinoslav, Province of Ekaterinoslav."

57239 to 57243. "From the Marussino Forage-Plant Selection Station, District of Morshansk, Province of Tambov."

57239. No. 799. 57242. No. 802.

57240. No. 800. 57243. No. 803.

57241. No. 801.

57244. "No. 994. From the Phytosociological Station at Tsarskoye Selo, near Petrograd."

57245. "No. 1007. From the Province of Brijansk."

57246 and 57247. *TRIFOLIUM REPENS* L. **White clover.**

"From the 'Schloss Sagnitz' estate, Province of Livonia."

57246. No. 144. 57247. No. 145.

57248 to 57259. GOSSYPIMUM spp. Malvacæ. **Cotton.**

From Cairo, Egypt. Seeds presented by Prof. R. H. Forbes. Received June 13, 1922. Numbered June, 1923.

Introduced for department cotton specialists.

57248 and 57249. "Pima cotton seed from the third generation of Pima cotton grown in Egypt." (Forbes.)

57248. *GOSSYPIMUM* sp.

No. 47.

57249. *GOSSYPIMUM* sp.

No. 48.

57250. *GOSSYPIMUM* sp.

No. 51. "Pima cotton seed grown at Bah-tim, 1921." (Forbes.)

57251. *GOSSYPIMUM* sp.

No. 52 (No. 111).

57252. *GOSSYPIMUM* sp.

No. 53 (No. 77).

57253. *GOSSYPIMUM* sp.

No. 54 (No. 310).

57254. *GOSSYPIMUM* sp.

Nubari, grade 3.

57255. *GOSSYPIMUM* sp.

Sakel.

57256. *GOSSYPIMUM* sp.

No. 57. *Assili X*.

57257. *GOSSYPIMUM* sp.

No. 57a.

57258. *GOSSYPIMUM* sp.

No. 70. Prehistoric cotton.

57259. *GOSSYPIMUM* sp.

No. 70a. Hindi cotton.

57260 and 57261.

From Ceylon, India. Seeds presented by the Governor of Ceylon, through Frank B. Noyes, Washington, D. C. Received June 11, 1923.

57260. *EXACUM ZEYLANICUM MACRANTHUM* (Arnott) C. B. Clarke. Gentianaceae.

An erect, slightly branched annual from the mountains of Ceylon, where it grows at an altitude of 6,000 feet. The stem, over a foot in height, is copiously leafy below and bears a terminal cluster of large handsome flowers. The latter have deep, rich-purple petals and showy bright-orange stamens. (Adapted from *Curtis's Botanical Magazine*, pl. 4771.)

57261. *OSBECKIA RUBICUNDA* Arnott. Melastomaceae.

A branched shrub, 4 to 6 feet in height, with hairy elliptic leaves about 2 inches long and brilliant purplish crimson flowers borne in clusters of one to five. Native to Ceylon. (Adapted from *Macmillan, Handbook of Tropical Gardening*, p. 393, and from *Hooker, Flora of British India*, vol. 2, p. 520.)

57262 and 57263. CERATONIA SILIQUA L. Caesalpiniaceae. Carob.

From Faro, Portugal. Budwood presented by Antonio Barreto Martins Terra Boa. Received June 11, 1923.

Sent in response to a request for cuttings of the best carob varieties cultivated in Portugal.

57262. *V. II. Pagena 500.* **57263.** *Mulata.*

57264 to 57266. PROTEA spp. Proteaceae.

From Kirstenbosch, Cape of Good Hope, South Africa. Seeds presented by Prof. R. H. Compton, director, National Botanic Gardens. Received June 20, 1923.

57264. *PROTEA LANCEOLATA* E. Mey.

"A very attractive shrub with light-yellow flowers and pale yellowish green foliage, not as striking as some of the other Proteas when in flower, but of decided value as a decorative plant. The habit and requirements are the same as those of the other Proteas." (*Dr. H. L. Shantz.*)

For previous introduction, see S. P. I. No. 48182.

57265. *PROTEA LATIFOLIA* R. Br.

"A wonderful Protea, with flowers 4 inches across. The Cape region is noted for its beautiful flowers, and of these none are more popular than the large flowers of the Proteas. The shrubs are from 2 to 6 feet high and bear a large flower on the tip of almost every branch. Seeds only are sent, but these are said to grow easily, and it will be possible to test the seedlings on several types of soil. Acid, or at least humus, soils should be tried in Florida and California." (*Dr. H. L. Shantz.*)

For previous introduction, see S. P. I. No. 48183.

57266. *PROTEA ROSACEA* L.

An attractive small shrub about 6 inches high, with numerous gracefully curved branches, needlelike leaves nearly an inch long, and sessile flower heads a little more than an inch in diameter, with bracts varying in color from bright rose to crimson. The shrub is native to the Cape of Good Hope, where it grows chiefly in the coastal regions. (Adapted from *Thibetson-Dyer, Flora Capensis*, vol. 3, sec. 1, p. 595.)

57267. NAGEIA THUNBERGII (Hook.) F. Muell. (Podocarpus thunbergii Hook.) Taxaceae.

From Hogsback, via Lovedale, Cape of Good Hope, South Africa. Seeds presented by David A. Hunter. Received June 25, 1923.

"This tree grows slowly, but finally becomes very large. The timber is fine grained and is largely used in our shops for furniture." (*Hunter.*)

A fine evergreen timber tree, up to 100 feet tall and with a trunk 4 feet in diameter, which occurs throughout all the timber forests from the Cape of Good Hope to Natal. The quality of the wood of this species is very similar to that of *Nageia elongata*, and for most purposes they are used indiscriminately.

For previous introduction, see S. P. I. No. 56197.

57268 and 57269.

From Burringbar, New South Wales, Australia. Seeds presented by B. Harrison. Received June 22, 1923.

57268. *ALLOTROPIS SEMIALATA* (R. Br.) Hitchc. Poaceae. **Cockatoo grass.**

"A native grass which becomes 2 to 3 feet high in sandy soil." (*Harrison.*)

"Cockatoo grass is excellent pasturage and of good seeding habit. It is leafy at the base." (*Roland Mc Kee.*)

For previous introduction, see S. P. I. No. 56786.

57269. *GOMPHOCARPUS PHYSOCARPUS* E. Mey. Asclepiadaceae.

"A tall-growing plant which bears balloon-like pods containing brown seeds furnished with tufts of fine silky cotton." (*Harrison.*)

A branched plant 2 or 3 feet high, with opposite, very narrow, sharp-pointed leaves and 6 to 10 flowered umbels of small white flowers. (Adapted from *Thibetson-Dyer, Flora of Tropical Africa*, vol. 4, sec. 1, p. 328.)

57270. EUGENIA DOMBEYI (Spreng.) Skeels. (E. brasiliensis Lam.) Myrtaceae. Grumichama.

From Honolulu, Hawaii. Seeds presented by Willis T. Pope, horticulturist, Agricultural Experiment Station. Received June 30, 1923.

"The grumichama is found both wild and cultivated in southern Brazil, particularly in the States of Parana and Santa Catharina. Elsewhere, with the exception of Hawaii, it is scarcely known.

"The tree, which grows to the same size as the orange, is shapely and attractive in appearance, with ovate-elliptic, glossy, deep-green leaves 2 to 3 inches long. The small white flowers are followed by pendent fruits, round or slightly flattened, the size of a cherry, and deep crimson. The persistent green sepals which crown the apex are a distinguishing characteristic. The skin is thin and delicate, the soft flesh melting and of a mild subacid flavor suggesting that of a Bigarreau cherry. The seeds are round or hemispherical when one or two in number; sometimes there are three or more, in which case the size is reduced and they are angular. The fruit is usually eaten fresh, but may also be used to make jams and preserves.

"The grumichama (sometimes *grumizama*, to conform to old Portuguese orthography) has recently been planted in California and Florida. In the latter State it has withstood a temperature of 26° F. without injury, which indicates that it is subtropical rather than strictly tropical in character. It prefers a deep sandy loam, but succeeds in Florida on shallow sandy soils.

"For its value as an ornamental plant as well as for its pleasant fruit, the grumichama deserves cultivation throughout the Tropics and Subtropics." (*Wilson Popenoe.*)

For previous introduction, see S. P. I. No. 55978.

57271 and 57272. COFFEA spp. Rubiaceæ. Coffee.

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, Bureau of Agriculture. Received June 29, 1923.

Introduced for department specialists engaged in coffee-growing experiments.

57271. COFFEA EXCELSA Cheval.

A coffee which thrives from sea level to 700 meters, succeeds well on rather stiff clayey soils, and is quite drought resistant—it might be grown with an annual rainfall of 48 inches. It is the most resistant to drought and blight of any coffee, is of strong vigorous growth, and produces 1 kilogram of coffee from 7 to 8 kilograms of berries. *Coffea excelsa* makes an excellent stock for other coffees. The first crop is obtained at the age of 4 to 5 years and a full crop at the age of 7 to 8 years. (Adapted from *Philippine Review*, vol. 9, p. 121.)

For previous introduction, see S. P. I. No. 53458.

57272. COFFEA LAURENTHI Wildem. (C. robusta Hort.)

A white-flowered shrub, native to Belgian Congo, with oval dark-green leaves up to a foot in length and shortly elliptic 2-seeded fruits. The roundish seeds are sometimes nearly half an inch long. (Adapted from *Actes du Premier Congrès International de Botanique, 1900, p. 234.*)

For previous introduction, see S. P. I. No. 51481.

57273. PITOSPORUM FLORIBUNDUM Wight and Arn. Pittosporacæ.

From Darjiling, India. Seeds presented by G. H. Cave, director, Lloyd Botanic Garden. Received January 8, 1923. Numbered June, 1923.

A handsome tree, with a short straight trunk and spreading branches and numerous yellowish flowers in terminal panicles. The tree has light-colored, strong tough wood and yields an aromatic yellow resin or oleoresin having very adhesive properties. It is a native of the outer Himalayas, ascending to 3,500 feet. (Adapted from *Watt, Dictionary of the Economic Products of India, vol. 6, pt. 1, pp. 283, 284, and Brandis, Forest Flora of India, p. 13.*)

For previous introduction, see S. P. I. No. 47757.

57274 to 57386.

