## U. S. DEPARTMENT, OF AGRICULTURE. BURBAU OF PLANT INDÚSTRY-BULLETIN NO. 162.

B. T. GALLOWAY, Chief of Bureau:

# SEEDS AND PLANTS IMPORTED

### DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1909:

INVENTORY No. 18; Nos. 24430 to 25191.

ISSUED DECEMBER 24, 1909.



### WASHINGTON: GOVERNMENT PRINTING OFFICE. 1909.

#### BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

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## U. S. DEPARTMENT OF AGRICULTURE. BUREAU OF PLANT INDUSTRY-BULLETIN NO. 162.

B. T. GALLOWAY, Chief of Bureau.

# SEEDS AND PLANTS IMPORTED

### DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1909:

INVENTORY No. 18; Nos. 24430 to 25191.

Issued December 24, 1909.



### WASHINGTON: GOVERNMENT PRINTING OFFICE.

1909.

#### BUREAU OF PLANT INDUSTRY.

Chief of Bureau, BEVERLY T. GALLOWAY. Assistant Chief of Bureau, Albert F. Woods. Editor, J. E. ROCKWELL. Chief Clerk, JAMES E. JONES.

FOREIGN SEED AND PLANT INTRODUCTION.

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Edward Goucher and P. J. Wester, Assistant Propagators.

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## LETTER OF TRANSMITTAL.

### U. S. DEPARTMENT OF AGRICULTURE, BUREAU OF PLANT INDUSTRY, OFFICE OF THE CHIEF,

Washington, D. C., September 11, 1909.

SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 162 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from January 1 to March 31, 1909: Inventory No. 18; Nos. 24430 to 25191."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY, Chief of Bureau.

Hon. JAMES WILSON,

Secretary of Agriculture.

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## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1909: INVENTORY NO. 18; NOS. 24430 TO 25191.

#### INTRODUCTORY STATEMENT.

The eighteenth inventory, including 761 numbers, comprises the period between January 1 and March 31, 1909, and contains the collections of only one agricultural explorer, Prof. N. E. Hansen, of South Dakota, whose eight months' trip into central Asia was made primarily to secure sufficiently large quantities of the seed of three wild Medicagos to enable extensive experiments to be carried out in the Northwest in testing their hardiness.

These three species, which Professor Hansen believes are going to prove valuable additions to the forage-crop resources of the Northwest, are as follows: No. 24451, Medicago ruthenica, from Charonte, Mongolia, an arm of the Gobi Desert, where the temperature drops to the freezing point of mercury at times when there is little snow on the ground and where in summer the temperature goes above 100° F. This species is a wild forage plant growing in the sandy region of eastern Siberia and may be of value either as a cultivated plant like alfalfa or, if allowed to run wild on the ranges, may become a valuable hardy forage legume. No. 24452, Medicago falcata, from Obb, in the Tomsk Province, a long-lived legume of the open steppes, is upright enough to be mown by a mowing machine; will withstand extremes of drought and cold, and is so promising in its own home as to have attracted the attention of the Russian agricultural experimenters as worthy of domestication and also as being of distinct value as a wild pasture plant in western Siberia. Professor Hansen emphasizes its value for all regions in this country where the common alfalfa is often winterkilled, but does not maintain that in regions where any of the true alfalfa strains can be grown successfully it is likely to prove superior. No. 24457, Medicago platycarpa, from Chylim, in the Tomsk Province, is a wild legume found in timber clearings and along the edges of forests of central Siberia. This is not a drought-resistant form, but perhaps rather a moist-region plant worthy of trial in northern Wisconsin and Minnesota. Owing to the immense value of any plant which may take the place of alfalfa in regions where this remarkable crop can not be grown, these new Siberian alfalfas are receiving the special attention of the foragecrop experts of the Department of Agriculture. They are the most interesting of more than a hundred and seventy things brought by Professor Hansen from Siberia, though others worthy of mention here are a number of durum wheats: remarkable winter muskmelons (some of them weighing 30 to 40 pounds and capable of keeping all winter, promising possibilities for the Southwest); the Persian clover shaftal or "Shabdar" (No. 24548), now being tried for the irrigated Southwest; and sand binders (Nos. 24555, 24556, 24557, 24558, and 24559) used along the Transcaspian Railway.

Numbers 24759 to 24761 represent the largest importation of bamboo plants ever brought into the country, comprising more than 3,000 good-sized plants of the three timber species that are grown so extensively in Japan-two of them for timber and one also for its edible shoots. These were purchased by an agent from the Japanese farmers near Nagasaki and brought over by the courtesy of the War Department on an army transport. They have made a satisfactory start at Chico, Cal., and will be planted in the South and in California this autumn. An effort will be made to show what a wonderfully beautiful thing a bamboo grove is, and to bring this unique timber material near enough so that our experimenters can study the methods of its utilization in the fresh state.

Of the introductions secured through correspondence, special attention should be called to the following:

Of interest to the fruit growers will be the three Javanese fruits-the Doekoe (No. 24431), the Ramboetan (No. 25163), and the Poelasan (No. 25164)-delicious East Indian fruits that seem to have not vet attracted attention in the West Indies; a South China relative of the orange (Atalantia bilocularis) for breeding purposes; the Indian bael fruit (No. 24450), which is prized for sherbets by Occidentals, but esteemed as highly as the orange by the East Indians, and its near relative from the Philippines, Belou glutinosa (No. 24591), both of which Mr. Swingle suggests should be used in breeding new types of citrus fruits; the edible passion fruit of Mexico, a much neglected fruit possibility for the Southwest; Diospyros ebenaster, the Zapote Prieto of Mexico (No. 24600), a relative of the persimmon; a new fine-flavored mango, with fruit the size of an English walnut, from Tahiti: strains of the Chilean strawberry (Nos. 24654-24656); five varieties of Chilean anonas (Nos. 24661–24665); the Legrellei pomegranate (No. 24825) from Switzerland, an unusually hardy form which matures its fruit in Paris; a collection of valuable pomegranates from Bagdad, Arabia (Nos. 25001-25007); two southern China peaches from Canton (Nos. 24915–24916); the cherry stock used by the Japanese and upon which they bench-graft all their ornamental flowering cherries and which seems not to have been tried for a stock for our fruiting cherries (No. 162

25087); and an interesting aromatic fruit from East Africa, the Kafir orange (No. 27170).

To those working with cereals and forage crops the following will be of interest: The Japanese rice (No. 24441) which, according to the Hawaii Agricultural Experiment Station, promises to supersede other Japanese types in Hawaii; the Jowar Sholapuri, a new class of Indian durra (No. 24442); a collection of soy beans (Nos. 24672– 24690) from India; the Old German Frankish lucern (No. 24767) from near the home of Wendlin Grimm, who originally introduced the remarkably hardy Grimm alfalfa into Minnesota; Chinese grains (Nos. 24845–24850) from an altitude of 11,000 feet in the Yangtze Valley; and an unusual collection of grains from the uplands of Abyssinia.

To those interested in the rubber industry, a new East African rubber tree, producing rubber of the "Landolphia kirkii" type, from Mr. Barrett (No. 24637), and the famous virgin rubber tree of Colombia, South America (No. 24640), which yields rubber of the very highest quality and is capable of cultivation, will be worthy of notice.

To those who are in search of new ornamentals and comfort plants, the Chinese pistache (No. 24659) from Shantung, a promising tree for dry regions, resembling somewhat the pepper tree (*Schinus molle*), and the sycamore fig of the north coast of Africa (No. 25094), one of the most beautiful shade trees of the region, are worthy of especial consideration; while the introduction of the "Kiat" tree of Abyssinia will interest those who do not realize that a million or so of people in Arabia and Abyssinia depend upon the narcotic in its leaves quite as much as Americans do on tobacco.

DAVID FAIRCHILD,

Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION, Washington, D. C., September 10, 1909.

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## INVENTORY.

#### 24430. Medicago sativa L.

#### Alfalfa.

From Arequipa, Peru. Purchased from Borger & Guzman, through Mr. C. V. Piper. Received January 2, 1909.

Peruvian.

#### 24431 to 24433.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received January 5, 1909.

The following seeds:

24431. LANSIUM DOMESTICUM Jack.

#### Doekoe.

"The doekoe is one of the most refreshing fruits of the Dutch East Indies, and is eaten in immense quantities both by the native Javanese and the Dutch. It is about the size of a French prune, of a straw color, and the leathery rind, which is easily peeled off, exposes a pulp of a peculiar, almost waxy, texture. The several segments into which this pulp divides contain each a large seed, which is intensely bitter to the taste, so that care is always exercised in eating the fruit not to bite into the seed. The flavor is mildly subacid and decidedly refreshing. While not to be ranked with the mangosteen, the doekoe, in my opinion, is worthy of serious consideration as a new fruit for shipping purposes." (David Fairchild.)

Distribution.—Widely cultivated in India, and probably a native of the Malay Archipelago; also reported from the Philippines.

24432. GARCINIA TINCTORIA (DC.) W. F. Wight.

Distribution.—A native of the mountains of India, extending from the Himalayas south to the Andaman Islands.

#### 24433. Atalantia bilocularis (Roxb.) Wall. (Limonia bilocularis Roxb.)

A small shrub, armed with solitary, long, sharp spines. The leaves are alternate, elliptical in outline, wavy margined, and firm and glossy. The small, pure white flowers are borne in axillary clusters. The black berries are about the size and shape of a pea and are succulent.

Distribution.—A native of the southeastern part of China and of the islands of Hainan and Formosa.

#### 24434. PANICUM MUTICUM Forsk.

From Tampico, Mexico, whence it was secured by Mr. John Kennedy, of Sarita, Tex., who presented the same to this Department. Numbered for convenience in recording distribution, January 5, 1909.

"Distinct from ordinary strain of Para grass. More vigorous and recovers more quickly after cutting, and decidedly superior." (S. M. Tracy.)

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Para grass.

#### 24437. Asparagus filicinus Hamil.

From Nocera Inferiore, Italy. Presented by Mr. Willy Müller. Received January 5, 1909.

"This species was originally collected by Buchanan-Hamilton in Nepaul, but has since been found in many localities extending from Burma to the western Himalaya, and thence northward to Mongolia. It is erect in habit and attains a height of nearly 4 feet, having horizontally spreading branches. The slender, flattened phylloclades are about one-third of an inch long and are borne in clusters of about five. The greenish white flowers are seated on slender pedicels about twice as long as the phylloclades." (Gardener's Chronicle, August 15, 1908.)

#### 24438 to 24440.

- From Kingston, Jamaica. Received through Mr. William Harris, superintendent of public gardens, Department of Agriculture, Hope Gardens, January 5, 1909.
  - 24438. ZINZIBER OFFICINALE Rosc. Ginger.

Rhizomes. Procured for Dr. R. H. True's experiments at Orange City, Fla.

24439. Persea gratissima Gaertn. f.

Seeds.

24440. Indigofera anil L.

"Seeds of a leguminous shrub reaching a height of several feet and distinguished from the common indigo (*Indigofera tinctoria*) by having short, compressed, sickle-shaped pods and by its capability of being propagated by means of cuttings. Indigenous in Tropical America, and occurring from the Carolinas to Brazil. Formerly widely cultivated in both the eastern and the western hemispheres, and together with *I. tinctoria* an important source of indigo. Now, too, found in waste places from North Carolina to Florida and Louisiana. It is no longer cultivated commercially in the United States, since the introduction of substitutes has rendered indigo production unprofitable." (*W. W. Stockberger.*)

#### 24441. Oryza sativa L.

From Honolulu, Hawaii. Presented by Mr. F. G. Krauss, in charge of rice investigations, Hawaii Experiment Station. Received January 6, 1909.

"Variety No. 164, 34 to 40 inches tall. A strong, erect grower, tillers well, and bears heavily a kernel of good quality. Mature in 120 days. One of the best Japan rices grown at the Hawaii station. We give preference to this variety, which promises to superscde other Japan types in Hawaii." (*Krauss.*)

#### 24442 to 24447.

From Sholapur, India. Presented by M. A. Peacock, esq., treasurer, the American Marathi Mission. Received December 26, 1908.

The following seeds, native names, and notes by Mr. Peacock:

24442 and 24443. Andropogon sorghum (L.) Brot. Durra.

24442. Jowar Sholapuri. Stalks often grow 10 feet tall; heads mammoth.

"White. This is a medium-sized head, rather compact, with a rather small, flattened, white seed inclosed in transversely wrinkled, mostly pale, glumes; florets awned. Apparently represents a group not hereto-fore introduced." (*Carleton R. Ball.*)

Rice.

Avocado.

#### 24442 to 24447—Continued.

#### 24442 and 24443-Continued.

**24443.** Jowar. Double variety.

"White. A very small head, probably dwarfed by thick sowing and adverse conditions; ovate, compact, two seeds in each spikelet; seeds small, white; glumes pale; florets awned. Belongs to group 8 of India sorghums represented by S. P. I. No. 14603, etc." (Carleton R. Ball.)

"The *Jowar* furnishes an excellent fodder in its stalks and the grain is highly nutritious. At certain times of the year it furnishes the chief grain for the food of India's millions in the Deccan." (*Peacock.*)

24444 to 24447. PENNISETUM AMERICANUM (L.) Schum. Pearl millet.