From Echo, Tiehlingho, Manchuria, China. Seeds presented by A. D. Woelkoff, director, experimental farm. Received June 21, 1923. Quoted notes by Mr. Woelkoff unless otherwise stated.

57274. ACANTHOPANAX SENTICOSUM (Rupr.) Harms. (Eleutherococcus senticosus Maxim.) Araliacæ.

"A very spiny shrub bearing palmate divided leaves and having at the end of its long shoots small umbels of black berries. Grows generally in dense shade. May be of use as a park or garden shrub or as an undergrowth beneath tall trees." (*F. N. Meyer.*)

For previous introduction, see S. P. I. No. 20309.

57275. ACANTHOPANAX SFSSILIFLORUM (Rupr. and Maxim.) Seem. Araliacæ.

An ornamental, hardy shrub found in eastern Siberia. The leaves are palmate, the brownish flowers occur in dense umbels on the spiny branches, and the fruits are blackish berries. (Adapted from *note of F. N. Meyer, November 24, 1906.*)

For previous introduction, see S. P. I. No. 43675.

57274 to 57386—Continued.**57276. ARUNDINELLA ANOMALA Steud. Poacæ. Grass.**

"Seeds of a tall grass, 3 to 5 feet, found growing here and there in large masses; of a spread-out growth, coarse. May be of use as a fodder grass." (*F. N. Meyer.*)

For previous introduction, see S. P. I. No. 21896.

57277. AVENA SATIVA L. Poacæ. Oats.

Introduced for department cerealists.

57278. BETULA DAVURICA Pall. Betulacæ. Birch.

A tree 60 feet or more tall, with the trunk clothed with curling flakes of papery bark, giving it a curious ragged appearance. The broadly wedge-shaped, coarsely toothed leaves are dark green and smooth above and downy beneath along the midrib. This birch is native to Manchuria, Chosen, and northern China. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 256.*)

For previous introduction, see S. P. I. No. 33151.

57279. CALAMAGROSTIS EPIGEJOS (L.) Roth. Poacæ. Grass.

A perennial, robust Manchurian grass, introduced for department agrostologists.

57280. ERIOCHLOA VILLOSA (Thunb.) Kunth. Poacæ. Grass.

A wild grass, native to Manchuria, introduced for department agrostologists.

57281. EUONYMUS HAMILTONIANUS Wall. Celastracæ.

A large Himalayan shrub which under favorable circumstances becomes a moderate-sized tree 30 to 35 feet high, with a short straight trunk 4 to 5 feet in girth. The clusters of 15 to 30 greenish white flowers are followed by yellow capsules the seeds of which are entirely surrounded by a scarlet aril. The fruit ripens from August onward. The leaves are brilliantly colored in fall. The wood is beautifully white, compact and close, not very hard, and is used for making spoons. The young shoots and leaves are lopped for fodder. (Adapted from *Brandis, Forest Flora of India, p. 78, and Arnold Arboretum Bulletin of Popular Information, No. 13, 1911.*)

For previous introduction, see S. P. I. No. 53699.

57282. FAGOPYRUM VULGARE Hill. (F. esculentum Moench.) Polygonacæ. Buckwheat.

"No. 175. *Ch'iao mai*. From Tulin."

57283. FRAXINUS MANDSHURICA Rupr. Oleacæ. Ash.

A handsome tree often 100 feet in height, native to Japan and the adjacent parts of the Asiatic mainland. The leaves are up to 15 inches in length, with dull-green, bristly leaflets. It is said to be susceptible to late spring frosts. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 569.*)

57284 to 57295. HOLCUS SORGHUM L. (Sorghum vulgare Pers.) Poacæ. Sorghum.

Introduced for department cerealists.

57284. "No. 36. *Niang kaoliang*, a glutinous form from Mulin."

57285. "No. 37. *Niang kaoliang*, a glutinous form from Mulin."

57274 to 57386—Continued.

57286. "No. 38. *Tie chu mi tsa*, from Ninguta."
 57287. "No. 39. *Hung kaoliang*, red, from Mulin."
 57288. "No. 40. *Hung kaoliang*, red, from Mulin."
 57289. "No. 41. *Hung kaoliang*, red, from Mulin."
 57290. "No. 42. *Hung kaoliang*, red, from Mulin."
 57291. "No. 45. *Ts'o kaoliang*, from Tubin."
 57292. "No. 46. *Shejen kaoliang*, from Ninguta."
 57293. "No. 47. *Shejen kaoliang*, from Ninguta."
 57294. "No. 48. *Shejen kaoliang*, from Ninguta."
 57295. "No. 49. *Shejen kaoliang*, from Ninguta."

57296. *HORDEUM VULGARE FALLIDUM* Seringe. Poaceæ. Barley.

Introduced for department cerealists.

57297. *IRIS SETOSA* Pall. Iridaceæ. Iris.

This was originally described as an Asiatic plant, but forms that can not be separated from it are found in North America. At least half a dozen forms come true to seed. The peculiarity of this iris is that the standards have dwindled until they are only small points about a half inch long, but their disappearance is usually counterbalanced by the increased size of the falls. The color is usually blue, but some shades are so light as to be almost gray. (Adapted from *W. Rickatson Dykes, Irises, p. 64.*)

57298. *JUNIPERUS RIGIDA* Sieb. and Zucc. Pinaceæ. Juniper.

A Japanese juniper which is a tree about 20 feet in height and of elegant habit with the branches pendulous at the ends. The needle-like leaves are triangular in section and very slender. The tree thrives very well in southern England. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles, vol. 1, p. 569.*)

57299. *LESPEDEZA BICOLOR* Turcz. Fabaceæ.

Introduced for department forage-crop specialists.

A bushy, herbaceous Japanese perennial which flowers in early autumn, bearing a profusion of rosy purple flowers which practically cover its drooping branches. These branches sometimes become 6 feet in length. (Adapted from *Florists' Exchange, vol. 49, p. 985.*)

57300. *LONICERA MAACKII* (Rupr.) Herd. Caprifoliaceæ. Honeysuckle.

A bush honeysuckle, native to northeastern China, becoming about 10 feet in height with widely spreading branches and dark-green leaves which are downy on both surfaces. The pure-white flowers, an inch in diameter, are produced in pairs on the upper side of the branchlets. The fruits are red. (Adapted from note under *S. P. I. No. 53712.*)

57301. *MAACKIA AMURENSIS* Rupr. Fabaceæ.

A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish white flowers. (Adapted from *Arnold Arboretum Bulletin of Popular Information, No. 11, 1911.*)

57274 to 57386—Continued.

57302 to 57308. *ORYZA SATIVA* L. Poaceæ. Rice.

57302. "No. 115. *Chalbe*, from Mulin."

57303. "No. 120. *Handjontsa*, from Mulin."

57304. "No. 125. *Shuidjontsa*, water rice from Tubin."

57305. "No. 126. *Shuidjontsa*, water rice from Ninguta."

57306. "No. 127. *Shuidjontsa*, water rice from Mulin."

57307. "No. 128. *Shuidjontsa*, water rice from Mulin."

57308. "No. 129. *Hokkaido (Sapporo akage)*, from Mulin."

57309. *PRINSEPIA SINENSIS* Oliver. Amygdalaceæ.

For previous introduction and description, see *S. P. I. No. 57087.*

57310. *PRUNUS MAACKII* Rupr. Amygdalaceæ. Cherry.

A Manchurian bird cherry, 40 feet or more in height, with very smooth brownish yellow bark which peels off like that of a birch. The leaves are pointed and very finely toothed, and the white flowers are in short racemes borne on the previous season's wood. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles, vol. 2, p. 242.*)

57311. *RHAMNUS DAVURICA* Pall. Rhamnaceæ. Buckthorn.

A shrub or small tree, up to 30 feet in height, with more or less arching branches which are often thornless. The oblong or oval leaves are slender pointed and finely toothed. The black fruits, in dense clusters, are about one-fourth of an inch in diameter. This species is native to northeastern China and Siberia and is of value for rough shrubberies. (Adapted from *Bean, Trees and Shrubs Hardy in the British Isles, vol. 2, p. 332.*)

57312. *RHAMNUS PARVIFOLIA* Bunge. Rhamnaceæ. Buckthorn.

"A *Rhamnus* of dense growth, having small foliage and bearing large jet-black berries. This shrub does not grow tall, but is densely branched and assumes well-rounded forms when not mutilated. Of value as a garden park shrub and as material for medium-sized hedges, especially for the drier sections of the United States." (*F. N. Meyer.*)

For previous introduction, see *S. P. I. No. 36735.*

57313. *ROSA DAVURICA* Pall. Rosaceæ. Rose.

"A Manchurian shrub closely related to the cinnamon rose, with straight, slender prickles, smaller double-serrate leaflets, purple flowers, and ovate scarlet fruits." (*H. C. Skeels.*)

For previous introduction, see *S. P. I. No. 54193.*

57314. *SCHIZANDRA CHINENSIS* (Turcz.) Baill. Magnoliaceæ.

"A trailing vine of small growth, found among boulders and rocks. The leaves are not unlike those of *Actinidia kolomikta*, and the red, sour berries are in small clusters. Might be of use as a small porch and trellis vine for the colder sections of the United States." (*F. N. Meyer.*)

For previous introduction, see *S. P. I. No. 36755.*

57274 to 57386—Continued.