**24444.** Common Country Bazra.

"There seem to be several widely different strains included in this lot." (*H. N. Vinall.*)

24445. Pure African Bazra.

24446. Cross-breeding Common Country and African Bazra.

**24447.** Bearded Bazra.

"The presence of numerous bristles probably accounts for the fact that it is less troubled by attacks from birds." (*H. N. Vinall.*)

"The *Bazra* is more of a food grain and is scarcely ever fed to animals on account of its expense. Both these grains grow on the poorly cultivated semiarid plains of the Deccan." (*Peacock.*)

#### 24448 and 24449. Phaseolus coccineus L. Scarlet runner bean.

- From Italy. Presented by Mr. Haven Metcalf, pathologist in charge, Laboratory of Forest Pathology, Department of Agriculture. Received December 24, 1908.
  - **24448.** "Obtained at the Tenute Consorti Sullam in Portotolle e Taglia Di Po, in the province of Rovigo, Italy. These beans were called by the grower, Dr. Angelo Sullam, '*Faggioli Elefanti di Prussia.*' He has been growing them for some years on his plantation, which is largely devoted to rice, and where I saw these beans growing in rather sandy land, with a water table not more than 6 or 8 inches under the surface. According to Doctor Sullam, this bean grows readily on wet land, although it will not grow directly in water. It twines or runs and flowers freely and continuously. I ate the beans cooked in the form of salad and found them very palatable, with more the flavor of a white bean than our ordinary Lima or colored beans. It occurs to me that this may be valuable on wet land; it is said not to grow well at all on dry land. As I did not see any growing on dry land, I can not bear witness to this. Doctor Sullam originally obtained his seed from western Russia." (*Metcalf.*)
  - **24449.** "Obtained near Ferrara. The beans were there being grown under the name of '*Faggioli Elefanti du Istria.*" So far as I could see these were exactly the same bean as the first sample (S. P. I. No. 24448). The seed in this case was said to have been obtained from Istria." (*Metcalf.*)

#### 24450. BELOU MARMELOS (L.) W. F. Wight. Bael tree.

From Lahore, Punjab, India. Presented by Mr. W. R. Mustoe, superintendent, Archaeological Gardens. Received January 8, 1909.

"Seed of the large-fruited variety of *Acgle marmelos* (*Below marmelos*), known to Europeans as bael fruit. It has three vernacular names, i. e., bill, bel, and bael. It is

#### 24450—Continued.

a handsome tree, with dark-green, shining leaves which have a resinous odor; it is common in the greater part of India, growing up to 4,000 feet; when cultivated is a middle-sized tree of 35 feet, but when wild is a scrubby tree.

"The leaves, roots, bark, and fruit are used in native medicines and the last named in European medicines also, and from the flowers a scent water is distilled.

"Bael is cultivated for its fruits and as a sacred tree, being thought a lot of for worship of the god Shiva, and is one of the few woods prescribed by the Hindoo scriptures for sacrificial fires. The wood is close grained, tough, and strong, but often splits in seasoning.

"The leaves, bark, and roots are used as a febrifuge and the first mentioned is also lopped for cattle fodder.

"The unripe fruit, either boiled or roasted, is used as a specific for diarrhea and dysentery. When ripe it is very much like an orange in shape, color, and size, but has a hard shell, which is sometimes made into snuffboxes; the pulp of the fruit is a laxative and when mixed with milk or soda water, or both, makes a healthy, cooling, and agreeable sherbet. To make this they take the pulp of the fruit out of the shell and put it into a little water, then pass it through a strainer, and put it into a glass of milk or soda water and sugar to taste. The pulp is also used to strengthen mortar for building purposes and the mucus with which the cells are filled is used as a glue; also used with water paints to add to their strength and brilliancy. This fruit is greatly valued for eating by the natives, but can scarcely be looked upon as palatable to the white man except as a sherbet and for its medicinal properties. The tree comes true to seed and is not grafted. It might be tried in several districts, as it grows equally as well up here as in Calcutta, where the air is moist and hot all the year round, and here it is very dry and hot in the summer, with a temperature of 112° to 120° F. in the shade, and in the winter with sometimes 12 degrees of frost at night; but the bael always looks healthy and green, no matter what the weather is. It is leafless for about one month only, January or February, and its one year's fruit is ripe at about the same time that it is flowering for the next year's fruit.

"This is really a valuable tree both from a decorative and economic point of view, and I do not consider it gets the attention in India that it should." (*Mustoc.*) For further description and previous importation, see No. 22957.

Introduced at Mr. Walter T. Swingle's suggestion for use in breeding new types of citrus fruits.

#### 24451 to 24575.

From northern and central Asia. Received through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., while traveling as an

agricultural explorer for the Department of Agriculture, December 3, 1908. The following seeds:

24451. MEDICAGO RUTHENICA (L.) Trauty.

"(No. 59.) From same source as No. 58 (S. P. I. No. 24456). This is a favorite wild forage for the stock kept by the Mongolian nomads of this region, should be tested in the driest, coldest parts of the Northwest, especially where the most extreme cold comes at times without snow on the ground. For a common name Gobi Desert, Mongolian, or East Siberian alfalfa will do." (*Hansen.*)

Distribution — A native of stony and sandy regions of Siberia, extending east to the region of Lake Baikal, and into China.

#### 24452 to 24456. MEDICAGO FALCATA L.

- 24452. "(No. 66.) The main lot of western Siberian alfalfa gathered growing wild on the open steppe, with the help of 200 peasants, a few miles from Obb, Tomsk Province, where the Obi River crosses the Siberian railway. One of the most characteristic and dominant plants of the open steppes in Tomsk Province, western Siberia. The falcate or sickle-shaped pods of this alfalfa give it the specific name falcata. A long-lived perennial, with strong, deep-growing taproots, holding its own with other native plants in dense sod and enduring pasturing. Highly regarded by the peasants as a pasture plant and for hav. Cattle, horses, and sheep are all fond of the plant. Worthy of thorough trial in all regions where the common alfalfa suffers from winterkilling. Where common alfalfa, which is native of a much milder climate than that of our Prairie Northwest, is perfectly hardy, I would suggest 'Let well enough alone.' However, it will be well to remember that this plant, while primarily intended for the severest regions, endures more pasturing than common alfalfa, and may be found valuable to introduce into native pastures as a wild plant farther south. Plant breeders should be quick to isolate the elementary species in Medicago falcata and to remember that the many different lots of Medicago falcata gathered in my second and third trips to Siberia should be carefully kept separate. The most southern lots should go more into the Central West, the northern lots into the most northern sections. The species varies in its native haunts and should be regarded as consisting of many elementary species, differing widely in important characteristics. The yellow flowers are attractive and much visited by bees." (Hansen.)
- 24453. "(No. 90.) As found wild on open steppe at Omsk, Akmolinsk Province, western Siberia. See No. 66 (S. P. I. No. 24452)." (Hansen.)
- 24454. "(No. 86.) See No. 66 (S. P. I. No. 24452). This lot is from north of Irkutsk, near western shore of Lake Baikal, eastern Siberia, and extending to a hundred miles north, among the Buriats, a Mongolian tribe. This region is moister in climate than farther east on the open steppe, so may be found better adapted for regions like northern Maine, Minnesota, and Wisconsin." (Hansen.)
- **24455.** "(No. 28.) One of the three yellow-flowered Siberian alfalfas. This seed was gathered on the east bank of the Irtysh River about ten miles north of Semipalatinsk, in the province of the same name, western Siberia. Plants with stems 5 feet 8 inches long were found. Of erect habit. Both as growing in the wild pasture and as hay the plant is well liked by stock. The plant is also much visited by bees." (*Hansen.*)
- **24456.** "(No. 58.) Although but a small quantity of seed, this number should receive special attention, as it is from the farthest point east where I found this Siberian alfalfa. Seed gathered in almost pure sand at station Charonte, in an arm of the Desert Gobi, a few miles from Chinese territory on the Siberian railway. This is in the Mongolian part of Manchuria, Manchuria proper not beginning till after crossing the Chinese mountains. This region is marked by great extremes of heat and cold, and especially by the fact that often cold sufficient to freeze mercury is experienced with no snow on the ground." (*Hansen.*)

Distribution.—A native of Europe and Asia, extending from Sweden to China.

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24457. MEDICAGO PLATYCARPA (L.) Trautv.

"(No. 73.) A strong-growing perennial yellow-flowered alfalfa found wild in timber clearings and along edges of the forests in central Siberia. The name *platycarpa* refers to the large flat pod. This alfalfa should be thoroughly tested in regions like northern Wisconsin and Minnesota. Will endure extreme cold, but probably not severe wind sweep as well as *Medicago falcata* and *Medicago ruthenica*. This lot was gathered near Chylim, between Obb and Omsk, in Tomsk Province, western Siberia. All the three Siberian alfalfas are yellow flowered." (*Hansen.*)

Distribution.—Found throughout Siberia, extending east as far as Lake Baikal. 24458 to 24460. TRIFOLIUM LUPINASTER L.

- **24458.** "(No. 94.) As found native at Chita, Transbaikal region, on Siberian railway. See No. 68 (S. P. I. No. 24817)." (*Hansen.*)
- **24459.** "(No. 92.) As found native at Chita, Transbaikal region, on Siberian railway. See No. 68 (S. P. I. No. 24817)." (Hansen.)
- **24460.** "(No. 78.) This lot was gathered on the open steppe just north of the Altai Mountain range between Biisk and Beloglasowo, southern Tomsk Province, western Siberia. Worthy of introduction into the western ranges as a wild plant, and for trial as a cultivated clover wherever trouble is experienced from the winterkilling of the common red clover. See No. 68 (S. P. I. No. 24817)." (*Hansen.*)

Distribution.—A native of Asia, extending from central Russia through Siberia, Mongolia, and Manchuria; also in Japan.

24461. TRIFOLIUM MEDIUM Huds.

"(No. 69.) Mammoth red clover as found wild near Obb, Tomsk Province, at the intersection of the Siberian railway and the Obi River. All the Siberian clovers should receive careful attention, as they may be found especially adapted to our Prairie Northwest where trouble is experienced from the winterkilling of the common red clover." (*Hansen*.)

Distribution.—A native of open woods and fields in northern and central Europe and across Asia to the region of Lake Baikal.

24462. VICIA CRACCA L.

"(No. 67.) A vetch gathered growing wild on the open steppe near Obb, Tomsk Province, western Siberia, where the Obi River crosses the Siberian railway. Common on the open steppes. Not cultivated here as yet, as the country is too thinly settled." (*Hansen.*)

24463. VICIA CRACCA L.

"(No. 88.) As found wild on open steppe at Omsk, Akmolinsk Province, western Siberia." (Hansen.)

24464. VICIA AMOENA Fisch. (?)

"(No. 64.) A wild vetch gathered at village Verk-Tchitinskaya, 20 versts north of Chita, Transbaikal region, Siberian railway." (Hansen.)

Distribution.—A native of central Siberia, extending from the Ural Mountains to the region of Lake Baikal.

24465. VICIA TENUIFOLIA Roth.

"(No. 13.) A native vetch on open steppe at Beloglasowo, between Bijsk and Smeinogorsk, southern Tomsk Province, western Siberia." (Hansen.)

Distribution.—A native of Europe and Asia, extending from central Russia to Lake Baikal.

- 24466 to 24468. Agropyron imbricatum (Bieb.) R. & S.
  - **24466.** "(No. 63.) A grass of very wide distribution in northern Asia and European Russia. Highly recommended as one of the best grasses in the Volga River region of eastern European Russia, where it was brought into culture by the experiment station at Waluiki near Rowno, south of Saratow. In my Russian trip in 1897 I saw the beginnings of this work by Mr. Bogdan, at that time director of the station. The present sample was gathered wild by myself and helper in the sand semidesert region at the station Manchuria, the first station in Chinese territory going east on the Siberian railway." (*Hansen.*)
  - **24467.** "(No. 87.) See No. 63 (S. P. I. No. 24466). This lot was collected at Charonte, a few miles into Chinese territory, in the Mongolian part of northwestern Manchuria, where an arm of the Gobi Desert is crossed by the Siberian railway." (*Hansen.*)
  - **24468.** "(No. 91.) As found native at Chita, Transbaikal region, on Siberian railway. See No. 63 (S. P. I. No. 24466). A valuable grass on dry steppes." (*Hansen.*)

 $Distribution.--\Lambda$  native of Europe and Asia, being found from Russia to Spain and east to Siberia and Afghanistan.

24469 and 24470. Elymus sibiricus L.

- **24469.** "(No. 12.) A common grass of dry steppes at Beloglasowo, between Bisk and Smeinogorsk, southern Tomsk Province, western Siberia. For further study as to value by agrostologists only; not for distribution." (*Hansen.*)
- **24470.** "(No. 82.) A native dry steppe grass gathered between Beloglasowo and Smeinogorsk, north of Altai Mountain range, Tomsk Province, western Siberia. Sample for agrostologists only." (*Hansen.*)

Distribution.—A native of Siberia, extending from the Ural Mountains to the region of Lake Baikal.