- 57315 to 57340. SOJA MAX (L.) Piper. (*Glycine hispida* Maxim.) Fabacæ. Soybean.
57315. "No. 176. *Ssu iuh hwa*, from Kungshuling."
57316. "No. 177. *Kungshuling wunhsin*, from Kungshuling."
57317. "No. 178. *Ssu pinkai pai hwa*, from Kungshuling."
57318. "No. 179. *Feng tien pai mi*, from Kungshuling."
57319. "No. 180. *Kungshuling pai mi*, from Kungshuling."
57320. "No. 181. *Shao heimi*, from Kungshuling."
57321. "No. 200. *Hsiao li er huang tou tsa*, a small yellow form from Tubin."
57322. "No. 201. *Hsiao li er fang tou tsa*, from Mulin."
57323. "No. 202. *Hsiao li er fang tou tsa*, from Mulin."
57324. "No. 203. *Hsiao huang tou*, a small yellow form from Mulin."
57325. "No. 204. *Hsiao ch'in huang tou*, a golden form from Ninguta."
57326. "No. 205. *Hsiao ch'in huang tou*, a golden form from Ninguta."
57327. "No. 206. *Hsiao ch'in huang tou*, a golden form from Ninguta."
57328. "No. 207. *Hsiao ch'in huang tou*, a golden form from Ninguta."
57329. "No. 208. *Hsiao ch'in huang tou*, a golden form from Tubin."
57330. "No. 209. An early soybean from Musan, Mulin."
57331. "No. 211. *Ta ch'in mi huang tou tsa*, from Tubin."
57332. "No. 212. *Hua lia tou tsa*, from Ninguta."
57333. "No. 213. *Huang tou*, a yellow form from Ninguta."
57334. "No. 214. *Huang tou*, a yellow form from Ninguta."
57335. "No. 215. *Huang tou*, a yellow form from Mulin."
57336. "No. 216. *Hei tou*, a black form from Tubin."
57337. "No. 217. *Ch'ing tou*, a green form from Ninguta."
57338. "No. 218. *Ch'ing huang tou*, a green-yellow form from Ninguta."
57339. "No. 219. *Ch'ing huang tou*, a green-yellow form from Mulin."
57340. "No. 220. *Yao li er huang tou tsa*, from Mulin."
57341. PHASEOLUS VULGARIS L. Fabacæ. Common bean.
- "No. 221. *O iar kong*, a Korean variety, from Mulin."
57342. SOJA MAX (L.) Piper. Fabacæ. (*Glycine hispida* Maxim.) Soybean.
- "No. 222. *Hei tou*, from Ashiho."

57274 to 57386—Continued.

57343. SPODIOPOGON SIBIRICUS Trin. Poacæ. Grass.
- "A perennial grass, 2 to 3 feet high, occurring on mountain slopes on decomposed porphyritic rock in partial shade. Possibly of forage value in Rocky Mountain localities." (F. N. Meyer.)
- For previous introduction, see S. P. I. No. 44288.
57344. SYRINGA AMURENSIS Rupr. Oleacæ. Lilac.
- A privetlike lilac, native to Manchuria, introduced for stock and breeding experiments.
57345. TILIA AMURENSIS Rupr. Tiliacæ. Linden.
- A Manchurian linden with a habit similar to that of the small-leaved linden (*Tilia cordata* Mill.), with ovate, papery, long-pointed leaves which are dark green above and blue-green below. It is distinguished from the small-leaved linden by its coarser dentations. (Adapted from Schneider, *Illustrirtes Handbuch der Laubholzkunde*, vol. 2, p. 374.)
57346. TILIA MANDSHURICA Rupr. and Maxim. Tiliacæ. Linden.
- "A very large-leaved linden growing here and there in the forests. Locally used for making water troughs, barrels, and also beehives. May be utilized in the colder parts of the United States as an ornamental park and shade tree." (F. N. Meyer.)
- For previous introduction, see S. P. I. No. 20292.
- 7347 to 57365. TRITICUM AESTIVUM L. (*T. vulgare* Vill.) Poacæ. Common wheat.
57347. "No. 135. *Kuang tu erh hsiao mai*, from Tubin."
57348. "No. 136. *Kuang tu erh hsiao mai*, from Ninguta."
57349. "No. 137. *Kuang tu erh hsiao mai*, from Ninguta."
57350. "No. 138. *Kuang tu erh hsiao mai*, from Ninguta."
57351. "No. 139. *Kuang tu erh hsiao mai*, from Ninguta."
57352. "No. 145. *Hsiao mai*, from Mulin."
57353. "No. 146. *Hsiao mai*, from Ninguta."
57354. "No. 147. *Hsiao mai*, from Ninguta."
57355. "No. 148. *Hsiao mai*, from Mulin."
57356. "No. 149. *Hsiao mai*, from Mulin."
57357. "No. 155. *Ta wan hsiao mai*, from Ninguta."
57358. "No. 156. *Ta wan hsiao mai*, from Ninguta."
57359. "No. 157. *Ta wan hsiao mai*, from Ninguta."

57274 to 57386—Continued.

57360. "No. 160. *Ta wan hsiao mai*, from Tubin."
57361. "No. 161. From Ninguta."
Received as *Triticum vulgare lutescens* forma *pollaensae*.
57362. "No. 162. From Ninguta."
Received as *Triticum vulgare erythro-spernum* forma *graecum amylosum*.
57363. No. 163.
Received as *Triticum vulgare erythro-spernum*.
57364. "No. 164. From Ninguta."
Received as *Triticum compactum icterinum*.
57365. "No. 165. From Ninguta."
Received as *Triticum ferrugineum* forma *rossicum*.
57366. *VIBURNUM BUREJAETICUM* Regel and Herd. Caprifoliaceae.
A shrub, 4 to 10 feet high, native to Chosen. The small light-green leaves and the small umbels of white flowers, followed by the jet-black berries, make this plant very ornamental. (Adapted from note of F. N. Meyer, August 20, 1906.)
For previous introduction, see S. P. I. No. 43730.
57367. *VITIS AMURENSIS* Rupr. Vitaceae.
Amur grape.
A strong-growing deciduous vine somewhat similar in habit to *Vitis vinifera*. It is worth growing as an ornamental for its vigorous habit and for the fine crimson and purple autumn hues of its foliage. It is native to Chosen (Korea) and northeastern China. (Adapted from *Beans, Trees and Shrubs Hardy in the British Isles*, vol. 2, p. 666.)
- 57368 to 57386. *ZEA MAYS* L. Poaceae. Corn.
57368. "No. 1. *Niang pao mi*, a glutinous white corn from Ninguta."
57369. "No. 2. *Niang pao mi*, a glutinous white corn from Tubin."
57370. "No. 5. *Pai pao mi*, a white corn from Ninguta."
57371. "No. 6. *Pai pao mi*, a white corn from Ninguta."
57372. "No. 8. *Pai pao mi*, a white corn from Ninguta."
57373. "No. 9. *Pai pao mi*, a white corn from Mulin."
57374. "No. 10. *Pai pao mi*, a white corn from Mulin."
57375. "No. 11. *Pai pao mi*, a white corn from Tubin."
57376. "No. 15. *Huang pao mi*, a yellow corn from Tubin."
57377. "No. 16. *Huang pao mi*, a yellow corn from Ninguta."
57378. "No. 18. *Huang pao mi*, a yellow corn from Mulin."
57379. "No. 19. *Huang pao mi*, a yellow corn from Ninguta."

57274 to 57386—Continued.

57380. "No. 22. *Huang pao mi*, a yellow corn from Mulin."
57381. "No. 25. *Huang pao mi*, a yellow corn from Mulin."
57382. "No. 26. *Huang pao mi*, a red corn from Ninguta."
57383. "No. 27. *Huang pao mi*, a red corn from Ninguta."
57384. No. 28.
57385. "No. 30. *Hei pao mi*, a black corn from Ninguta."
57386. "No. 32. *Hei pao mi*, a black corn from Mulin."
- 57387 to 57394.**
From Sayo, Abyssinia. Seeds presented by Fred L. Russell, agricultural missionary. Received June 23, 1923. Quoted notes by Mr. Russell.
57387. *ELEUSINE CORACANA* (L.) Gaertn. Poaceae.
Ragi.
"Dagoaja. The seeds of this plant form an important food in western Abyssinia; for human consumption they are parched and cooked as porridge. The straw is a favorite stock feed."
57388. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Poaceae.
Teff.
"Teff. Bought in the native market, near the trading center called Sayo by Europeans and Dumbi Dola by the Abyssinians."
57389. *GOSSYPIUM* sp. Malvaceae. Cotton.
"Seed from cotton obtained in the native market near Sayo."
57390. *GOSSYPIUM* sp. Malvaceae. Cotton.
"Found growing on an Abyssinian plantation in the lowlands near the River Birbir about 20 miles from where it empties into the Baro or Sobat River."
57391. *HORDEUM DISTICHON PALMELLA* Harlan. Poaceae.
Two-rowed barley.
"The commonest variety of barley in western Abyssinia."
- 57392 and 57393. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.) Poaceae.
Common wheat.
57392. "A variety from western Abyssinia which the natives claim they have always had. Varieties which are not rust resistant do not survive here."
57393. "A variety from western Abyssinia which the natives say has been grown here about 40 years and was probably brought from southern Europe."
57394. *TRITICUM DIOCCUM* Schrank. Poaceae.
Emmer.
"Grown as a minor crop in western Abyssinia."
- 57395 to 57424.** *IPOMOEA BATATAS* (L.) Poir. Convolvulaceae. Sweetpotato.
From St. Croix, Virgin Islands. Tubers presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received April 2, 1923. Quoted notes by Mr. Thompson.

57395 to 57424—Continued.

57395. No. 36.

For a description of this plant, see S. P. I. Nos. 56932 and 56933.

57396. "No. 47. A Big Wig seedling. The stems are comparatively short, being 2 to 3 feet in length, are leafy, and cover the bank well. Leaves light green and cordate. The original seedling bore seven tubers weighing 13 ounces. The tubers were light red, short, thick, and not uniform in shape. The flesh is yellow, sometimes mottled with red."

57397. "No. 60. A Black Rock seedling. Vines in the nursery low slender to medium stout, 2 to 3 feet in length, leafy, and covered the bank well. Leaves dark green, broad, and 3 parted, with red midribs. Tubers smooth, short, rounded, coppery red or rose color; flesh yellow, mottled with red."

57398. "No. 63. A Black Rock seedling. Vines short, bunching, leafy. Leaves lobed and to some extent resembling those of Big Wig; midribs and veins green. The original seedling produced seven tubers weighing only 9 ounces. Tubers red and rather rough; flesh yellow."

57399. "No. 65. A Black Rock seedling. The stems are short, 1 to 2 feet long, and stout. Leaves 3 parted, with broad blade; veins and midribs red. The original seedling bore four tubers weighing 3 ounces. Tubers light red; flesh almost white."

57400. "No. 68. A Black Rock seedling. Stems 2 to 3 feet long, stout, green. Leaves large, broad, green; midrib and veins green. The original seedling bore three tubers weighing 5 ounces. Tubers red, variable in form; flesh rich yellow."

57401. "No. 72. A Big Wig seedling. The stems are about 3 feet long and leafy. Leaves dark green, 5 parted; midribs and veins red. The original seedling bore eight tubers weighing 1 pound. Tubers dark red; flesh yellow or yellow mottled with red."