#### 24471 and 24472. LATHYRUS PRATENSIS L.

- **24471.** "(No. 14.) A wild pea common on the open steppes north of Altai Mountain range in the southern part of Tomsk Province. Seed gathered near Beloglasowo, between Biisk and Smeinogorsk. Its value as a field pea for regions like western Nebraska and Dakota should be tested." (*Hansen.*)
- **24472.** "(No. 89.) A wild field pea from open steppe at Omsk, Akmolinsk Province, western Siberia." (*Hansen.*)

Distribution.—A native of Europe, Asia, and northern Africa, extending to the Pacific and from the Mediterranean to the Arctic Circle.

#### 24473. Elymus arenarius L.

"(No. 26.) A coarse reed-like grass common in dry sand deserts, about 30 miles south of Semipalatinsk, in the province of the same name, western Siberia. A tall plant of striking appearance, not eaten by stock, but may be useful as a sand binder in sections with great extremes of cold and heat." (*Hansen.*)

Distribution.—Found on sandy shores throughout the Northern Hemisphere. 24474.

(No. 60.) A mixture of *Elymus* sp. and *Koeleria cristata* (L.) Pers., the latter predominating.

24475. Agropyron caninum (L.) Beauv. (?)

"(No. 61.) A native grass common in timber and timber clearings near Chita, Transbaikal region, eastern Siberia. Forage value undetermined. Sometimes called 'ostretz,' but this is applied properly to A. pungens." (Hansen.)

#### 24476. VICIA UNIJUGA A. Braun.

"(No. 65.) A native legume common in woods near Chita, Transbaikal region, Siberian railway. Food value undetermined, but *Orobus luteus* L., its relative, is eaten by stock and the young shoots used for food by the Chinese." (*Hansen.*)

Distribution.—A native of Asia, occurring throughout Siberia, and in Manchuria and China; also found in Japan.

#### 24477. Avena sativa L.

"(No. 79.) Oats from the dry Belagatch steppe near Semipalatinsk, in province of same name, western Siberia. A region of great extremes of heat, cold, and drought." (*Hansen.*)

#### **24478.** ANDROPOGON SORGHUM (L.) Brot.

#### Kowliang.

"(No. 85.) Variety 'Gaolan' from the Harbin district, bought in Chinese bazaar at Station Manchuria, the first station in Chinese territory going east on the Siberian railway. The favorite variety in northern Manchuria." (Hansen.)

"Brown kowliang from Manchuria. One of the common forms of the region." (Carleton R. Ball.)

#### 24479. GLYCYRRHIZA URALENSIS Fisch.

"(No. 27.) Seed of wild licorice gathered on the banks of a tributary of the Irtysh River, about 30 miles south of Semipalatinsk, in province of same name, western Siberia. Its value for cultivation not determined, but the region where this seed was gathered is subject to great extremes of cold and heat." (Hansen.)

24480. LAVATERA THURINGIACA L.

"(No. 83.) A tall mallow-like dry-steppe flower collected between Biisk and Semipalatinsk, north of Altai Mountain range, Tomsk Province, western Siberia. Plant 4 to 6 feet in height, well branched; flowers mostly bright pink." (Hansen.)

Distribution.—A native of Europe and Asia, extending from central and southern Russia to the eastern part of Siberia.

#### 24481. TRITICUM DURUM Desf.

## "(No. 81.) This lot is from the dry Belagatch steppe near Semipalatinsk, in province of same name, western Siberia." (Hansen.)

#### 24482. TRIFOLIUM LUPINASTER L.

"(No. 84.) See Nos. 68 and 78 (S. P. I. Nos. 24817 and 24460). This 5-leaved clover, which ranges northward to the Arctic Circle in Siberia, is worthy of trial at the far north. The present lot is from Chailar, in northwestern Manchuria, on the Siberian railway." (*Hansen.*) See No. 24458 for distribution of this species.

#### 24483. TRITICUM DURUM Desf.

''(No. 117.) 'Ak-bugdai.' 'Ak' means white, 'bugdai' wheat. A wheat from Tashkend, northern Turkestan. Very productive at Tashkend.'' (Hansen.)
 162

#### Wheat.

Wheat.

### Oat.

24484. TRITICUM AESTIVUM L.

"(No. 118.) '*Turbat,*' meaning land or country wheat, from 20 miles north of Tashkend, Turkestan. Turbat is the name of a place." (*Hansen.*)

#### 24485. TRITICUM DURUM Desf.

"(No. 129.) 'Kara-bugdai,' meaning black wheat, from Tashkend, Turkestan. May be sown either as a winter wheat, from September to December, at Tashkend; or as a spring wheat, in February or March, but not later. This is on northern border of cotton belt. Usually sown as a spring wheat." (Hansen.)

24486. TRITICUM AESTIVUM L.

"(No. 131.) Native wheat from Old Chardchui, Turkestan, a very dry region." (Hansen.)

#### 24487. TRITICUM DURUM Desf.

"(No. 134.) 'Sary-magis,' a native wheat from Tashkend, Turkestan. 'Sary' means yellow. All the Turkestan wheats deserve special attention as a drought-resistant race." (Hansen.)

24488. TRITICUM DURUM Desf.

"(No. 135.) 'Caucasian' wheat from Tashkend, Turkestan." (Hansen.)

#### **24489.** TRITICUM sp.

"(No. 137.) 'Kizyl-bugdai,' meaning red wheat, from Tashkend, Turkestan." (Hansen.)

24490. TRITICUM DURUM Desf.

"(No. 138.) 'Ak-bugdai,' meaning white wheat, from Tashkend, Turkestan." (Hansen.)

#### 24491. TRITICUM DURUM Desf.

''(No. 139.) 'Sary-bugdai,' meaning yellow wheat, from Tashkend, Turkestan.'' (Hansen.)

24492. TRITICUM DURUM Desf.

"(No. 140.) 'Kara Kiltschik' wheat from Tashkend, Turkestan. 'Kara' means black.'" (Hansen.)

24493. TRITICUM DURUM Desf.

"(No. 234.) Seed of native Turcoman '*Red Mountain*' wheat, raised on dry land without irrigation at Askabad, Turkestan, and found especially valuable at the Askabad Experiment Station." (*Hansen.*)

#### 24494 to 24496. CUCUMIS MELO L. Muskmelon.

- **24494.** "(No. 119.) Winter muskmelon. 'Ak-bek-shek,' meaning white melon. From Chardchui, Turkestan." (Hansen.)
- 24495. "(No. 120.) 'Gulakcha,' a first early muskmelon from Chardchui, Turkestan." (Hansen.)
- 24496. "(No. 122.) Winter muskmelon. 'Kerkinsche,' from Chardchui, Turkestan. Diameter 29 and 15 cm." (Hansen.)

24497. HORDEUM VULGARE L.

"(No. 123.) Native winter barley from Bairamalee, near Merv, eastern Turkestan. Drought resistant." (*Hansen.*)

#### Wheat.

## Wheat.

## Wheat.

Wheat.

Wheat.

Wheat.

Wheat.

### Wheat.

Wheat.

Wheat.

### Barley.

#### 24498 to 24540. CUCUMIS MELO L.

- 24498. "(No. 124.) Wintermuskmelon. 'Katschalinsky,' from Chardchui, Turkestan.'' (Hansen.)
- **24499.** "(No. 126.) Winter muskmelon. 'Khansky,' from Chardchui, Turkestan. Diameter 38 and 22 cm." (Hansen.)
- **24500.** "(No. 127.) Winter muskmelon, from Chardehui, Turkestan. Diameter 32 and 20 cm." (*Hansen.*)
- **24501.** "(No. 128.) Winter muskmelon, from Chardchui, Turkestan. Diameter 23 and 22 cm." (*Hansen.*)
- 24502 to 24537. "(Nos. 150 to 185.) Native muskmelons of Turkestan, mostly winter varieties. No. 167 (S. P. I. No. 24519) is the largest lot of seed, from melons I bought in December, 1908, in the bazaar at Chardchui, Turkestan. In my opinion it is worthy of a most earnest effort on the part of a melon specialist to get these winter muskmelons of Turkestan introduced into the driest and hottest regions of our Southwest and the driest parts of our cotton belt. Some of the melons weigh from 30 to 40 pounds, with thick white flesh, and are extremely sweet. In Turkestan the late varieties are hung in reed-grass nets or slings from the ceilings in the native houses of sun-baked clay, ready for use all winter as needed. They are one of the main staples of the native diet. The melons are also pickled somewhat like watermelon rinds in America, but much superior in quality. Much of the muskmelon seed I brought from my first trip to Turkestan in 1907, and some in the spring of 1908, was lost from being tested too far north, in response to the great demand for the seed. Some melons of this first importation have done well in the Southwest and have since appeared under other names, by which the credit of introduction is lost. With this fresh lot of seed it is hoped that the Turkestan muskmelons, the largest and best in the world, will receive a thorough trial in the hottest, driest regions of the Southwest. None of them should go north of the cotton belt, unless it be some of the smallest and earliest varieties. A long period of hot, dry weather is needed to bring out the quality. Some of the varieties endure long-distance transportation, so that in these melons appears an inviting field for southern enterprise. Some of the varieties may prove too sweet for our tastes. The breeder of melons may find them useful in hybridizing. Southern California, New Mexico, Arizona, and southern Texas should receive the seed at first; later the range may extend farther northeast as the seed becomes more abundant. I can not insist too strongly on the necessity of giving these melons a long, hot, dry season for their best development." (Hansen.)
- 24538. "(No. 233.) Seed saved from three large, white muskmelons bought at Kagan or New Bokhara, Turkestan. Fruit oval, 12 to 15 inches in long diameter, clear, bright yellow; flesh white, very sweet. See Nos. 150 to 185 (S. P. I. Nos. 24502 to 24537)." (Hansen.)
- 24539. "(No. 236.) An oval, brownish yellow winter muskmelon with sweet, green flesh, 8 to 10 inches in length. Grown near Merv, Turkestan. In good condition December 17, 1908." (Hansen.)
- 24540. "(No. 244.) Seed of winter muskmelon saved from melons bought at Chardchui, Turkestan, December, 1908." (*Hansen.*)

#### Muskmelon.

#### 24541. Gossypium Hirsutum L.

"(No. 121.) Sample of Upland cotton originally from the United States, but cultivated at least fifteen years on northern limits of cotton belt in Turkestan, about 100 versts north of Tashkend." (Hansen.)

#### 24542. Gossypium herbaceum L.

"(No. 143.) Sample of the local native Bokhara cotton of Tashkend, Turkestan, on the northern limits of cotton culture. I took occasion to study the cotton industry while in Turkestan and found the opinion held by many that the introduction of American cotton seed in Turkestan was not an unmixed blessing. While American cotton is greatly superior to the native Bokhara type for the manufacturer, the American varieties were somewhat inferior in resistance to untimely frosts and were later in season. If this proves true, as a rule, it opens up an interesting field for cotton breeders in hybridizing the American and Turkestan cottons, if that is possible. For Turkestan it would help maintain culture where it is at present in a precarious condition, because of recent great failures from frosts on the northern limits of cotton culture; in America it might aid in the boll-weevil work and in forcing cotton culture a few miles farther north than at present." (Hansen.)

24543. Gossypium indicum Lam.

"(No. 144.) ' Malla huza' from Tashkend, Turkestan. 'Malla' means yellow; 'huza,' cotton. This is the native cotton used for 'Nah-mazh' or Mohammedan prayer rugs and other holy purposes; not generally sold, but is used mainly for presents. Every native Sart cotton grower raises a little for his own use. This native Turkestan may vary in some particular from the other nankeen or yellow cottons grown elsewhere." (Hansen.)

**24544.** Gossypium Hirsutum L.

"(No. 147.) Native 'Kara chigis' cotton from Tashkend, Turkestan. 'Kara' means black; 'chiqis,' seed. 'Somewhat like Peterkin, but at least two weeks earlier,' is the experience with it at the experiment station, Turkestan." (Hansen.)

24545. Gossypium Hirsutum L.

"(No. 149.) 'Tashkend Upland' cotton, originally from the United States, but grown for many years at Tashkend, Turkestan. The name has changed. Said to be an early cotton." (Hansen.)

24546. Gossypium herbaceum L.

"(No. 187.) Native Bokhara cotton as raised at Tashkend, Turkestan. See No. 143 (S. P. I. No. 24542)." (Hansen.)

24547. Gossypium herbaceum L.

"(No. 189.) Another sample of 'Malla huza,' the native yellow or holy cotton of central Asia, as grown at Tashkend, Turkestan. See No. 144 (S. P. I. No. 24543)." (Hansen.)

#### 24548 to 24550. TRIFOLIUM SUAVEOLENS Willd.

24548. "(No. 125.) The main lot of Persian clover from Meshed, northeastern Persia, and grown one year at Tashkend, Turkestan. Shabdar is the Persian name; as grown in India it is called shaftal. An annual plant of extremely vigorous growth. In Persia and Afghanistan it is cut two or three times during the season. Flowers small, bright pink, very fragrant, much visited by bees. Adapted for the dry part of the cotton belt and for the driest regions of our Southwest. This cultivated form is decidedly stronger in growth than that occurring wild farther west into Europe and northern Africa." (Hansen.)

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#### Cotton.

Cotton.

#### Cotton.

#### Shaftal.

Cotton.

Cotton.

### Cotton.

24548 to 24550-Continued.

- 24549. "(No. 194.) From the original lot of Persian seed received at Tashkend, Turkestan, from Meshed, northeastern Persia. See No. 195 (S. P. I. No. 24550)." (Hansen.)
- **24550.** "(No. 195.) Shabdar from Meshed, northeastern Persia, raised one year at experimental station, Golodnaya or Hunger steppe, Turkestan, between Tashkend and Samarkand." (*Hansen.*)

"Previous importations of shaftal by the Bureau of Plant Industry (S. P. I. Nos. 19506 and 19507, received December 10, 1906) are yielding promising hay crops in the Southwest. The present numbers are of interest, as they extend considerably the range from which seed has been secured. Meshed lies at an altitude of about 3,000 feet, while the upper Kuram valley, the center of seed production for northwestern India, where this is the only clover grown, has an altitude of nearly 5,000 feet." (*Charles J. Brand.*)

Distribution.—An annual clover, found in Persia, in the region of the Caspian Sea, and east to India.

24551. Oryza sativa L.

"(No. 130.) A very early swamp, white rice, a Kirghiz Tartar variety, from Tashkend, Turkestan. Worthy of attention by rice breeders and may prove useful owing to its earliness." (*Hansen.*)

24552. Oryza sativa L.

"(No. 148.) Dry-land rice from Tashkend, Turkestan." (Hansen.)

24553. ANDROPOGON SORGHUM (L.) Brot.

"(No. 152.) 'Ak-zhu-gah-rah,' a native variety from Old Chardchui, Turkestan. This is extensively cultivated as a cereal in the driest regions of Turkestan, being better adapted to droughty conditions than maize." (Hansen.)

""Dzhugara,' the common white durra of Turkestan. Extensively grown for human food." (Carleton R. Ball.)

**24554.** ANDROPOGON SORGHUM (L.) Brot.

"(No. 192.) A red-seeded variety grown by the Turcomen at Bairamalee, near Merv, Turkestan." (Hansen.)

"Brown durra. Never before introduced from Turkestan. A few seeds were found mixed in S. P. I. No. 18389, white durra, from Bassorah, Arabia. Similar forms are found along the northern edge of the Sahara. Very similar to our domestic brown durra." (*Carleton R. Ball.*)

**24555.** HALOXYLON AMMODENDRON (C. A. Meyer) Bunge.

"(No. 133.) One of the best native trees or arborescent shrubs of the sand deserts of Turkestan. Now much used as a sand binder for the dunes which cause trouble along the Transcaspian railway. The green wood burns freely, is very heavy, and is gathered in immense quantities for fuel. This tree might prove a valuable addition to the native flora in the driest sand deserts of our Southwest. The native name is *Saxaul.*" (*Hansen.*)

Distribution.—A native of central Asia, extending from the Ural to the Altai mountains and south into Persia.

**24556.** SALSOLA ARBUSCULA Pall.

"(No. 145.) A native arborescent shrub, native of the sand deserts of the Transcaspian region east of the Caspian Sea in Turkestan. This lot is from Chardchui, where the Russian Government has made extensive experiments in planting sand binders to hold the drifting dunes along the line of the Transcaspian railway. This species is one of the favorite plants for that purpose." (*Hansen.*)

Distribution.—A native of central Asia, from the Ural to the Altai mountains.

Rice.

Rice.

Durra.

Durra.

24557. CALLIGONUM sp.

"(No. 240.) An arborescent shrub, native of the sand deserts of Turkestan, now used as a sand binder along the Transcaspian railway. See Nos. 133, 145, 241, and 242 (S. P. I. Nos. 24555, 24556, 24558, and 24559). Seed from Chardchui." (Hansen.)

24558. CALLIGONUM APHYLLUM (Pall.) Guerke.

"(No. 241.) Another species used as a sand binder along the Transcaspian railway. Seed from near Chardchui. See Nos. 133, 240, and 242 (S. P. I. Nos. 24555, 24557, and 24559)." (Hansen.)

Distribution.--A native of southern Russia, in the vicinity of the Caucasus Mountains and the Caspian Sea.

24559. CALLIGONUM CAPUT-MEDUSAE Schrenk.

"(No. 242.) Used as a sand binder along the Transcaspian railway. Seed from near Chardchui. Nos. 240, 241, and 242 (S. P. I. Nos. 24557, 24558, and 24559) are all native of the sand deserts of Turkestan. See Nos. 133, 240, and 241 (S. P. I. Nos. 24555, 24557, and 24558)." (Hansen.)

Distribution.—A native of the deserts in the region of the Altai Mountains in southern Russia.

#### 24560. PANICUM MILIACEUM L.

"(No. 136.) 'Orenburg red millet,' grown at Tashkend, Turkestan. May prove to be the same as the *Red Lump Orenburg* millet I introduced from my 1897 trip to Russia. Everything from Orenburg ought to be specially adapted to dry-farming conditions." (Hansen.)

**24561.** PANICUM MILIACEUM L.

"(No. 188.) 'Chinese black millet' from Tashkend, Turkestan. Appears similar to the lot I obtained in Turkestan in 1897. Afterwards Mr. M. A. Carleton secured the Black Veronesh millet. 'Veronesh' appears a better spelling than 'Veronezh.' These large black-seeded millets produce heavily in South Dakota, even when sown late on new breaking, and are useful in stock feeding. The Kirghiz Tartars of northern Turkestan use these and other large-seeded native millets extensively as an important part of their daily diet. For their value in feeding steers, see South Dakota Agricultural Experiment Station Bulletin No. 97, by James W. Wilson and H. G. Skinner." (Hansen.) Chick-pea.

**24562.** Cicer Arietinum L.

"(No. 141.) Chick-pea or 'Persian pea,' from the experiment station at Bairamalee, Turkestan. This is near Merv, a few miles from the Persian border, in ancient Turcomania." (Hansen.)

24563. TRITICUM DURUM Desf.

24564. Cicer Arietinum L.

"(No. 232.) Native chick-pea as grown at Samarkand, Turkestan." (Hansen.)

24565. Cicer Arietinum L.

"(No. 243.) Another lot of 'Persian peas' or Garok, the native name, as grown by the Turcomen in the dry region at Bairmalee, near Merv, Turkestan." (Hansen.)

24566. VIGNA UNGUICULATA (L.) Walp.

"(No. 190.)" Brown-Eye.

24567. Medicago sativa L.

"(No. 142.) Turcestanica alfalfa as bought in the native bazaar at Bairamalee, near Merv, Turkestan. See No. 259 (S. P. I. No. 24811)." (Hansen.)

#### Millet.

Millet.

### Wheat. Chick-pea.

Chick-pea.

### Cowpea. Alfalfa.

24568 and 24569. ELAEAGNUS ANGUSTIFOLIA L. Oleaster.

- 24568. "(No. 146.) A cultivated form with edible fruits fully an inch in length, extensively grown in Turkestan. This sample is from Chardchui." (Hansen.)
  - 24569. "(No. 238.) Seed of an edible-fruited form, fruit fully an inch long, as grown in Transcaucasia. This lot from bazaar at Tiffis, Transcaucasia." (Hansen.)

Distribution.—A native of southern Europe and western Asia, in the region of the Caspian Sea. Cultivated as an ornamental in the United States.

24570. Phaseolus radiatus L.

"(No. 186.) As grown by the Mohammedans on the northern limits of cotton culture near Tashkend, Turkestan. Used as a catch crop when too late for cotton. The peas are called *Masch* by the natives, and are used for food by them. A promising legume as a cover crop for the cotton belt, and in the dry parts of the Southwest." (Hansen.)

**24571.** Allium sp.

"(No. 191.) An ornamental native onion found in the mountains near Tashkend, Turkestan." (Hansen.)

24572. PUNICA GRANATUM L.

"(No. 235.) Seed of a native variety grown by the native Sarts at Old Bokhara, Turkestan." (Hansen.)

24573. ZIZYPHUS SATIVA Gaertn.

"(No. 237.) A sweet fruit from Kutais Province, Transcaucasia, bought in fruit bazaar at Baku." (Hansen.)

24574. PISTACIA VERA L.

"(No. 239.) Pistache nuts grown in southern Transcaucasia (Armenia) near Persian frontier. This lot is from bazaar at Tiflis, Transcaucasia." (Hansen.)

Distribution.—A native of Asia; beginning to be cultivated in California.

"(No. 245.) Seeds raised in the Golodnaya or Hunger steppe, Turkestan. The sesame oil is much liked for table use by the native Mohammedan Sarts. The first oil pressed out is used for the table and in cooking; the rest, with the seeds, is used for the manufacture of Khalvah, a favorite Russian and oriental candy. The merits of this sesame oil-cake confection should be investigated by manufacturers in the driest and hottest regions of the United States, as Khalvah is certainly a delicious candy, with its fine silk-thread consistency and rich nut flavor. Sesame oil alone will not probably win much favor here,

24575. Sesamum orientale L.

#### with the abundant and cheap cotton-seed oil. Sesame is an annual and extensively grown in oriental countries." (Hansen.) 24576. PUNICA GRANATUM L.

From Chios, Turkey in Asia. Presented by Mr. N. J. Pantelides. Received January 12, 1909.

Cuttings.

"These pomegranates are not seedless, but the seed is so soft that it can be ground between the teeth without the least difficulty, especially if the fruit is left to ripen long enough on the tree, which needs to be copiously watered." (Extract from letter of Mr. Pantelides, dated December 24, 1903.)

Green gram.

Pomegranate.

Chinese date.

#### Sesame.

#### Pomegranate.

Pistache.

### 24585 and 24586. VICIA spp.

From Erfurt, Germany. Purchased from Haage & Schmidt, at the request of Mr. C. V. Piper. Received January 13, 1909.

Seeds of the following:

24585. VICIA BIENNIS L. (?)

Woolly-pod vetch.

"This vetch is in most respects very similar to hairy vetch, being nearly, if not quite, as hardy and maturing much earlier." (*Piper.*)

**24586.** VICIA DISPERMA DC. (?)

Two-seeded vetch.

"A slender-stemmed erect-growing vetch which has done remarkably well in most of the vetch-growing regions. The stems are very fine and the yield of hay therefore comparatively light, but there is reason to believe that it will maintain itself from year to year in pastures without reseeding." (*Piper.*)

#### 24587. Atalantia hindshi (Champ.) Oliver.

From Hongkong, China. Presented by Mr. S. T. Dunn, superintendent, Botanical and Forestry Department. Received January 14, 1909.

Seeds of a shrub with compressed branchlets, ovate-elliptical leathery leaves,  $1\frac{1}{2}$  to 3 inches long, bearing small flowers in axillary clusters, followed by small orange-colored fruits. For citrus breeding experiments.

Distribution.-Found on the wooded hills in the vicinity of Hongkong, China.

#### 24588. Passiflora sp.

From C. Juarez, Chihuahua, Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture, through Mr. Frederic Chisolm. Received January 15, 1909.

Seeds.

"Fruits about the size of a goose egg and orange-yellow when ripe." (Stearns.)

#### 24589. ELAEIS MELANOCOCCA Gaertn.

From Cartagena, Colombia, South America. Presented by Mr. Isaac A. Manning, United States consul. Received January 15, 1909.

Seeds of a palm whose stem creeps along the ground and bears a tuft of large pinnate leaves with strong prickly stalks. The flowers are borne in a large head, consisting of numerous little branches bearing minute flowers. The fruits are bright red; the seeds are black.

Distribution.—A native of the primeval woods along the upper branches of the Amazon in the provinces of Para and Rio Negro, Brazil.

### 24590. Cytisus proliferus Linn. f.

#### Tagasaste.

From Teneriffe, Canary Islands. Received from Mr. C. H. Hamilton, through Mr. J. B. Blandy, Funchal, Madeira, January 16, 1909.

"Fodder shrub for light, dry soil; finally grows to 20 feet high, deep rooted, rather intolerant to frost and drought." (Dyer.)

"Mr. Hardy, of Adelaide, recommends it as quickly growing for a wind-break. Requires to be periodically cut back, as it otherwise gets too hard for fodder. Very valuable also for apiarists, as flowering during several months, and here during the cool season. In some places it was found that horses and cattle dislike this plant as nutriment. It grows quickly again when cut." (Von Mueller.) For previous introductions, see S. P. I. Nos. 2153, 4021, and 7696.

### 24591. BELOU GLUTINOSA (Blanco) Skeels. (LIMONIA GLUTINOSA Blanco.) (Aegle decandra Naves.)

From Montalban, Luzon, Philippine Islands. Presented by Mr. William S. Lyon, who collected the seed in December, 1908. Received January 18, 1909.

Seeds.

"A tree, trunk armed with large spines; leaves alternate, ternate; flowers axillary or terminal, whitish. Fruit oblong, 3 inches long, 2 inches thick, surface covered with protuberances and grooved; pulp glutinous, aromatic; juice sour. The wood is used for pillars in houses and the fruit is made into glue. Native names, *Tabog* and *Taboc*." (Blanco, Flora de Filipinas, 1837.)

"May be used as a possible stock for dry farming of citrus." (Lyon.)

#### 24592. BLIGHIA SAPIDA Konig.

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz. Received January 18, 1909.