57402. "No. 82. A Big Wig seedling. Leaves large, broadly lanceolate, with red midribs and veins. The original seedling bore 12 tubers weighing 2¼ pounds. Tubers red, smooth; flesh pale yellow."

57403. "No. 84. A Big Wig seedling. Vines 1 to 2 feet in length and leafy. Leaves 3 parted; midribs and veins amber."

57404. "No. 89. A Big Wig seedling. Stems 1 to 2 feet long, leafy. Leaves large, dark green, 5 parted, deeply cut and lobed; midribs and veins red. The original seedling bore two tubers weighing 1 ounce. Tubers light red, rough and irregular in shape; flesh almost white, sometimes mottled with red; cooks rather wet."

57405. No. 92.

For a description of this plant, see S. P. I. Nos. 56948 to 56951.

57406. "No. 93. A Big Wig seedling. Stems 1 to 2 feet long and leafy. Leaves dark green, lobed, 3 or 5 parted; midribs and veins red. Tubers light red, irregular in form; flesh white or white mottled with red."

57407. No. 125.

For a description of this plant, see S. P. I. No. 56959.

57395 to 57424—Continued.

57408. "No. 140. A Big Wig seedling. Stems 18 to 30 inches long, leafy. Leaves 5 lobed and resembling the Big Wig variety, dark green; midribs red. The original seedling bore seven tubers weighing 1 pound 10 ounces. Tubers dark red; flesh pale yellow with sometimes a trace of red mottling."

57409. "No. 145. A Big Wig seedling. Stems bunching, 1 to 2 feet long. Leaves small, deeply cut, with long narrow lobes. The original seedling produced one tuber weighing 2 ounces. Tubers smooth, light red; flesh pale yellow."

57410. "No. 155. A Big Wig seedling. The original seedling yielded eight tubers weighing 1 pound 6 ounces. Stems bunching, 12 to 18 inches long. Leaves dark green, broad; midribs and veins green. Tubers dark red, long, spindle shaped; flesh yellow."

57411. "No. 192. A Black Rock seedling. Stems 12 to 18 inches long, bunching and leafy. Leaves 3 or 5 parted, not deeply cut; midribs green. The original seedling produced 10 tubers weighing 1 pound 9 ounces. Tubers light red; flesh pale yellow."

57412. No. 217.

For a description of this plant, see S. P. I. Nos. 56977 to 56980.

57413. "No. 220. A Key West 'yam' (Porto Rico) seedling. The original seedling bore three tubers weighing 12 ounces. Tubers smooth, coppery red or rose color; flesh a deep golden yellow."

57414. No. 223.

For a description of this plant, see S. P. I. Nos. 56981 and 56982.

57415. "No. 230. A Big Wig seedling. Original seedling produced 12 tubers weighing 1 pound 14 ounces. Tubers dark red, smooth, shining; flesh yellow."

57416. "No. 285. A Big Wig seedling. Tubers long, spindle shaped, dark red; flesh pure white."

57417. "No. 300. A Black Rock seedling. Tubers cream yellow, long, smooth, spindle shaped. Flesh yellow, sometimes mottled with a little red; cooks dry, dark yellow, sweet, and of good quality."

57418. No. 306.

For a description of this plant, see S. P. I. No. 56995.

57419. "Big Wig variety."

For a description of this variety, see S. P. I. Nos. 56996 and 56997.

57420. "Black Rock variety."

For a description of this variety, see S. P. I. Nos. 56998 to 57000.

57421. "Hug-me-tight variety."

For a description of this variety, see S. P. I. Nos. 57001 and 57002.

57422. "John Siddon variety."

For a description of this variety, see S. P. I. Nos. 57003 and 57004.

57423. "Key West 'yam' variety."

For a description of this variety, see S. P. I. Nos. 57005 to 57010.

57424. "Wrenchy variety."

For a description of this variety, see S. P. I. Nos. 57011 and 57012.

57425 to 57514. IPOMOEA BATATAS (L.)
Poir. Convolvulaceae. Sweetpotato.

From St. Croix, Virgin Islands. Tubers presented by J. B. Thompson, agronomist in charge, Agricultural Experiment Station. Received May 23, 1923. Quoted notes by Mr. Thompson.

"Grown at the Virgin Islands Experiment Station in 1922."

57425 to 57436. "Big Wig seedlings."

57425. "No. 1. Vines short and bunching; stems rather slender, hairy, and dark chocolate red; leaves deeply cut, 5 parted; midribs and veins red; tuber dark red. Original seedling bore seven tubers weighing 1½ pounds."

57426. "No. 10. Vines short, 2 to 3 feet long, and leafy; leaves large, 3 pointed; petioles 4 to 8 inches long, green with red blotch at juncture with leaf."

57427. "No. 12. Vines short, bunching, 12 to 18 inches long, stout, and leafy; leaves 5 parted; petioles 6 to 12 inches long, green to wine colored; tubers dark red. Original seedling yielded three tubers weighing 1 pound and 1 ounce."

57428. "No. 21. Vines 1 to 2 feet long, of average leafiness; leaves medium sized, deeply lobed, blade narrow, variable in pattern, some 3 and others 5 parted; midribs amber to green and not very thrifty in appearance as grown in nursery; tubers red. Original seedling bore six tubers weighing in all 13 ounces."

57429. "No. 23. Vines 24 to 30 inches long, moderately stout, green, and bearing a rank growth of large, broad, 3-parted dark-green leaves; midribs and veins green; tubers dark red. Original seedling bore three tubers weighing 5 ounces."

57430. "No. 27. Vines 3 feet long; leaves dark green, 5 parted; tubers light red. Original seedling bore seven tubers weighing 1 pound 3 ounces."

57431. "No. 32. Vines stout, 24 to 30 inches long with an abundance of foliage; leaves small to medium sized, very dark green; midribs and veins red, broad and usually 3 parted; tubers red. Original seedling bore one tuber weighing 1 ounce."

57432. "No. 33. Vines very long, slender, reaching out 10 to 15 feet on either side of the row; leaves not numerous, small, cordate, dark green; tubers red. Original seedling bore 18 tubers weighing a total of 2 pounds."

57433. "No. 34. Vines stout, 2 to 3 feet long; leaves large, lobed, 3 and 5 parted, light green; midribs and veins wine colored; tubers red blotched with white, flesh yellow."

57434. "No. 44. Vines 12 to 18 inches long, bunching; leaves small to medium sized, dark green, cordate; midribs amber to wine colored; tubers smooth, light red. Original seedling bore four tubers weighing an aggregate of 12 ounces."

57435. No. 45.

For a description of this plant, see S. P. I. No. 56941.

57436. "No. 46. Vines short and bunching; leaves medium sized, 5 parted; tubers white; flesh pale yellow, sometimes mottled with a little red."

57425 to 57514—Continued.

57437 to 57442. "Black Rock seedlings."

57437. "No. 48. Vines 24 to 30 inches long, leafy; leaves light green, cordate-pointed; midribs and veins light wine colored; tubers light red, flesh yellow, sometimes mottled with red. Original seedling bore four tubers weighing 12 ounces."

57438. "No. 49. Vines 3 feet long, covering bank completely; leaves numerous, dark green, cordate; midribs and veins red; tubers red, flesh yellow. Original hill bore 18 tubers with a total weight of 2 pounds 5 ounces."

57439. "No. 53. Vines 1 to 2 feet long, bunching; leaves very numerous, large, dark green, 3 or 5 parted; midribs and veins red; tubers red, flesh yellow. Original seedlings bore one tuber weighing 2 ounces."

57440. "No. 54. Vines 1 to 2 feet long, leafy; leaves rather light green, medium sized, and relatively broad, 3 parted; midribs and veins red; tubers peculiar frosty or glaucous red, flesh pale yellow, sometimes mottled with a little red. Original seedling bore five tubers weighing a total of 3 ounces."

57441. "No. 64. Vines 18 to 24 inches long, very leafy, covering bank and interspaces between rows; leaves dark green, deeply cut and lobed, 5 parted with long narrow blade and narrow sharp-pointed lobes; midribs and veins red; tubers red, flesh pale yellow. Original seedling bore no tubers."

57442. "No. 71. Vines 1 to 2 feet long; leaves small, 3 to 5 parted; midribs and veins amber to wine colored; tubers red, flesh pale yellow."

57443 to 57472. "Big Wig seedlings."

57443. No. 74.

For a description of this plant, see S. P. I. No. 56946.

57444. No. 75.

For a description of this plant, see S. P. I. No. 56947.

57445. "No. 78. Vines 3 feet long, leafy; leaves dark green, deeply cut and lobed, blades narrow; midribs and veins wine colored; tubers dark red, flesh pale yellow. Original seedling matured 10 tubers with a total weight of 1 pound 15 ounces."

57446. "No. 85. Vines 1 to 2 feet long, leafy; leaves dark green, 3 parted, long with a broad pointed blade; midribs and veins red; tubers dark red, flesh yellow. Original seedling yielded three tubers weighing 7 ounces."

57447. "No. 94. Vines are about 3 feet long; leaves 3 to 5 parted; midribs and veins amber; tubers red, flesh yellow."

57448. "No. 99. Vines 12 to 18 inches long, stout, leafy; leaves 3 parted; midribs red; tubers glaucous or frosty red, flesh very pale yellow to almost white. Original seedling bore three tubers weighing 5 ounces."

57449. "No. 101. Vines 1 to 3 feet long; leaves deeply cut with long narrow lobes; midribs and veins red; tubers red, flesh yellow. Original seedling bore four tubers weighing 13 ounces."

57425 to 57514—Continued

57450. "No. 104. Vines bunching, with dense foliage; leaves large, dark green, 5 parted, blade long and broad; midribs green to amber. Tubers dark red, flesh yellow and mottled with red. Original seedling bore three tubers weighing 7 ounces."
57451. "No. 107. Vines green, short and bunching; leaves green and cordate, resembling those of Black Rock in form, but with margins of younger leaves wine colored as in the Key West 'yam'; midribs and veins green; tubers coppery red to rose, flesh pale yellow. Original seedling bore two tubers weighing 6 ounces."
57452. No. 112.
For a description of this plant, see S. P. I. No. 56956.
57453. "No. 114. Vines short, plants bunching in habit; leaves dark green, large, 5 parted; midribs and veins red; tubers glaucous, frosty red, flesh pale yellow and mottled with red. Original seedling bore three tubers weighing 15 ounces."
57454. "No. 115. Vine short, bunching; leaves numerous, light yellow, 5 parted with narrow lobes; midribs wine colored with veins usually green; tubers with yellow skin and deep golden yellow flesh."
57455. "No. 117. Vines 1 to 2 feet long; leaves small, 3 to 5 parted; midribs and veins green; tubers glaucous red, flesh pale yellow."
57456. "No. 120. Vines 2 to 3 feet long, stout; leaves dark green, cordate; midribs wine colored; tubers red, flesh pale yellow, sometimes mottled with red."
57457. No. 122.
For a description of this plant, see S. P. I. No. 56957.
57458. No. 123.
For a description of this plant, see S. P. I. No. 56958.
57459. "No. 127. Vines small, bunching, erect; leaves very small, deeply cut, ragged in outline, 5 parted; midribs and veins green; tubers pale yellow, flesh deep golden yellow. Original seedling bore seven tubers weighing 1 pound."
57460. "No. 130. Vines 4 to 10 feet long; leaves lanceolate, shouldered; midribs green; tubers white, flesh pale yellow. Original seedling bore two tubers weighing 8 ounces."
57461. "No. 132. Vines low growing, bunching, and leafy; leaves small, dark green, cordate, pointed; midribs and veins red; tubers light coppery red or rose, flesh yellow and mottled with red. Original seedling yielded four tubers weighing 1 pound 2 ounces."
57462. "No. 135. Vines short and stout; 12 to 18 inches long, green; leaves cordate, pointed; midribs and veins green; tubers red, flesh yellow."
57463. "No. 143. Vines stout, hairy, 1 to 2 feet long, erect or ascending in habit; leaves comparatively small, cordate; midribs and veins wine colored; tubers dark red, flesh white, sometimes mottled with a little red. Original seedling bore three tubers weighing 1 pound 3 ounces."

57425 to 57514—Continued

57464. "No. 147. Vines short, 12 to 18 inches long; leaves small; midribs and veins red; tubers red, flesh pale yellow badly mottled with red. Original seedling bore two tubers weighing 2 ounces."
57465. "No. 148. Vines 2 to 5 feet long; leaves sparse, usually 3 parted; midribs and veins amber; tubers light red, flesh dark yellow. Original seedling bore five tubers weighing 9 ounces."
57466. "No. 149. Vines 2 to 3 feet long, leafy; leaves dark green, 5 parted; midribs and veins wine colored; tubers dark red, flesh yellow and mottled with red. Original seedling bore one tuber weighing 1 ounce."
57467. "No. 150. Vines 12 to 30 inches long; leaves very dark green, 3 parted, favoring those of Key West 'yam' but darker; midribs and veins green; tubers red, flesh yellow."
57468. No. 153.
For a description of this plant, see S. P. I. Nos. 56964 to 56966.
57469. "No. 154. Vines small, bunching, leafy; leaves light green, 5 parted, blade broad; midribs light wine colored; tubers dark red, flesh yellow. Original seedling bore four tubers weighing 9 ounces."
57470. "No. 159. Vines 12 to 18 inches long, bunching; leaves small to medium sized, dark green, relatively broad; midribs and veins green; tubers red, flesh yellow. Original seedling bore eight tubers weighing 1 pound 10 ounces."
57471. "No. 160. Vines 1 to 2 feet long, leafy; leaves small to medium sized, dark green; midribs and veins dark wine colored; tubers red, flesh yellow. Original seedling bore seven tubers weighing 1 pound 5 ounces."
57472. "No. 164. Vines 1 to 2 feet long; leaves cut in five long narrow lobes; midribs and veins amber; tubers red. Original seedling produced red roots without tubers."
- 57473 to 57485. "Black Rock seedlings."
57473. "No. 167. Vines short and bunching; stems 1 to 2 feet long; leaves cordate, medium sized; midribs and veins red; tubers red, flesh pale yellow."
57474. No. 169.
For a description of this plant, see S. P. I. Nos. 56968 to 56970.
57475. "No. 179. Vines 12 to 30 inches long; leaves medium to large, lanceolate; midribs amber to wine colored; tubers dark red, flesh pale yellow to almost white. Original seedling produced 16 tubers that weighed 1 pound 2 ounces."
- 57476 and 57477. No. 188.
For a description of this plant, see S. P. I. No. 56971.
57476. (No. 1.) 57477. (No. 2.)
57478. "No. 189. Vines 2 to 6 feet long, slender; leaves 5 parted but not deeply cut; midribs amber to wine colored; tubers red, flesh pale yellow. Original seedling bore seven tubers weighing 1 pound 7 ounces."

57425 to 57514—Continued.

57479. "No. 194. Vines stout, 1 to 3 feet long; leaves large, cordate or cordate-lanceolate; midribs and veins red; tubers pale yellow, flesh yellow. Original seedling bore seven tubers weighing 1 pound."

57480. "No. 202. Vines bunching, leafy; 12 to 30 inches long; leaves dark green, 3 parted; midribs and veins red; tubers dark red, flesh yellow. Original seedling bore seven small tubers having a total weight of 13 ounces."

57481. "No. 203. Vines short and stout, 1 to 2 feet long; leaves dark green, medium sized, 5 parted; midribs and veins red; tubers red, flesh yellow. Original seedling bore seven tubers weighing 1 pound 13 ounces."

57482. "No. 207. Vines short, 12 to 24 inches long, leafy; leaves large, 5 parted; midribs and veins light wine colored; tubers yellow, flesh yellow. Original seedling produced white roots without tubers."

57483. "No. 208. Vines short and leafy, 12 to 30 inches long; leaves 5 parted; blades large and broad, petioles 8 to 12 inches; midribs wine colored, veins amber; tubers red, flesh yellow. Original seedling bore seven tubers weighing 11 ounces."

57484. "No. 209. Vines 3 to 4 feet long, moderately stout; leaves entire, cordate-lanceolate, immature ones wine colored, as in Key West 'yam,' especially on margins; midribs and veins amber; tubers light red, flesh yellow. Original seedling bore 10 tubers weighing 2 pounds 11 ounces."

57485. "No. 212. Vines up to 5 feet long; leaves large, dark green, ornamental, broad, shouldered; midribs and veins red; tubers yellow, flesh yellow mottled with red. Original seedling bore seven tubers weighing 14 ounces."

57486 to 57490. "Key West 'yam' seedlings."

57488. "No. 219. Vines short, bunching, 1 to 2 feet long; leaves small to medium sized, 5 parted; midribs and veins amber to wine colored; tubers red, flesh yellow. Original seedling bore one tuber weighing 11 ounces."

57487. "No. 224. Vines stout, 3 to 4 feet long; leaves large, broad, triangular; midribs and veins red; tubers yellow with a very light rose tint, flesh yellow. Original seedling produced four tubers weighing 1 pound 9 ounces."

57488. "No. 225. Vines short, 1 to 2 feet long, green; leaves medium sized, variable in form; midribs and veins green. Tubers light red, flesh pale yellow. Original seedling bore 13 tubers weighing 1¾ pounds."

57489. No. 226.

For a description of this plant, see S. P. I. Nos. 56983 to 56985.

57490. "No. 227. Vines stout, 12 to 30 inches long, green; leaves large, dark green, cordate, and occasionally marginally notched; midribs and veins green; tubers dark yellow with rose tint; flesh yellow, badly mottled with red. Original seedling bore seven tubers weighing 2 pounds."

57425 to 57514—Continued.

57491 and 57492. Big Wig seedlings."

57491. "No. 228. Vines 12 to 30 inches long, hairy, and red; leaves medium to large, deeply cut and lobed, 5 parted; midribs and veins dark wine colored, tubers red with a thick red under-skin, flesh yellow and mottled with red. Original seedling bore five tubers weighing 8 ounces."

57492. "No. 229. Vines 2 to 5 feet long, leafy; leaves 5 parted; midribs and veins wine to amber; tubers yellow, flesh deep yellow. Original seedling bore eight tubers weighing 10 ounces."

57493 to 57498. "Black Rock seedlings."

57493. "No. 234. Vines short, 1 to 2 feet long, stout; leaves cordate, triangular, or variably cut on margins; midribs and veins red; tubers light red, flesh yellow."

57494. No. 235.

For a description of this plant, see S. P. I. Nos. 56986 to 56988.

57495. "No. 244. Vines bunching, 1 to 2 feet long; leaves 5 parted; midribs and veins dark red; tubers red, flesh pale yellow or almost white. Original seedling bore four tubers weighing 1 pound 3 ounces."

57496. No. 247.

For a description of this plant, see S. P. I. Nos. 56991 to 56993.

57497. "No. 249. Vines 12 to 30 inches long; leaves large, shouldered, blades broad; midribs and veins wine colored. Original seedling bore four tubers weighing 5 ounces."

57498. "No. 252. Vines slender, ascending, 12 to 30 inches long; leaves small, entire or notched at shoulder, the younger leaves wine colored at the margins; midribs and veins red; tubers red, flesh yellow and mottled with red. Original seedling bore 10 tubers weighing 1¼ pounds."

57499 to 57505. "Big Wig seedlings."

57499. "No. 253. Vines bunching, stout, 1 to 2 feet long, leafy; leaves large, 3 or 5 parted, broad blade; midribs and veins red; tubers red, flesh pale yellow. Original seedling bore light-red roots but no tubers."

57500. "No. 254. Vines 2 to 4 feet long; leaves deeply cut in five long narrow parts; midribs and veins red; tubers red, flesh white. Original seedling bore dark-red roots without tubers."

57501. "No. 255. Vines 12 to 30 inches long; leaves lanceolate, sometimes shouldered or 3 parted, pea green; midribs and veins green; tubers red, flesh yellow. Original seedling bore dark-red roots but no tubers."

57502. "No. 256. Vines bunching, leafy, 1 to 2 feet long; leaves dark green, 5 parted, resembling Big Wig parent; midribs and veins red; tubers red, flesh yellow and mottled with red. Original seedling bore 17 tubers weighing 2 pounds 2 ounces."