"The 'Akee,' a beautiful African tree introduced into the West Indies. Valued in Jamaica as a richly flavored and wholesome food. The bright-yellow, fleshy arillus is the part eaten. Should not be eaten if in the *least* decayed. The fruit is prepared in various ways, stewed in milk and afterwards browned in a frying pan with butter. It is also commonly eaten boiled and mixed with salt fish, onions, and tomatoes as a breakfast food." (*Extract from Cook and Collins*, "Economic Plants of Porto Rico.")

#### 24593 to 24595.

From Miami, Fla. Received through Mr. P. J. Wester, in charge of Subtropical Garden, January 16, 1909.

The following seeds:

24593. THRINAX FLORIDANA Sarg.

"This is indigenous to southern Florida and the keys, with slender trunk, attaining a height of 25 or more feet, with crown of small diameter; the leaves are green above and silvery white beneath; the berries are produced in great abundance and are waxy white. This palm might make a very satisfactory subject for the conservatory, where, as far as I am aware, it has never been tried, and is worth introducing into southern California and Hawaii. I have no doubt it is indigenous to Porto Rico." (Wester.)

24594. COCCOTHRINAX GARBERI (Chapm.) Sarg.

"This is a dwarf palm with rather slender stem; leaves yellowish green, lustrous above, silvery beneath; the berries are deep purple. This also might make a very attractive greenhouse subject, and is certainly worth introducing into southern California and Hawaii." (*Wester.*)

Distribution.—Found on dry coral ridges near the shore of Biscayne Bay, Florida.

24595. JACQUEMONTIA PENTANTHA (Jacq.) G. Don.

An attractive greenhouse climber for summer and autumn flowering, with rich violet-blue flowers. (*Adapted from Bailey*.)

Distribution.—Florida keys and Tropical America.

#### 24596. MEDICAGO DENTICULATA Willd.

From Chico, Cal. Grown at the Plant Introduction Garden by Mr. Roland McKee from seed collected near Tanghsiang, Shansi, China, by Mr. Frank N. Meyer, agricultural explorer, April 30, 1907; received at the Plant Introduction Garden June 15, 1907, under his number, 727a. Received at Washington, D. C., and numbered for convenience in recording distribution, January 14, 1909.

"A leguminous perennial, probably a bur clover, found growing between rocks. May be of use on dry sterile soils as a fodder plant. Only found in one locality and only a few plants to be found there." (Meyer.)

#### **24598**. Medicago sativa L.

From Yuma, Ariz. Received through Mr. Charles J. Brand, January 19, 1909.

"Seed of Andean alfalfa, propagated from the original importation No. 9303. In the production of this seed the method of planting transplanted crowns, which appears to be fairly common in South America, but which has not, so far as known, been used in this country, was employed. Within five months from time of transplanting the crowns, which were taken from a 3-year-old stand, mature seed was produced. Almost 75 pounds of seed were taken from about one-fourth of an acre, with the plants 3 feet apart each way. The general use of this method is suggested when it is desired to plow up old fields which have become unprofitable because of the thinness of the stand." (Brand.)

#### 24599. PISUM SATIVUM L.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 16, 1909.

Tall Butter Sugar.—"A variety distinguished by fleshy and fiberless pods that can be used in the same way as string beans. An old variety in Europe, but rarely grown, thus far, in America." (W. W. Tracy, sr.)

#### 24600. **DIOSPYROS EBENASTER Retz.**

From Guadalajara, Mexico. Presented by Señor Luis Rosas, through Mr. Frederic Chisolm. Received January 21, 1909.

"The Zapote Prieto of Mexico. A persimmon with large, delicious, and delicate fruits, the flesh of which looks curiously like axle grease. Properly a tropical tree, but capable of withstanding light frosts when it forms a low tree with bright, glossy green leaves, 15 to 25 feet high. In frostless regions it reaches a height of 60 to 70 feet. Fruits too soft to stand long shipment. Should succeed in southern Florida and southern California." (Chisolm.)

Distribution.—A native of the Philippine Islands and the Celebes. Cultivated in Mauritius, Calcutta, and Malacca. Occurs also in cultivated places in Tropical America: Orizaba, Vera Cruz, Cuernavaca, Lizaro, Miradon, and Cordova, in Mexico; Rio Janeiro in Brazil; and in Cuba.

#### 24601. CAJAN INDICUM Spreng.

From Huradura, Cuba. Presented by Prof. F. S. Earle, through Prof. S. M. Tracy, Biloxi, Miss. Received January 20, 1909.

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### 27

Bur clover.

### Pea.

#### Alfalfa.

#### **24602 and 24603.** MEDICAGO spp.

From Germany. Secured by Mr. G. Schulze, civil engineer, Altenkirchen, Westerwald, Germany, and presented by Mr. Paul Schulze, Chicago, Ill., through Mr. Charles J. Brand. Received January 22, 1909.

Seeds of each of the following:

24602. Medicago sativa L.

Provence. From Bonn, Germany. (P. L. H. No. 3352.)

24603. Medicago sativa varia (Mart.) Urb.

From Erfurt, Germany. (P. L. H. No. 3353.)

#### **24604.** CAJAN INDICUM Spreng.

From Little River, Fla. Presented by Mr. E. J. Andrews, through Mr. P. J. Wester, in charge of Subtropical Garden, Miami, Fla. Received January 22, 1909.

"(S. G. No. 1169.) This plant is similar in habit and appearance to the ordinary pigeon pea, except that the standard of the corolla is streaked with deep orange-red, while the ordinary species in cultivation here is pale lemon-yellow; it differs also in that the plant blooms early in the fall and the seed ripens by Christmas or a little later, while the ordinary pigeon pea is still in bloom and will not ripen its seed for a month more at least. The pigeon pea is useful in poultry yards, where the chickens crack the pods and eat the peas. This variety would be useful, as it ripens earlier than the ordinary variety, and would probably be of interest to the people in Hawaii, Porto Rico, and the Canal Zone. The seed from which Mr. Andrews's plants grew came from Nassau, Bahama." (Wester.)

#### 24605 to 24607. Triticum Aestivum L.

From Smyrna region, Turkey. Presented by Mr. H. Caramanian, Amasia, Turkey, at the request of Mr. M. A. Carleton. Received January 23, 1909.

Seeds of each of the following:

**24605.** "Red black awned." **24606.** "Yellow Poussana." **24607.** "White Poussana."

#### **24608.** Rosa sp.

From Guadalajara, Jalisco, Mexico. Presented by Señor Severo Hernandez, through Mr. Frederic Chisolm. Received January 26, 1909.

"The 'rosa rellena' of the Mexicans, a healthy, strong-growing variety with flowers as large and perhaps better formed than those of the American Beauty, rather darker in color and not so fragrant." (*Chisolm*.)

#### **24609.** Glycosmis pentaphylla (Retz.) Correa.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Garden. Received January 27, 1909.

Variety *dilatata*. An unarmed shrub with evergreen compound leaves of one to five leaflets. The small, white, fragrant flowers are borne in panicles. The berries are white, globose, varying from the size of a pea to that of a cherry.

*Distribution.*—Throughout tropical and subtropical Himalaya, ascending to 7,000 feet in Sikkim; also in southern China, in the Philippines, and in northeastern Australia.

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Alfalfa.

Sand lucern.

# Wheat.

Rose.

### 24610. GLYCINE HISPIDA (Moench) Maxim. Soy bean.

From Trenton, Ky. Purchased from Mr. S. J. Leavell. Received January 6, 1909.

Trenton. "A brown-seeded variety picked out of Mammoth by Mr. Leavell in 1904, and in that year 12 plants produced 7 pounds of seed; in 1905 these 7 pounds produced 10 bushels; in 1906 Mr. Leavell reports that with exactly the same treatment it outyielded Mammoth by 50 per cent. Seems like a promising variety." (H. T. Nielsen.)

#### 24612. MEDICAGO FALCATA L.

From Babb, Mont. Grown by Mr. C. L. Bristol and received from him January 18, 1909.

Grown from S. P. I. No. 20718.

#### 24613. SOLANDRA GRANDIFLORA Swartz.

From Guadalajara, Jalisco, Mexico. Presented by Señor Severo Hernandez, through Mr. Frederic Chisolm. Received January 26, 1909.

"Cuttings of 'Guayacan' or 'Copa de oro,' an ornamental hard-wood climber, with smooth, bright-green leaves and very large gold-colored flowers. Very ornamental in every way, but not suited for outdoor cultivation except in frostless sections." (*Chisolm.*)

Distribution.—A native of Jamaica and of Mexico, extending north to Cordova; also south through Guatemala, Nicaragua, and Colombia to Brazil.

#### 24614 to 24619.

From Antigua, British West Indies. Presented by Mr. A. S. Archer, through Mr. P. J. Wester, in charge of Subtropical Garden. Received January 28, 1909. Seeds of each of the following:

24614. Hydriastele wendlandiana (Muell. & Moore) Wendl. & Drude.

(S. G. No. 1175.) Distribution.—A native of the northern coast of Australia.

24615. THRINAX BARBADENSIS Lodd.

(S. G. No. 1177.) Distribution.—A native palm of the island of Barbados in the British West Indies.

24616. CARYOTA MITIS LOUR.

(S. G. No. 1178.) Distribution.—A native palm of southeastern Asia, extending from Burma and the island of Hainan southward through the Malay Archipelago.

24617. THRINAX MORRISH Wendl.

(S. G. No. 1179.) Distribution.—A dwarf palm found in Anguilla Island in the British West Indies.

24618. THRINAX RADIATA Lodd.

(S. G. No. 1180.) Distribution.—A native palm on the island of Trinidad and also found in Cuba.

24619. Abrus praecatorius L.

(S. G. No. 1176.) "A cream-colored variety of this twining vine." (Archer.) Distribution.—A native of the Himalaya Mountains, ascending to 3,500 feet, and of Ceylon and Siam. Cultivated generally throughout the Tropics; used in the southern part of the United States for covering screens.

#### 24620 to 24630.

A collection of conifer seeds secured for foreign exchange and for cooperative hybridizing experiments with Mr. J. W. Riggs, Waterloo, Kans.

24620. PINUS MURICATA D. Don.

From Fruitvale, Cal. Purchased from Mr. F. A. Miller. Received January 28, 1909.

Distribution.—California coast region from Mendocino County southward, usually in widely separated localities, to Tomales Point, north of the Bay of San Francisco, and from Monterey to San Luis Obispo County; in Lower California on Cedros Island, and on the coast between Ensenado and San Quintan.

#### 24621 to 24629.

Received through the Forest Service, United States Department of Agriculture, Washington, D. C., January and February, 1909.

**24621 to 24623.** Collected in Crook National Forest, Arizona, at an altitude of approximately 6,000 feet.

24621. JUNIPERUS PACHYPHLAEA TORY.

Distribution.—Dry, arid mountain slopes, usually at elevations of 4,000 to 6,000 feet above the sea, from the Eagle and Limpio mountains in southwestern Texas, westward along the desert ranges of New Mexico and Arizona, south of the Colorado plateau, extending northward to the lower slopes of many of the high mountains of northern Arizona and southward into Mexico.

24622. JUNIPERUS MONOSPERMA Sarg.

Distribution.—Along the eastern base of the Rocky Mountains from the divide between the Platte and Arkansas rivers in Colorado to western Texas, southern New Mexico, and Arizona and southward into northern Mexico.

24623. PINUS EDULIS Engelm.

Distribution.—Eastern foothills of the outer ranges of the Rocky Mountains, from Colorado to western Texas, westward to the eastern border of Utah, southwestern Wyoming, northern and central Arizona, and over the mountains of northern Mexico.

24624 and 24625. Collected in Chiricahua National Forest, Arizona.

24624. JUNIPERUS PACHYPHLAEA TORT.

From an elevation of 5,000 feet. See No. 24621 for distribution.

24625. CUPRESSUS ARIZONICA Greene.

From an elevation of 5,500 feet.

Distribution.—Found on the mountains of central, eastern, and southern Arizona, often on the northern slopes forming almost pure forests of considerable extent at elevations of 5,000 to 6,000 feet above the sea; also found on the mountains of northern Sonora and Chihuahua, in Mexico.

#### 24626. PINUS PONDEROSA Laws.

Collected in Coconino National Forest, Arizona.

Distribution.—A large tree of the western part of North America, extending from British Columbia to Lower California and northern Mexico and eastward as far as northwestern Nebraska and western Texas.

#### 24620 to 24630—Continued.

#### 24621 to 24629-Continued.

24627. PICEA ENGELMANNI (Parry) Engelm.

From Gallinas Cañon, Pecos National Forest, New Mexico. Altitude, approximately 7,800 feet.

Distribution.—A native tree of the high mountain slopes of western North America, extending from Alberta and British Columbia to New Mexico and Arizona, from an elevation of 5,000 feet in the north to 11,500 feet in the south.

24628. PSEUDOTSUGA TAXIFOLIA (Lamb.) Britt.

Collected in Carson National Forest, New Mexico, at an altitude of approximately 7,500 feet.

Distribution.—From about latitude 55° north in the Rocky Mountains and from the head of the Skeena River in the Coast Range southward through all the Rocky Mountain system to the mountains of western Texas, southern New Mexico, southern Arizona, and northern Mexico.

24629. PICEA ENGELMANNI (Parry) Engelm.

Collected in Alamo National Forest, New Mexico, at an altitude of approximately 9,000 feet. See No. 24627 for distribution.