57503. "No. 258. Vines 1 to 2 feet long, stout; leaves large, irregularly cut and variable in pattern; midribs and veins red; tubers light red, flesh white. Original seedling bore two tubers weighing 1 pound 6 ounces."

57425 to 57514—Continued.

57504. "No. 262. Vines slender, hairy, 3 to 6 feet long; leaves light green, large, cordate; midribs and veins wine colored; tubers red, flesh yellow. Original seedling bore two tubers weighing 12 ounces."
57505. "No. 264. Vines short, 1 to 3 feet long; leaves large, dark green, cordate; midribs and veins amber to wine colored; tubers red, flesh pale yellow, occasionally mottled with a little red. Original seedling bore four tubers that weighed 1 pound 13 ounces."
- 57508 to 57508. "Parentage unknown."
57506. "No. 272. Vines bunching, 1 to 2 feet long; leaves small, 5 parted; midribs wine colored; tubers red, flesh pale yellow. Original seedling bore light-red roots without tubers."
57507. "No. 274. Vines 1 to 3 feet long, red, ascending; leaves triangular or 3 parted; midribs wine colored; tubers dark red, flesh yellow. Original seedling bore four tubers weighing 4 ounces."
57508. "No. 277. Vines stout, 2 to 3 feet long; leaves large, shouldered or 3 parted, blades broad; tubers red, flesh yellow. Original seedling bore nine tubers weighing 2¼ pounds."
- 57509 and 57510. "Volunteer seedlings from a Big Wig plat."
57509. "No. 290. Vines stout, ascending, 1 to 2 feet long; leaves light green, lanceolate or shouldered; midribs and veins amber to red; tubers yellow, flesh yellow and mottled with red. Eleven hills in the nursery yielded 6 pounds of tubers."
57510. "No. 292. Vines 1 to 2 feet long; leaves large, dark green, cordate-pointed; midribs green to amber; tubers red, flesh white and mottled with red. Eight hills in the nursery produced 8¾ pounds."
- 57511 and 57512. "Volunteer seedlings from a Key West 'yam' plat."
57511. "No. 295. Vines 2 to 4 feet long; leaves medium sized, cut in five long, narrow lobes; midribs and veins amber to wine colored; tubers red, flesh yellow. In the nursery 14 hills bore 13¾ pounds of tubers."
57512. "No. 297. Vines from 2 to 4 feet long, stout and leafy; leaves light green, large, cordate; midribs and veins amber to green; tubers red, flesh yellow. Seven hills in the nursery row yielded 8 pounds of tubers."
- 57513 and 57514. "Volunteer seedlings from a Black Rock plat."
57513. "No. 299. Vines 1 to 3 feet long; leaves large, long; midribs and veins amber to green; tubers yellow with a tint of rose, flesh yellow. Eight hills in the nursery row produced 10¾ pounds of tubers."
57514. "No. 305. Vines 1 to 2 feet long, stout and leafy; leaves 5 parted, blades broad; midribs and veins red; tubers coppery red or rose, flesh white and mottled with red."

57515 to 57611.

From Ekaterinoslav, Russia. Seeds presented by the Russian Bureau of Applied Botany, through D. Borodin, New York, N. Y. Received June 14, 1923. Quoted notes by Mr. Borodin.

A collection of seeds from the Ekaterinoslav Agricultural Experiment Station, introduced for department specialists.

57515. *BROMUS SQUARROSUS* L. Poaceæ.
Grass.
"No. 188. 1916 crop."
- 57516 and 57517. *FESTUCA OVINA SULCATA* Hack. Poaceæ.
Grass.
57516. "No. 459. 1915 crop. Originally from Turgai."
57517. "No. 463. 1915 crop. Originally from Samava."
- 57518 to 57523. *HORDEUM* spp. Poaceæ.
Barley.
57518. *HORDEUM DISTICHON NUDUM* L.
Naked barley.
"No. 0155. 1920 crop."
- 57519 to 57521. *HORDEUM DISTICHON PALMELLA* Harlan. Two-rowed barley.
57519. "No. 02. 1919 crop."
57520. "No. 0254. 1920 crop."
57521. "No. 0285. 1920 crop."
57522. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
"No. 0103A. Originally from, Petrograd Bureau of Applied Botany."
57523. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.
"Groushevka 6-rowed barley."
57524. *MEDICAGO PLATYCARPA* (L.) Trautv. Fabaceæ.
"No. 535. 1916 crop. Originally from Tomsk."
- 57525 to 57535. *MEDICAGO SATIVA* L. Fabaceæ.
Alfalfa.
57525. "1918 crop."
57526. "1914-15 crop. 'Arabian.'"
57527. "No. 511. 1918 crop. Originally from Fergana, Turkestan."
57528. "No. 513. 1914-15 crop. Originally from Altai Mountains."
57529. "No. 514. 1914-15 crop. Originally from Gokcha, Erivan."
57530. "No. 742. 1914-15 crop."
57531. "No. 743. 1914-15 crop."
57532. "No. 744. 1914-15 crop."
57533. "No. 745. 1914-15 crop."
57534. "No. 746. 1914-15 crop."
57535. "No. 749. 1916 crop. Originally from Kherson."
57536. *TRITICUM DICOCUM* Schrank. Poaceæ.
Emmer.
"No. 1466. 1916 crop."

57515 to 57611—Continued.

57537 to 57610.	TRITICUM	DURUM	Desf.
	Poaceæ.	Durum wheat.	
"All the 1920 crop, taken from Marinpol varieties."			
57537.	No. 28.	57574.	No. 105.
57538.	No. 29.	57575.	No. 106.
57539.	No. 30.	57576.	No. 108.
57540.	No. 32.	57577.	No. 114.
57541.	No. 34.	57578.	No. 120.
57542.	No. 36.	57579.	No. 121.
57543.	No. 37.	57580.	No. 122.
57544.	No. 40.	57581.	No. 123.
57545.	No. 41.	57582.	No. 125.
57546.	No. 42.	57583.	No. 128.
57547.	No. 43.	57584.	No. 129.
57548.	No. 44.	57585.	No. 130.
57549.	No. 48.	57586.	No. 131.
57550.	No. 50.	57587.	No. 134.
57551.	No. 52.	57588.	No. 135.
57552.	No. 53.	57589.	No. 138.
57553.	No. 54.	57590.	No. 139.
57554.	No. 55.	57591.	No. 140.
57555.	No. 58.	57592.	No. 144.
57556.	No. 60.	57593.	No. 148.
57557.	No. 64.	57594.	No. 150.
57558.	No. 65.	57595.	No. 151.
57559.	No. 66.	57596.	No. 185.
57560.	No. 70.	57597.	No. 195.
57561.	No. 74.	57598.	No. 204.
57562.	No. 75.	57599.	No. 211.
57563.	No. 81.	57600.	No. 212.
57564.	No. 83.	57601.	No. 213.
57565.	No. 84.	57602.	No. 217.
57566.	No. 89.	57603.	No. 225.
57567.	No. 90.	57604.	No. 227.
57568.	No. 91.	57605.	No. 230.
57569.	No. 95.	57606.	No. 233.
57570.	No. 99.	57607.	No. 236.
57571.	No. 101.	57608.	No. 237.
57572.	No. 103.	57609.	No. 238.
57573.	No. 104.	57610.	No. 239.

57611. STIPA PENNATA LESSINGIANA (Trin. and Rupr.) Richter. Poaceæ. Grass.

Many of the species of Stipa are valuable as fodder grasses, and this native Siberian species is introduced for testing in this country.

57612 to 57664.

From Egypt. Seeds collected by Dr. H. V. Harlan, Bureau of Plant Industry. Received June 20, 1923. Quoted notes by Doctor Harlan.

Introduced for department cereals.

57612 to 57627. HORDEUM DISTICHON PALMELLA Harlan. Poaceæ.

Two-rowed barley.

"From the district of Mariut."

57612. "(No. 76b. Eseila. May 7, 1923.) Spikes from the field of Zein Mokhtar."

57612 to 57664—Continued.

57613. "(No. 77b. Sidi Shaher Roho. May 7, 1923.) Spikes of barley collected in a field."

57614. "(No. 79b. Eseila. May 7, 1923.) Spikes collected in the field of Abdel Kerim Olyan."

57615. "(No. 80b. Behig. May 7, 1923.) Spikes collected in a field."

57616. "(No. 81b. Behig. May 7, 1923.) Spikes collected in a second field near Behig."

57617. "(No. 83b. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."

57618. "(No. 84b. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."

57619. "(No. 87b. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."

57620. "(No. 88b. Behig. May 7, 1923.) Spikes selected in a field in Behig."

57621. "(No. 90b. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."

57622. "(No. 91b. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."

57623. "(No. 92b. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."

57624. "(No. 93b. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."

57625. "(No. 96b. Abu Sir. May 7, 1923.) Barley spikes from a depression at Abu Sir, where the water table was higher than at any other field seen. The barley was not so ripe."

57626. "(No. 99b. El Faish. Amria. May 8, 1923.) Spikes from the field of Sheik Abdel Halim, who has grown it 12 years. Supposed to be the original Mariout variety."

57627. "(No. 100b. Amria. May 8, 1923.) Spikes from the field of Ali Abdel Salsun, who has grown it 25 years. Supposed to be the original Mariout variety. Although badly mixed with barley from the delta and from Asia Minor, he was able to pick out what he thought the original form. It was similar to the California Mariout."

57628 to 57652. HORDEUM VULGARE PALLIDUM Seringe. Poaceæ. Six-rowed barley.

57628. "(No. 71. Minieh. May 4, 1923.) Spikes from a field of 'Beladi' ('Beladi' means village). This local variety contains several types. Grown under canal irrigations."

57629. "(No. 74. Shousha, Markaz Samolut, Minieh. May 5, 1923.) Barley from the basin where only the one Nile irrigation is given. The seed in the basins is rarely or never changed. Under canal irrigation the seed is often changed."

"The following are all from the district of Mariut."

57630. "(No. 76a. Eseila. May 7, 1923.) Spikes from the field of Zein Mokhtar."

57631. "(No. 77a. Sidi Shaher Roho. May 7, 1923.) Spikes of barley collected in a field."

57612 to 57664—Continued.