#### 24630. PINUS CARIBAEA Morelet.

From Miami, Fla. Received through Mr. P. J. Wester, in charge of Subtropical Garden, January 4, 1909.

Distribution.—A native of the southeastern coast of North America, from South Carolina to the highlands of Central America, and of the Bahamas and the Isle of Pines.

# **24631.** GOURLIEA SPINOSA (Mol.) SKEELS. (LUCUMA SPINOSA Mol., 1782.) (GOURLIEA CHILENSIS Gay, 1846.)

From Nice, France. Presented by Dr. A. Robertson Proschowsky. Received January 28, 1909.

Seed of the Chañal, a small tree 12 to 15 feet high, with long, thick, cylindrical branches, ending in spines. The leaves are compound, consisting of three pairs of small ovate leaflets. The flowers, borne in short, loose racemes, are orange-yellow, streaked with red. The fruit is about 1 inch in diameter, covered with a brownish skin and having a pulp resembling a jujube (Chinese date) in flavor. The wood is yellow, quite hard, and used considerably by cabinetmakers.

Distribution.—This tree grows along hedges in the provinces of Coquimbo, Copiapo, Tambo, and Guanta in Chile at an elevation of 1,500 to 5,000 feet.

#### 24635. Medicago sativa L.

#### Alfalfa.

From Boxberg, Baden, Germany. Secured from the Getreidelagerhaus, Boxberg, through Mr. Charles J. Brand. Received January 27, 1909.

Alt-Deutsche Fränkische lucern. "This seed was grown in the same region as No. 22467, under which number a detailed account is given. It is of special interest on account of the fact that it comes from within 15 or 20 miles of the original home of the well-known *Grimm* alfalfa of Minnesota." (*Brand.*)

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#### 24636. MANGIFERA INDICA L.

From Papeete, Tahiti, South Sea Islands. Presented by Mr. Barbour Lathrop. Received January 30, 1909.

"This is a tiny, rich-flavored mango, very different from any I have ever seen, not much larger than a very big English walnut. There is only one tree on the island, and no one can tell me where it came from. The fruits from which these seeds were taken were about the size of a large plum and very delicate in taste." (*Lathrop.*)

#### 24637. MASCARENHASIA ELASTICA K. Schum.

From Mozambique, Portuguese East Africa. Presented by Mr. O. W. Barrett, Director of Agriculture, Lourenço Marquez. Received February 1, 1909.

"(No. 22.) Seed of a shrubby tree 20 to 30 feet high. Wild in hinterland of Mozambique Company's territory. Rubber of about same quality as *Landolphia kirkii*. Mr. W. H. Johnson, the agronomist of the Mozambique Company, thinks the species a rather valuable discovery. It grows with *Landolphia kirkii* and the rubber exported through Beira probably consists of the two gums mixed." (*Barrett.*)

Distribution.—A native of the woods of German East Africa, in the vicinity of Dar-es-Salaam and Mbaffu.

#### 24638. ILEX CORNUTA Lindl. and Paxt.

From 75 or 100 miles northwest of Shanghai, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society, Shanghai, China. Received January 30, 1909.

*Distribution.*—A native of China, being found at Shanghai and Chinkiang in the province of Kiangsu; at Ningpo and Kiangsi in the province of Chekiang; and at Ichang in the province of Hupeh.

#### **24639.** Phaseolus semierectus L.

Grown at Biloxi, Miss., in 1908, by Mr. S. M. Tracy, special agent. Received January, 1909.

"Original seed from Cuba, where the plant is valued highly as a semivolunteer cover crop in orange groves. Flowers are in spikes which continue to grow indefinitely, so that ripe seed and fresh flowers occur on the same stem, which makes seed gathering slow work." (*Tracy.*)

#### **24640.** SAPIUM VERUM Hemsley.

#### From Chaparral, Tolima, Colombia, South America. Purchased from Mr. Andres Rocha. Received February 2, 1909.

"Caucho virgen (Tolima). Caucho blanco (Cauca). Seeds of the Tolima (virgin) rubber tree, once common in the forests of the upper valleys of the Magdalena basin in Colombia, but to-day scarcely seen in its wild state and seldom cultivated. It grows in a temperate, almost cold but equable climate, between 1,800 and 3,200 meters of altitude, in such conditions of soil and general environment as to make the possibility of its acclimatization in Florida appear very doubtful. It might be tried with better prospects of success in the upper forest zone of the Philippine Islands, as well as in Hawaii and Porto Rico. When cultivated in its own country it thrives splendidly. Trees 8 to 10 years old are expected to yield annually from 1 to 3 kilograms of rubber of very high quality, second only to the best Para. One individual 14 years old seen at Tocotá, near Calé, Colombia, measured 65 centimeters in diameter and 50 meters in height. The tree flowers for the first time when about 3 years old. As far as is known, the only way of obtaining a full yield of the latex is to fell the trees, the average product being from 5 to 8 kilograms of raw rubber to each tree. This method is generally applied to the wild trees, which explains the rapid disappearance of the species." (II. Pittier.) See also S. P. I. Nos. 3820 and 3948. 162

Virgin rubber.

#### 24641 to 24643. GLYCINE HISPIDA (Moench) Maxim. Soy bean.

From Taihoku, Formosa. Presented by Mr. I. Kawakami. Received January 21, 1909.

The following seeds:

24641. Cream-yellow.

24642. Black, small.

24643. Black, very small.

#### 24644 to 24648.

From Australia. Presented by Mr. B. Harrison, Burringbar, Tweed River, New South Wales, Australia. Received February, 1909.

Seeds of each of the following (quoted common names given by Mr. Harrison):

24644. Chloris ventricosa R. Br.

"Australian grass."

Distribution.—A native grass of the southeastern part of Australia, being found in Queensland and New South Wales.

24645. Eragrostis lacunaria F. Muell.

"Australian never-fail grass."

Distribution.—A native grass of the southeastern part of Australia, being found in the valley of the Barcoo River in Queensland, in the valley of the Murray River, and in the vicinity of Lake Eyre, in South Australia.

24646. PANICUM MUTICUM Forsk.

"Giant Couch. Twenty tons per acre. North Queensland."

*Distribution.*—A native grass of the northern part of Egypt, and cultivated or adventitious generally throughout the Tropics.

24647. PASPALUM QUADRIFARIUM Lam. (?)

"Brazilian grass."

Distribution.—A grass native of the southern part of South America, being found in the low valleys and along shores in southern Brazil, northern Argentina, and in Uruguay.

24648. Sporobolus argutus (Nees) Kunth.

"Brazilian mountain grass."

Distribution.—A Brazilian grass found in the province of Piauhy and in the valley of the San Francisco River.

#### **24650 and 24651**. SOLANUM spp.

From Mayaguez, Porto Rico. Presented by Mr. D. W. May, special agent in charge, Agricultural Experiment Station. Received February 3, 1909.

Seeds of the following:

24650. Solanum mammosum L.

"Berengena de marimbo." "A large-fruited wild species used as a stock on which to graft the cultivated varieties of eggplant. The handsome yellow fruits are reputed to be poisonous." (Frederic Chisolm.)

Distribution.—A native of southern Mexico, extending from the region of Orizaba south through Nicaragua, Panama, Colombia, and Guiana; also in the West Indies.

### 24650 and 24651-Continued.

24651. SOLANUM TORVUM Swartz.

"Berengena cimarrona." "A very small-fruited variety." (Frederic Chisolm.) Distribution.—Throughout Central America, extending north to San Luis Potosi, Mexico, where it is found at an elevation of 8,000 feet; also commonly found throughout India in the tropical region and in the Malay Archipelago, the Philippines, and in China.

#### 24652. CITRUS AURANTIUM SINENSIS L. Sweet orange.

From Blida, Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger, Algeria. Received February 5, 1909.

Seeds:

"White orange of Blida." (Revue horticole.)

"Tall tree, dark green, spiny, fruits large and abundant, pale-lemon color, flesh very pale color, fine, very juicy. Rare variety of seedling at Blida, more robust than the white orange of Teneriffe. January to April." (*Trabut.*)

#### 24653. Amygdalus persica L.

From Canton, China. Presented by Mr. G. W. Groff. Received February 5, 1909.

Scions.

Ying tsui to.

#### 24654 to 24656. Fragaria chiloensis (L.) Duchesne. Strawberry.

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, February 5, 1909.

The following seeds:

- **24654.** "Light-red class, prolific, hardy, acid sweet, good flavor, ripens quickly and becomes soft; bad shipper." (*Husbands.*)
- **24655.** "White class, mixed; fine flavor, extra firm flesh, very large size, extra prolific, early and quick ripener, hardy, good shipper, thrives in the worst soils (clays) with little moisture. Fine sort to work on as a base for selections." (*Husbands.*)
- **24656.** "White class, same fruit as S. P. I. No. 24655 with the exception that they are uniform in size and shape, fruit somewhat smaller, some of which have a pale-pink tint scattered at the top." (*Husbands.*)

Distribution.—A native of the Pacific slope of America extending from Alaska to Patagonia; also found in the Sandwich Islands.

#### 24657. Stizolobium sp.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received February 8, 1909.

#### 24658. Andropogon barbinodis Lag.

From Chico, Cal. Grown at the Plant Introduction Garden by Mr. Roland McKee from seed procured from the Wagga Experimental Farm, New South Wales, Australia, in 1904, under Agrostology No. 2293. Received February, 1909.

Distribution.—A native of the southwestern part of the United States, extending into Mexico.

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Peach.
### **24659.** PISTACIA CHINENSIS Bunge.

### Pistache.

From Laotanchuang, Shantung, China. Collected by Mr. Henry S. Cousins, Taianfu, Shantung, China, forwarded through Mr. Ernest Vollmer, viceconsul, Tsingtau, China. Received February 8, 1909.

"Description and habitat.—Pistacia chinensis (Chinese name 'Huang lien shu'). Seed of a deciduous, diœcious tree, growing 40 to 50 feet tall, with a trunk 4 to 5 feet in diameter, of spreading habit, bearing large, pinnated leaves which are of a wine-red when budding out, of a vivid, glossy green in summer, and changing into flaming scarlet and yellow in the fall. The pistillate trees bear heavy bunches of small berries, which are green at first, turn into red later on, but assume a bluish green color when ripe. The seeds are not edible, but they yield an illuminating oil in small quantities. This wild Chinese pistache looks strikingly like a gigantic sumac, and will be appreciated as a new shade and ornamental tree, especially in the semiarid mild-wintered regions of the United States. I observed in China that the male trees were invariably larger than the females and were also handsomer trees.

"Strong hopes are held that the Chinese pistache may supply a suitable stock for the *Pistacia vera*, which produces the celebrated pistache nuts of commerce and for which hardier, more easily handled stock is needed." (*Meyer.*) For fuller notes and photographs, see "Ornamental Horticulture in China," by Frank N. Meyer.

"Until Mr. Meyer secured the Chinese pistache the only hardy stock available was the *Pistacia terebinthus* L. of southern Europe, of which it has proved impossible to secure any considerable quantities of seed. The Chinese species, however, bids fair to be superior to it in every respect, as it is hardier, grows more rapidly, and reaches a larger size. It is the hardiest known species of the pistache (see S. P. I. No. 10285), and Mr. Meyer's investigations have shown that it grows to very large size and is in fact the largest species of the section to which *Pistacia terebinthus* belongs. The latter is the stock upon which a large part of the high-priced Sicilian pistaches are grown, so it is highly probable that the Chinese pistache will prove satisfactory as a stock upon which to work the improved varieties of *Pistacia vera*.

"Although this Chinese pistache was introduced into Europe from Central China some forty years ago and a plant of it is still growing in the Botanic Garden at Paris, it remained a botanical curiosity until Mr. Meyer secured scions and seed from northern China, where the winters are more rigorous than in any other part of the world where pistaches grow wild.

"Large numbers of Chinese pistache seedlings have been grown at the Plant Introduction Garden, Chico, Cal., from seed secured by Mr. Meyer. The young plants have proved to be of remarkably rapid growth, decidedly more rapid than any other stock tested as yet." (*Swingle.*) For further remarks, see S. P. I. Nos. 10285, 17734, 17735, 18272, 18273, 18605, 19391, and 21970.

### 24661 to 24665. Anona cherimola Mill.

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, February 5, 1909.

The following seeds:

**24661.** Lisa, or large smooth-skin class.

- **24662** and **24663**. "*Púas*, meaning graft. I am not aware why this variety is called *Púas*." (*Husbands*.)
- **24664** and **24665**. "De Concha, meaning shell. The fruit is so called on account of its having a rough surface; other varieties with rough, warted, uneven surfaces are also called 'Rugoso' and 'Escamosa' (scaly like an oyster shell)." (Husbands.)

Distribution.—A native of America, extending from Chile north through Peru and Central America to the region of Orizaba, Mexico. Cultivated in Florida and in Italy and Algeria.

### 24667. Medicago sativa L.

From Iphofen, Bavaria, Germany. Secured from the Saatzucht Verein f
ür fr
änkische Luzerne in Iphofen, Bavaria, through Mr. Charles J. Brand. Received February 8, 1909.