57632. "(No. 78. Sidi Shahr Roho. May 7, 1923.) Spikes from a second field."
57633. "(No. 79a. Esella. May 7, 1923.) Spikes collected in the field of Abdel Kerim Oly." "
57634. "(No. 80a. Behig. May 7, 1923.) Spikes collected in a field."
57635. "(No. 81a. Behig. May 7, 1923.) Spikes collected in a second field near Behig."
57636. "(No. 82. El Maroi. May 7, 1923.) Spikes collected in a field."
57637. "(No. 83a. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."
57638. "(No. 84a. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."
57639. "(No. 85. Burg el Arab. May 7, 1923.) Spikes selected in the fields of three farmers."
- For an illustration of these last three barleys, see Plate II, Figure 2.
57640. "(No. 86. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."
57641. "(No. 87a. Abu Sir. May 7, 1923.) Spikes collected in two fields in Abu Sir."
57642. "(No. 88a. Behig. May 7, 1923.) Spikes selected in a field in Behig."
57643. "(No. 89. El Maroi. May 7, 1923.) Spikes selected in the field of Hashem Journis."
57644. "(No. 90a. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."
57645. "(No. 91a. Hamaria. May 8, 1923.) Spikes selected in two fields of standing barley."
57646. "(No. 92a. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."
57647. "(No. 93a. Ikingi Mariut. May 8, 1923.) Spikes selected in two fields of standing barley."
57648. "(No. 96a. Abu Sir. May 7, 1923.) Barley spikes from a depression at Abu Sir where the water table was higher than at any other field seen. The barley was not so ripe."
57649. "(No. 97. Ikingi Mariut. May 8, 1923.) Spikes selected in the barley fields."
57650. "(No. 98. Amria. May 8, 1923.) Barley spikes from the field."
57651. "(No. 99a. El Faish, Amria. May 8, 1923.) Spikes from the field of Sheik Abdel Halim, who has grown it 12 years. Supposed to be the original Mariout variety."
57652. "(No. 100a. Amria. May 8, 1923.) Spikes from the field of Ali Abdel Sal-sun, who has grown it 25 years. Supposed to be the original Mariout variety. Although badly mixed with barley from the delta and from Asia Minor, he was able to pick out what he thought the original form. It was similar to the California Mariout."

57612 to 57664—Continued.

57653 to 57664. TRITICUM spp. Poaceae.

- 57653 to 57656. TRITICUM AESTIVUM L. (*T. vulgare* Vill.) Common wheat.
57653. "(No. 63. Matay, Minia Province. May 5, 1923.) Spikes from an unusually pure field of wheat. It is possible that the field was seeded to one of the varieties distributed by the Ministry of Agriculture, Gibson or Hindi D. Sample from the field irrigated from canal."
57654. "(No. 64. Istal, district of Minieh. May 5, 1923.) Spikes selected in a field near Istal village. The field was of the type called Hindi. The Hindi was a variety from India. Sample from the field irrigated from a canal."
57655. "(No. 66. Quatocha, district of Minieh. May 5, 1923.) Spikes selected in a field of Hindi wheat irrigated from a canal."
57656. "(No. 68. West Sarla, district of Minieh. May 5, 1923.) Spikes selected in a field irrigated from a canal."
- 57657 to 57660. TRITICUM DURUM Desf. Durum wheat.
57657. "(No. 65. Kom Wali, district of Minieh. May 5, 1923.) Spikes from a field near Kom Wali. The field was irrigated from a canal."
57658. "(No. 70. Minieh. May 4, 1923.) Selections from a canal-irrigated field of Hindi. One dark spike from a roadside."
57659. "(No. 72. Minieh. May 4, 1923.) Spikes from a field of Beladi irrigated from a canal."
57660. "(No. 95. District of Mariut. May 7 and 8, 1923.) Wheat spikes from barley fields. The two smaller spikes do not look like the Hindi of the delta when growing. The Romans must have grown some wheat in Mariut. There is none now. There are other wheat spikes in some of the barley samples."
- 57661 to 57664. TRITICUM TURGIDUM L. Poulard wheat.
57661. "(No. 67. Shousha, district of Minieh. May 5, 1923.) Spikes from a field of the Beladi type irrigated from a canal."
57662. "(No. 69. Minieh. May 4, 1923.) Spikes selected from a field of Beladi. Field irrigated from a canal."
57663. "(No. 73. Minieh. May 4, 1923.) Sample obtained at a threshing ground. Grown under a canal."
57664. "(No. 75. Shousha, near Minieh. May 5, 1923.) Wheat from the same threshing ground as the barley under No. 74 [S. P. I. No. 57629]. Also basin grown."

57665 to 57675.

From Algeria. Seeds collected by Hilton Simpson. Received June 12, 1923. Quoted notes by Mr. Simpson.

Introduced for department cerealists.

"From Oued Abdi, Aures Mountains."

57665 to 57667. *HORDEUM VULGARE PAL-LIDUM* Seringe. Poaceæ. Six-rowed barley.

57665. "(Menaar.) *Sefra* (yellow)."

57666. "(Menaar.) *Sefra* (yellow). Best seed of its kind."

57667. "(Teniet el Abed.) *Sheir Telli*."

57668 to 57674. *TRITICUM DURUM* Desf. Poaceæ. Durum wheat.

57668. "(Menaar.) *El Hamara* (the red)."

57669. "(Menaar.) *Nab el bel* (tooth of the camel)."

57670. "(Menaar.) *Shetta*."

57671. "(Teniet el Abed.) *Ajini*."

57672. "(Teniet el Abed.) *El Hamara*. Said to be old."

57673. "(Teniet el Abed.) *El Hethba*."

57674. "(Teniet el Abed.) *El Kahala*."

57675. *ZEA MAYS* L. Poaceæ. Corn.

"(Menaar.) Arabic: *Mestora*; Shawiya: *Tarkisht*."

57676. *LILIUM SULPHUREUM* Baker. Liliaceæ. Lily.

From Darjiling, India. Bulbs presented by G. H. Cave, curator, Lloyd Botanic Garden, through Harold Shantz, American vice consul in charge, Calcutta, India. Received June 9, 1923.

A large and handsome lily, native to northern Burma, with an erect green stem 6 or 7 feet high and numerous scattered, linear, bright-green leaves, the longest of which are about 4 inches long and near the base of the plant. The flowers, usually in clusters of two or three, are pendent on long peduncles, fragrant, and sulphur yellow, tinged outside with light red. (Adapted from *Curtis's Botanical Magazine*, pl. 7257.)

57677 to 57679.

From Moron, Buenos Aires, Argentina. Seeds presented by José M. Scasso, district agronomist, Argentine Ministry of Agriculture. Received June 29, 1923. Quoted notes by Sr. Scasso.

57677. *AVENA STERILIS* L. Poaceæ. Oats

"*Avena amarilla del pais*. Common yellow oats, cultivated throughout the country. It is fairly hardy and resistant to trampling. While it is susceptible to rust (*Puccinia coronifera* forma *avenae*), it is not so much so as the other varieties commonly cultivated here. If sown in March it will give two cuttings of green forage and a medium-sized crop of seed in November or December. Instead of cutting for forage, this can be used as pasture, in which case, as mentioned above, it resists trampling."

57678. *MEDICAGO SATIVA* L. Fabaceæ. Alfalfa.

"*Alfalfa saludina*. A variety from the Province of Santiago del Estero. It is very hardy and resistant to trampling and after cutting grows up again with much vigor. On the other hand, it has the defect of losing its leaves when ripe, for which reason it is cut for hay when it is just beginning to flower. If not cut frequently it has a tendency to become woody. Under irrigation it gives seven or eight cuttings of green forage per year in Santiago del Estero. It is called 'saludina' because it is more resistant to alkali and saltpeter than the ordinary variety."

57679. *TRITICUM AESTIVUM* L. Poaceæ. (*T. vulgare* Vill.) Common wheat.

"*Trigo tipo Hungaro*. A semihard type, rather rich in gluten, cultivated in this country for 25 or 30 years. It is one of the varieties most grown here and is moderately rust resistant, but is sensitive to late frosts. The yield is medium. The variety is comparatively early, maturing in about 140 days, and is resistant to trampling. The grain does not shake out easily."

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abutilon mollissimum*, 56908.
Acacia cardiophylla, 56868.
 verniciiflua, 56869.
Acanthopanax senticosum, 57274.
 sessiliflorum, 57275.
Agati grandiflora, 57079.
Agropyron cristatum, 57212.
 elongatum, 57221.
 rigidum. See *A. elongatum*.
 sibiricum, 57222.
 Akala, *Rubus macraei*, 57226, 57227.
 Alfalfa, *Medicago sativa*, 56853, 57525-57535, 57678.
Alloteropsis semialata, 57268.
Ampelocissus acapulcensis, 57218.
Ananas spp., 56851, 56852, 56907.
Androcymbium punctatum, 56821.
 Apple, *Malus yunnanensis*, 57225.
Arachis hypogaea, 56842-56849.
Areca sp., 57217.
Artocarpus communis, 57224.
Arundinella anomala, 57276.
 Ash, *Frazinus mandshurica*, 57283.
 Aspen, *Populus tremula*, 56871, 56872.
Avena ludoviciana, 57042.
 sativa, 56892, 56899, 56900, 57277.
 sterilis, 57043, 57677.
 Barberry, *Berberis* sp., 57081.
 Barley, *Hordeum* spp., 57013-57034, 57046-57065, 57089, 57094-57114, 57296, 57391, 57518-57523, 57612-57652, 57665-57667.
 Bean, broad, *Vicia faba*, 57091.
 common, *Phaseolus vulgaris*, 57341.
 soy. See Soybean.
Berberis sp., 57081.
Betula davurica, 57278.
 Birch, *Betula davurica*, 57278.
 Bor, *Ziziphus mauritiana*, 56812-56819.
 Breadfruit, *Artocarpus communis*, 57224.
Bromus squarrosus, 57515.
 Buckthorn, *Rhamnus davurica*, 57311.
 Rhamnus parifolia, 57312.
 Buckwheat, *Fagopyrum vulgare*, 57282.
Calamagrostis epigejos, 57279.
Calydorea speciosa, 57220.
Camellia sasanqua. See *Thea sasanqua*.
 Capulin, *Prunus serotina*, 56792.
Caragana boisi, 56808.
 Carob, *Ceratonia siliqua*, 56875, 57262, 57263.
Celastrus sp., 57082.
Ceratonia siliqua, 56875, 57262, 57263.
 Cherry, *Prunus maackii*, 57310.
Chrysalidocarpus baronii, 57214.
 Clover, alsike, *Trifolium hybridum*, 57229-57231.
 crimson, *Trifolium incarnatum*, 56793, 56830, 56893-56895.
 red, *Trifolium pratense*, 56795, 56806, 56807, 56850, 56856, 56870, 56880-56882, 56896-56898, 57036, 57232-57245.
 Trifolium physodes, 57035.
 white, *Trifolium repens*, 57246, 57247.
Coffea excelsa, 57271.
 laurentii, 57272.
 robusta. See *C. laurentii*.
 Coffee. See *Coffea* spp.
Coix lacryma-jobi ma-yuen, 56883-56891.
Colocasia esculenta, 56911.
 Corn, *Zea mays*, 56862-56867, 56873, 56874, 56902-56905, 57073, 57074, 57368-57386, 57675.
Cotoneaster sp., 57083.
 Cotton, *Gossypium* spp., 57248-57259, 57389, 57390.
Crataegus lavalleyi, 56809, 56810.
Crotalaria juncea, 57223.
 Cucumber, *Cucumis sativus*, 56805.
Cucumis sativus, 56805.
 sp., 56794.
Cucurbita pepo, 56850.
Dasheen, Colocasia esculenta, 56911.
Delphinium sp., 57084.
Dillenia indica, 56791.
Diospyros kaki, 56831-56833, 57075, 57076.
Eleusine coracana, 57387.
Eleutheroocinus senticosus. See *Acanthopanax senticosum*.
 Emmer, *Triticum dicoccum*, 57394, 57536.
Eragrostis abyssinica, 57388.
Eriochloa villosa, 57280.
Eugenia dombeyi, 57270.
 brasilensis. See *E. dombeyi*.
Euonymus hamiltonianus, 57281.
Eragrostis zeylanicum macranthum, 57260.
Fagopyrum vulgare, 57282.
 esculentum. See *F. vulgare*.
Festuca ovina sulcata, 57516, 57517.
Francoa sonchifolia, 56909.
Frazinus mandshurica, 57283.
Garcinia buchanani, 56799.
 mangostana, 56822.
Glycine hispida. See *Soja max*.
Gomphocarpus physocarpus, 57269.
Gordonia sp., 56823.
Gossypium spp., 57248-57259, 57389, 57390.
 Grape, *Ampelocissus acapulcensis*, 57218.
 Amur, *Vitis amurensis*, 57367.
 Grass, *Agropyron cristatum*, 57212.
 Agropyron elongatum, 57221.
 sibiricum, 57222.
 Arundinella anomala, 57276.
 Bromus squarrosus, 57515.
 Calamagrostis epigejos, 57279.
 cockatoo, *Alloteropsis semialata*, 57268.
 Eriochloa villosa, 57280.
 Festuca ovina sulcata, 57516, 57517.
 Spodiopogon sibiricus, 57343.
 Stipa pennata lessingiana, 57611.
 Grumichama, *Eugenia dombeyi*, 57270.
Hakea acicularis, 56879.
 nodosa, 57211.
 Hawthorn, *Crataegus lavalleyi*, 56809, 56810.
Holcus sorghum, 57044, 57045, 57284-57295.
 Honeysuckle, *Lonicera maackii*, 57300.
Hordeum deficiens, 57013, 57014.
 distichon nigricans, 57015.
 nudum, 57016, 57518.
 palmetta, 57017-57022, 57094, 57095, 57391, 57519-57521, 57612-57627.
 intermedium haztoni, 57023.
 vulgare coeleste, 57024, 57089.
 horsfordianum, 57025, 57026.
 nigrum, 57027, 57028, 57046.
 pallidum, 57029-57034, 57047-57065, 57096-57114, 57296, 57522, 57523, 57628-57652, 57665-57667.
Ilex spp., 57085, 57086.
Ipomoea batatas, 56920-57012, 57395-57514.
Iris setosa, 57297.
 sp., 56811.
 Juniper. See *Juniperus* spp.
Juniperus cedrus, 57080.
 rigida, 57298.
 Kaki, *Diospyros kaki*, 56831-56833, 57075, 57076.
 Larkspur, *Delphinium* sp., 57084.
Lespedeza bicolor, 57299.
Ligustrum sp., 56824.
 Lilac, *Syringa amurensis*, 57344.
Lilium sulphureum, 57676.
 Lily, *Lilium sulphureum*, 57676.

Linden, *Tilia amurensis*, 57345.
Tilia mandshurica, 57346.
 Loncica *maackii*, 57300.
Luculia sp., 56825.
Lycopersicon esculentum, 56796, 56797, 57077.
 Maackia *amurensis*, 57301.
Malus yunnanensis, 57225.
Mangifera indica, 56838-56841.
 Mango, *Mangifera indica*:
 Kalihī chutney, 56839.
 Victoria, 56840.
 West India No. 9, 56838.
 Whitney, 56841.
 Mangosteën, *Garcinia mangostana*, 56822.
 Ma-yuen, *Cotiz lacryma-jobi ma-yuen*, 56883-56891.
Medicago platycarpa, 57524.
sativa, 56853, 57525-57535, 57678.
 Nageia *thunbergii*, 57267.
 Oats, *Avena ludoviciana*, 57042.
Avena sativa, 56892, 56899, 56900, 57277.
sterilis, 57043, 57677.
Oryza sativa, 57037-57041, 57302-57308.
Osbeckia rubicunda, 57261.
 Palm, *Areca* sp., 57217.
Chrysalidocarpus baronii, 57214.
 Pea, *Pisum sativum*, 57090.
 Peanut, *Arachis hypogaea*, 56842-56849.
Phaseolus vulgaris, 57341.
Phleum pratense, 56901.
Phyllocarpus septentrionalis, 56906.
Physalis peruviana, 56855.
Phytolacca clavifera, 56800.
 Pineapple, *Ananas* spp., 56851, 56852.
 wild, *Ananas* sp., 56907.
Pisum sativum, 57090.
Pittosporum floribundum, 57273.
 sp., 56826.
Poa australis, 56910.
Podocarpus thunbergii. See *Nageia thunbergii*.
 Poha, *Physalis peruviana*, 56855.
Populus tremula, 56871, 56872.
 Potato, *Solanum tuberosum*, 56803, 56912-56919.
 sweet. See Sweetpotato.
Prinsepia sinensis, 57087, 57309.
 Privet, *Ligustrum* sp., 56824.
Protea lanceolata, 57264.
latifolia, 57265.
rosea, 57266.
Prunus maackii, 57310.
serotina, 56792.
Pyrus yunnanensis. See *Malus yunnanensis*.
 Ragi, *Eleusine coracana*, 57387.
 Raspberry, *Rubus ellipticus*, 57228.
Rhamnus davurica, 57311.
parvifolia, 57312.
Rhododendron delavayi, 56857.
 spp., 56827, 56828.
 Rice, *Oryza sativa*, 57037-57041, 57302-57308.
Rosa davurica, 57313.
sempervirens, 56820.
 Rose. See *Rosa* spp.
Rubus ellipticus, 57228.
macraei, 57226, 57227.
 Rye, *Secale cereale*, 57115-57138.

Secale cereale, 57115-57138.
Sesbania grandiflora. See *Agati grandiflora*.
 Soja *maz*, 56834-56837, 57315-57340, 57342.
Solanum commersonii, 57213.
maglia, 57219.
tuberosum, 56803, 56912-56919.
 Sorghum, *Holcus sorghum*, 57044, 57045, 57284-57295.
Sorghum arundinaceum, 56801.
versicolor, 56802.
vulgare. See *Holcus sorghum*.
 Soybean, *Soja maz*, 56834-56837, 57315-57340, 57342.
Spodiopogon sibiricus, 57343.
Stipa pennata lessingiana, 57611.
Stylosanthes erecta, 56798.
 Sunn hemp, *Crotalaria juncea*, 57223.
 Sweetpotato, *Ipomoea batatas*, 56920-57012, 57395-57514.
Syringa amurensis, 57344.
 Tacsonia sp., 57215.
 Tefl, *Eragrostis abyssinica*, 57388.
Tetrastigma sp., 56804.
Thea sasanqua, 57088.
Thunbergia grandiflora, 57216.
Tilia amurensis, 57345.
mandshurica, 57346.
 Timothy, *Phleum pratense*, 56901.
Tithonia diversifolia, 57093.
 Tomato, *Lycopersicon esculentum*, 56796, 56797
 57077.
Trifolium hybridum, 57229-57231.
incarnatum, 56793, 56830, 56893-56895.
physodes, 57035.
pratense, 56795, 56806, 56807, 56850, 56856, 56870,
 56880-56882, 56890-56898, 57036, 57232-57245.
repens, 57246, 57247.
Triplaris cumingiana, 57092.
Triticum aestivum, 56858, 56859, 56876-56878, 57139-
 57185, 57347-57365, 57392, 57393, 57653-57656,
 57679.
dicoccum, 57394, 57536.
durum, 57066-57071, 57186-57205, 57537-57610,
 57657-57660, 57668-57674.
turgidum, 57206-57210, 57661-57664.
ventricosum, 57072.
vulgare. See *T. aestivum*.
 Vegetable marrow, *Cucurbita pepo*, 56854.
 Vetch. See *Vicia* spp.
Viburnum burejaeticum, 57366.
Vicia faba, 57091.
tetrasperma, 56860.
unijuga, 56861.
Vitis amurensis, 57367.
 Wheat:
 common, *Triticum aestivum*, 56858, 56859, 56876-
 56878, 57139-57185, 57347-57365, 57392, 57393,
 57653-57656, 57679.
 Bankuti No. 5, 56858.
 Bankuti Marquis No. 4, 56859.
 Blé de Silène, 56876.
 Le Cérés, 56877.
 Hybride Inversable, 56878.
durum, *Triticum durum*, 57066-57071, 57186-
 57205, 57537-57610, 57657-57660, 57668-57674.
 poulard, *Triticum turgidum*, 57206-57210, 57661-
 57664.
 Zea *mays*, 56862-56867, 56873, 56874, 56902-56905,
 57073, 57074, 57368-57386, 57675.
Ziziphus mauritiana, 56812-56819.

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