Alt-Deutsche Fränkische lucern. "(P. L. H. No. 3355.) This old-land race received its name from the circles of Franconia in northern Bavaria, where it has been grown many years. In the vicinity of Iphofen three to four cuttings of hay are secured each year. The seed is produced by the second crop." (*Brand.*)

### 24668. Medicago sativa L.

From Germany. Secured by Herr Carl Bodenstein, Osterode am Harz, Germany, and presented by Mr. Paul Schulze, Chicago, Ill., through Mr. Charles J. Brand. Received January 30, 1909.

(P. L. H. No. 3356.)

### 24671. Chayota edulis Jacq.

From Los Angeles, Cal. Presented by Mr. M. E. Cheney. Received February 15, 1909.

A small, smooth variety, secured for cooperative work with the State Experiment Station, Baton Rouge, La.

Distribution.—A native of tropical South America, Central America, and Mexico, where it extends northward to the province of Chihuahua. Cultivated in California, and Florida and in southern Spain and Algeria.

### 24672 to 24711.

From India. Presented by J. Mollison, esq., M. R. A. C., Inspector-General of Agriculture in India, Nagpur, C. P. Received February 10, 1909.

The following seeds (quoted notes by Mr. Mollison; descriptions of varieties by Mr. H. T. Nielsen):

24672 to 24690. GLYCINE HISPIDA (Moench) Maxim. Soy bean. 24672. "Rymbai-ktung. From Khasi Hills, Assam."

Similar to No. 18258a.

24673. "Bhatumsh (red). From Darjeeling, Assam."

Light-chocolate color, looks like No. 17852c, which is a selection from Meyer, No. 17852.

**24674.** "Bhatumsh (yellow). From Darjeeling, Assam." Straw-yellow with brown hilum.

24675. "Bhatwas. From Safipur, Unao, U. P."

Black, small seed about the same size as *Cloud*, but rather more dull in color.

24676. "Bhatwas. From Hasangani, Unao, U. P."

Black, looks like No. 24675, only seeds are shiny like Cloud.

24677. "Bhatwas. From Ranjitpurwa, Unao, U. P."

Black, just like No. 24676, only seeds are a trifle smaller.

- **24678.** "Chabeni khurti (spotted variety). From Hardupurwa, Teh-Bidhanna, Etawah, U. P."
- **24679.** "Chabeni khurti (black variety). From Bant, Teh, Sadar, Etawah, U. P."

### Alfalfa.

Chayote.

Alfalfa.

### 24672 to 24711--Continued.

24672 to 24690-Continued.

- 24680. "Chabeni khurti (black variety). From Atsu, Teh, Auraya, Etawah, U. P."
- **24681.** "Bhatwas (mixture of spotted and black). From Mainpuri, U. P."
- **24682.** "Kali khurti, Chabeni khurti, Khajwa. From Mainpuri, U. P."
- **24683.** "Chabeni khurti (black variety). From Kilerman, Teh, Sadar, Etawah, U. P."
- **24684.** "Chabeni khurti (black variety). From Amapur, Teh, Kasaganj, Etawah, U. P."
- 24685. "Chabeni khurti (black variety). From Aliganj, Etawah, U. P."
- **24686.** "Chabeni khurti Bhundadar (spotted variety). From Jalesar, Etawah, U. P."
- 24687. "Khajwa or kulthi. From United Provinces."

24688. "Bhatwas. From Cawnpore, U. P."

24689. "Bhatwas. From Nanbasta, Cawnpore, U. P."

The preceding S. P. I. Nos. 24678 to 24689 are black, with small seed, about the size and shape of S. P. I. No. 20410. There is some slight variation in the size of the seed, but the entire lot might easily be taken for the same variety if judged by the seed only.

24690. "Bharat Safed. From Dehra Dun, U. P."

Similar to S. P. I. No. 22901.

24691 and 24692. DOLICHOS BIFLORUS L.

Distribution.—A leguminous vine, native in India, from the Himalayas to Ceylon and Burma, occurring at elevations of 3,000 feet in Sikkim; also found generally throughout the Tropics of the Old World, being cultivated in some places.

24693 to 24711. GLYCINE HISPIDA (Moench) Maxim. Soy bean.

Japanese varieties of soy beans grown on Poona Farm, Bombay Presidency.

- **24693.** Straw-yellow, with rather an indistinct hilum, quite similar to *Manhattan*, S. P. I. No. 17277.
- **24694.** Straw-yellow, very similar to S. P. I. No. 24693; seeds may be a trifle larger.
- **24695.** Straw-yellow, seed very similar to *Ito San*, but the brown speck at end of hilum is very faint.
- 24696. Just like above, S. P. I. No. 24695.
- **24697.** Similar to S. P. I. No. 20405.
- 24698. Olive-yellow, very similar to No. 20893a.
- 24699. Straw-yellow, seed about the size of S. P. I. No. 17269.
- **24700.** Pale straw-yellow, with a black hilum; seed about the size of *Acme*, S. P. I. No. 14954.
- **24701.** Dirty olive-yellow, with slate-colored hilum; seed about the size of *Ito San* but more globular.
- **24702.** Straw-yellow, with very faint hilum; similar to *Butterball*, S. P. I. No. 17273, but seed rather smaller and not so bright in color.

### 24672 to 24711-Continued.

### 24693 to 24711-Continued.

24703. "Oylan Dai Dizen."

Straw-yellow, very similar to Okute, S. P. I. No. 19986.

24704. "Gosha Dai Dizen."

Very similar to S. P. I. No. 24700.

**24705.** Light shade of chromium-green, similar in appearance to S. P. I. No. 17857, but the color is not quite the same.

24706. Black. Apparently just like our Buckshot, S. P. I. No. 17251.

24707. "Kuru Maru."

Apparently just like Nuttall, S. P. I. No. 17253.

24708. "Sirohaha."

Apparently just like Butterball, S. P. I. No. 17273.

**24**'7**09**. "*Teppo*."

Citron-yellow, seeds about the size of Butterball.

**24710.** "Motonari."

Seed very similar to S. P. I. Nos. 24700 and 24704, but the hilum is russet in this case.

24711. "Rokugatsu."

Citron-yellow, with very faint hilum, seed about the size and shape of *Mammoth*.

24712. CHAMAECYPARIS NOOTKATENSIS (Lamb.) Spach.

### Yellow cedar.

From Cholmondeley Sound, Prince of Wales Island. Collected by Ranger Babbitt and presented by Mr. W. A. Langille, forest supervisor, Ketchikan, Alaska. Received February 15, 1909.

For use in foreign exchanges.

Distribution.—A native tree of the northwestern part of North America, extending from southern Alaska southward through British Columbia and the Cascade Mountains of Washington and Oregon to the valley of the Santiam River.

### 24713 and 24714.

From Harrar, Abyssinia. Presented by Mr. T. Gerolimato, through Mr. Hubert S. Smiley, Drumalis, Larne, County Antrim, Ireland. Received February 16, 1909.

Seeds of each of the following:

24713. RHAMNUS PRINOIDES L'Herit.

"This plant is called *Gheisho*, not *Geaho*, and grows by preference on the hills; it reaches a height of 10 to 12 feet. The leaves are never added to the *tieff* [made of the seeds of *Eragrostis abyssinica*], but only to the *tedj* (the hydromel), which consists of one part of honey and two parts of water; then the leaves of *Gheisho* are added to hasten the fermentation." (*Gerolimato.*)

*Distribution.*—A shrub or small tree, native of Abyssinia in East Africa and also of extratropical South Africa, extending to the Cape of Good Hope.

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### 24713 and 24714-Continued.

24714. CATHA EDULIS Forsk.

"*Kiat* is a small tree, reaching the height of 10 to 15 feet; it grows in good red soil and by preference on hills in Arabia. There is only one kind, no varieties. The natives masticate the leaves of the tree; the new and tender leaves are of course preferred. It is a narcotic, and some say that it is also an aphrodisiac, like the hashish. The natives do not smoke it like opium. I am afraid the *Kiat* is propagated only by cuttings and not by seeds." (*Gerolimato.*)

Distribution.—A native shrub of Abyssinia and Arabia, cultivated to a large extent for its leaves.

### 24715 and 24716. CITRUS spp.

From Cochin China. Presented by Mr. Jacob E. Conner, United States consul, Saigon, Cochin China. Received February 16, 1909.

Seeds of the following:

24715. CITRUS NOBILIS LOUR.

"Annamite. *Cam-Sanh* grows particularly well at Cai-be, near here (Saigon). The skin is green and almost as loose as the skin of a mandarin orange. I think it as good an orange as I ever ate—splendid, and about the size of a Florida orange." (*Conner.*)

24716. CITRUS AURANTIUM L.

### Orange.

"Cam-Mat is a tight-skinned fruit, yellowish green when ripe, very good to eat, but awkward to handle. On every account I would prefer the above (S. P. I. No. 24715)." (Conner.)

### **24717 to 24741.** MEDICAGO spp.

From Dahme, Mark Brandenburg, Germany. Secured by Oberlehrer C. von Stoeltzer, of the agricultural school at Dahme, and presented through Mr. Charles J. Brand. Received February 13, 1909.

The following seeds of regional strains of alfalfa, with the German common names: 24717 to 24736. MEDICAGO SATIVA L. Alfalfa.

- 24717. Böhmische lucern. (P. L. H. No. 3359.)
- 24718. Mährische lucern. (P. L. H. No. 3360.)
- 24719. Ungarische lucern. (P. L. H. No. 3361.)
- 24720. Provencer lucern. (P. L. H. No. 3362.)
- 24721. Süd-Französische lucern. (P. L. H. No. 3363.)
- 24722. Nord-Französische lucern. (P. L. H. No. 3364.)

24723. Südliche Russische lucern. (P. L. H. No. 3365.)

- 24724. Nordliche Russische lucern. (P. L. H. No. 3366.)
- 24725. Spanische lucern. (P. L. H. No. 3367.)
- 24726. Turkestanische lucern. (P. L. H. No. 3368.)
- 24727. Deutsche Luzerne aus Baden. (P. L. H. No. 3369.)
- 24728. Deutsche Luzerne aus Baden. (P. L. H. No. 3370.)
- 24729. Ungarische lucern. (P. L. H. No. 3371.)
- 24730. Süd-Russische lucern. Naturell. (P. L. H. No. 3372.)
- 24731. Süd-Russische lucern. Gereinigt. (P. L. H. No. 3373.)
- 24732. Russische Luzerne-Nord-Russische. (P. L. H. No. 3374.)

### 24717 to 24741—Continued.

### 24717 to 24736-Continued.

24733. Alt-Fränkische lucern. (P. L. H. No. 3375.)

24734. Provencer lucern. (P. L. H. No. 3376.)

24735. Italienische lucern. (P. L. H. No. 3377.)

24736. Spanische lucern. (P. L. H. No. 3378.)

**24737.** MEDICAGO SATIVA VARIA (Mart) Urb. Böhmische sand lucern. (P. L. H. No. 3379.)

24738 to 24740. Medicago sativa L.

24738. Turkestanische lucern. (P. L. H. No. 3380.)

24739. Turkestanische lucern. (P. L. H. No. 3381.)

24740. Nord-Italienische lucern. (P. L. H. No. 3382.)

**24741.** MEDICAGO SATIVA VARIA (Mart) Urb. **Sand lucern.** *Böhmische* sand lucern. (P. L. H. No. 3383.)

### 24742. CAJAN INDICUM Spreng.

From Biloxi, Miss. Grown by Prof. S. M. Tracy, special agent. Received February 16, 1909.

"Purple seed. Original seed from Cuba. Not as early as S. P. I. No. 24601." (*Tracy.*)

### 24753 to 24755.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received February 19, 1909.

The following seeds:

24753. Atalantia bilocularis (Roxb.) Wall. (Limonia bilocularis Roxb.)

For use in citrus breeding work.

Distribution.—A native of the southeastern part of China, extending to the islands of Hainan and Formosa.

**24754.** Nephelium mutabile Blume.

Distribution.—A native of the Malay Peninsula and of the islands of Java and Borneo.

24755. GLYCOSMIS PENTAPHYLLA (Retz.) Correa.

Distribution.—Throughout tropical and subtropical Himalaya, ascending to 7,000 feet in Sikkim; also in southern China, in the Philippines, and in northeastern Australia.

### 24756. QUERCUS SUBER L.

From Seville, Spain. Presented by Mr. Peter Campbell, president of the Nairn Linoleum Company, Kearney, N. J. Received February 19, 1909.

Acoms for propagating young trees, to be used in acclimatization experiments. See S. P. I. No. 3039 for description.

Distribution.—A native of the shores of the Mediterranean Sea, in Spain, France, Corsica, Sardinia, Italy, Sicily, and northern Africa. Cultivated in India and in California.

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# Sand lucern.

Cork oak.

### Alfalfa.

### 24757 and 24758. MEDICAGO SPP.

From Bavaria, Germany. Presented by Mr. John S. Haas, with S. B. Bing Sons, Nuremberg, Germany, who procured the seed from Mr. George Liebermann, Nuremberg, Germany, at the request of Mr. J. M. Westgate. Received February 15 and 18, 1909.

Seeds of the following:

24757. MEDICAGO SATIVA VARIA (Mart.) Urb. 24758. Medicago sativa L. Alfalfa.

Provence.

### 24759 to 24761. PHYLLOSTACHYS spp.

From Nagasaki, Japan. Purchased from Japanese bamboo growers by Mr. William D. Hills, agricultural explorer. Received at the Plant Introduction Garden, Chico, Cal., February 9, 1909.

"This importation of the three most valuable Japanese timber bamboos was made for the planting, on a larger scale than any hitherto yet attempted, of experimental bamboo groves in Florida, Louisiana, and California, in order that the feasibility of growing them on a commercial scale might be definitely determined." (W. Fischer.)

24759. Phyllostachys mitis (Lour.) Riviere.

"This is the great edible bamboo of China and Japan and the largest of the hardy species, the culms attaining a maximum height of 70 to 80 feet and a diameter of 6 to 8 inches. It may readily be distinguished from the Madake, the next largest species, by the comparatively shorter internodes, the gentle curving of the culm just after it leaves the ground, and by the broad-based pseudophyll, which tapers to a point with the fringe of hairs on the sheath near its base." (W. Fischer.) See No. 12178 for previous introduction.

24760. Phyllostachys quilioi Riviere.

"The great timber bamboo of China and Japan and the second largest in size, the culms attaining a maximum height of 60 or 70 feet and a diameter of 6 inches. Besides the proportionately longer internodes and the habit of the culm in rising straight from the rhizome it is distinguished from the Moso by the wavy outline of the pseudophyll and by the more pronounced purple or reddish blotches on the sheath. This species is considered somewhat more hardy than P. mitis; the rhizome is more vigorously spreading, and the wood is harder. It is the most useful of the East Asiatic bamboos." (W. Fischer.) See No. 12180 for previous introduction.

24761. Phyllostachys henonis Mitford.

"Next in importance and smaller than the two preceding species, with a height of from 30 to 40 feet and a diameter of from 3 to 4 inches. The sheath has fine lines, forming purple markings but no blotches. The stem nodes are flatter than those of the Madake, the culms are thinner walled, and the sprouts are produced earlier." (W. Fischer.) See No. 12177 for previous introduction.

### **24762**. SCLEROCARYA CAFFRA Sond.

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist, Department of Agriculture. Received March 1, 1909.

Seed of a tree with compound, alternate, unequally pinnate leaves clustered at the ends of the branches. The flowers, borne in spicate racemes, are one-fourth inch in diameter, with recurved petals. The fruit is a two-seeded drupe, about the size of a small walnut, with an acid and resinous pulp. The thick, oily cotyledons are eaten in times of famine.

Distribution.—A native of Africa, found near Lake Nyassa and other localities in the Zambezi Valley, in the Macalisberg Mountains, and in Cape Colony.

# Sand lucern.

## Bamboo.

Moso.

Madake.

Hachiku.

Morula.

### 24763. INDIGOFERA SUBULATA Vahl.

From Kingston, Jamaica. Presented by Mr. William Harris, superintendent of public gardens, Department of Agriculture, Hope Gardens. Received February 23, 1909.

Seeds.

Distribution.—Found in both the East and West Indies, in Mexico, and on the Florida keys; in Upper Guinea and Senegambia, in Africa; and on the plains of the western peninsula of India and in Ceylon.

## 24766. Stizolobium sp.

### Florida velvet bean.

From Biloxi, Miss. Grown by Prof. S. M. Tracy, special agent. Received February 25, 1909.

White. "A variety of the Florida velvet bean with white or nearly white seeds. Limited experience with it indicates that it is more prolific than the ordinary velvet bean. Grown from S. P. I. No. 22923." (C. V. Piper.)

### 24767. Medicago sativa L.

## Alfalfa.

From Tauberbischofsheim, Baden, Germany. Secured from Landwirtschaftliches Lagerhaus f
ür das Frankenland, through Mr. Charles J. Brand. Received February 11, 1909.

"Alt-Deutsche Fränkische lucern. The chief area of production of this strain of alfalfa is the district known as the Taubergrund, in northern Baden and Württemberg and western Bavaria. The Taubergrund includes practically the whole drainage basin of the Tauber, a short stream that rises in the heights of Franconia and empties into the Main near Wertheim. The seed is also produced to some extent in the Neckarthal of Baden and Württemberg.

"Tauberbischofsheim, the source of the present sample, is only about six miles distant from Külsheim, the original home of Wendelin Grimm, who brought the now well-known *Grimm* alfalfa to Minnesota in 1857. At the request of the writer, Mr. Ludwig Keller, of Oberschüpf, Baden, made some inquiries into the history of *Old German Franconian* alfalfa. The following, in free translation, is quoted from his report: 'This lucern was probably introduced into this country (Germany) at a very early time; it has adapted itself to the existing local conditions and has developed into a special strain of a certain constancy. Doubtless it is the same alfalfa that Farmer Grimm took with him to America. No other form is cultivated in our section on account of the superiority of this one.' (P. L. H. No. 3385.)" (*Brand.*)

### 24768 and 24769. GARCINIA spp.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received February 27, 1909.

Seeds of the following:

24768. GARCINIA MANGOSTANA L.

Distribution.—A small native tree of southern Tenasserim and the Malay Peninsula, in India, and of the Malay Archipelago. Cultivated in Ceylon and in the Madras Presidency and in Trinidad and Jamaica in the West Indies.

24769. GARCINIA COWA Roxb. (?)

For experiments in grafting the mangosteen.

*Distribution.*—A native tree of India, extending from the hills of eastern Bengal, through Assam and Burma, and to the Andaman Islands.

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### 24770. Chayota edulis Jacq.

From Mayaguez, P. R. Presented by Mr. D. W. May, Agricultural Experiment Station. Received February 27, 1909.

A medium-sized, smooth, pale-green variety, almost white; practically spineless. Secured for the purpose of carrying on experiments in the South with a view to encouraging its culture for the market. For distribution of this species see No. 24671.

### 24771 to 24819.

A collection of seeds and cuttings. Received through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., while traveling as an agricultural explorer for the Department of Agriculture, December 3, 1908.

24771 to 24793. VITIS VINIFERA L.

"(Nos. 196 to 218.) A collection of native table and raisin grapes of central Asia grown by the Mohammedans from time immemorial. In recent years the manufacture of wine has assumed large proportions, since the conquest of the natives. The best variety is probably the Maskah, Nos. 197, 199, 209, and 218 (S. P. I. Nos. 24772, 24774, 24784, and 24793); it may prove to be the largest grape in cultivation. The last two or three years the Maskah has found its way to St. Petersburg markets, since the completion of the Orenburg-Tashkend Railway, where it caused a great sensation and sold for a much higher price than the largest grapes shipped from France, Germany, and the Crimea. All these vines should be tested as individuals till fruited, as the nomenclature is uncertain in these native vineyards." (Hansen.)

24794. Populus sp.

"(No. 219.) Cuttings of a native poplar of upright habit like the Lombardy poplar. From Tashkend, Turkestan." (Hansen.)

24795. MALUS SYLVESTRIS Mill.

"(No. 220.) Scions of Pyrus malus (Malus sylvestris) Namanganica, a redfleshed apple, native of eastern Turkestan, adjoining the Pamir plateau." (Hansen.)

24796. MALUS SYLVESTRIS Mill.

"(No. 221.) Napoleon apple, a new French variety of delicious flavor. Scions obtained at Tashkend, Turkestan." (Hansen.)

24797. PRUNUS ARMENIACA L.

"(No. 219.) Scions of native apricot from Tashkend, Turkestan." (Hansen.) 24798. PUNICA GRANATUM L. Pomegranate.

"(No. 223.) Tree of choice native variety grown at Tiflis, Transcaucasia." (Hansen.)

24799. PUNICA GRANATUM L.

"(No. 224.) Plant of a native variety grown at Tiflis, Transcaucasia." (Hansen.)

24800. Elaeagnus angustifolia L. "(No. 225.) A large-fruited variety from Tiflis, Transcaucasia." (Hansen.) Currant. **24801.** Ribes sp. "(No. 226.) Native currant from Tiflis, Transcaucasia." (Hansen.) 24802. MALUS SYLVESTRIS Mill. Apple. "(No. 227.) Native apple Schachalma, from Tiffis, Transcaucasia." (Hansen.) 24803. Elaeagnus angustifolia L. Oleaster.

"(No. 228.) A large-fruited variety from Tiflis, Transcaucasia." (Hansen.) 162

Grape.

Chayote.

# Apple.

Apple.

Apricot.

Poplar.

# Pomegranate.

# Oleaster.

### 24771 to 24819—Continued.

24804. MORUS NIGRA L.

"(No. 229.) A choice-fruited native variety from Tiflis, Transcaucasia." (Hansen.)

Distribution.—A native of southern Russia in the vicinity of the Caucasus Mountains and the Caspian Sea; also cultivated in warm climates.

24805. MALUS SYLVESTRIS Mill.

"(No. 230.) A native apple *Paschalma*, from Tiflis, Transcaucasia." (Hansen.)

24806. Amygdalus persica L.

"(No. 251.) Peculiar native, flat, small peach pits, from Tashkend, Turkestan." (Hansen.)

24807. Amygdalus persica L.

"(No. 252.) Native peach pits from Tashkend, Turkestan." (Hansen.)

24808. Amygdalus nana L.

"(No. 253.) Variety Spinosissima. Native dwarf almond from Alatau Mountains, 80 versts from Tashkend, Turkestan. See No. 257 (S. P. I. No. 24809)." (Hansen.)

24809. Amygdalus nana L.

"(No. 257.) Variety Petronnikow. Dwarf native almond from Chingan Mountains, 90 yersts from Tashkend, Turkestan. See No. 253 (S. P. I. No. 24808)." (Hansen.)

24810. CHAETOCHLOA ITALICA (L.) Scribn.

"(No. 258.) Originally from Manchuria. Seed grown at experiment station in Golodnaya or Hunger steppe, Turkestan." (Hansen.)

24811. MEDICAGO SATIVA L.

"(No. 259.) The 'Turcestanica' is a name given by the Russian agronomists to distinguish the alfalfa native of Turkestan from that obtained from other regions. The present sample is as grown in Golodnaya or Hunger steppe, Turkestan. Since I brought the first lot of Turkestan alfalfa to the United States in the spring of 1908 an enormous export of alfalfa seed has sprung up in Turkestan, especially from the Khanate of Khiva. It was stated to me in Turkestan in December, 1908, that fully 200,000 pood go from Khiva each year (a Russian pood is 32 pounds avoirdupois); also that perhaps 100,000 pood go from the rest of Turkestan. In Khiva the multitude of camels which eat the dry fodder left after the seed is removed makes it possible to raise the seed cheaper at Khiva. Most of the seed goes to South America, but a considerable and steadily increasing lot goes to North America. Some of the seed sold commercially does not come from Turkestan, but it is said comes from farther south. It is to be hoped that the alfalfa seed business will be better handled in the future and that each strain is correctly labeled." (Hansen.)

**24812.** Andropogon sorghum (L.) Brot.

"(No. 249.) 'Dshu-gah-rah,' from Khokand region, Turkestan, raised in the Golodnaya or Hunger steppe, between Tashkend and Samarkand, Turkestan. Extensively used for stock feed and also for human food." (Hansen.)

"''Dzhugara,' similar to S. P. I. No. 24553. Base of some glumes black." (Carleton R. Ball.)

### Peach.

Apple.

Russian almond.

# Alfalfa.

Durra.

Millet.

# Peach.

Russian almond.

Black mulberry.

### 24771 to 24819—Continued.

24813. Phaseolus radiatus L.

"(No. 250.) Green gram as grown at Tashkend, near northern limit of cotton culture in Turkestan. Promising for culinary use and as a cover or catch crop in very dry, hot regions. It is largely grown in Turkestan under conditions similar to those obtained in New Mexico and Arizona." (Hansen.)

Both the green-seeded and black-seeded variety were in this lot.

### 24814. Medicago arborea L.

"(No. 256.) Seed from Vilmorin-Andrieux & Co., Paris, France, purchased February 2, 1909, the day before I took the steamer for America. Seed as grown in southern France. There appears to be a limited call for the seed in southern France, southern Italy, and northern Africa as a plant for very dry, stony places." (Hansen.)

Distribution.—A native of southern Europe, being found in Italy and Greece.

24815. Avena sativa L.

"(No. 74.)"

**24816.** Eragrostis abyssinica (Jacq.) Schrad.

"(No. 231.) A white-seeded form of a grass from Abyssinia, deemed valuable for dry regions. This sample was grown at the experiment station in Golodnaya or Hunger steppe, Turkestan." (Hansen.) See S. P. I. No. 24887 for distribution of this species.

24817. TRIFOLIUM LUPINASTER L.

"(No. 68.) A native clover common on the open steppe over an immense area of Siberia, extending north to the Arctic Circle. For the severest sections only. This lot was gathered near Obb, western Siberia, where the Obi River crosses the Siberian railway. Leaflets 5, like a lupine, whence the name lupinaster." (Hansen.)

24818. TRIFOLIUM LUPINASTER L.

See S. P. I. No. 24458 for distribution of this species.

24819. TRITICUM AESTIVUM L.

"(No. 77?.) Sample from Iresnoye village near Obb, Tomsk Province, at intersection of Obi River and Siberian railway, western Siberia. A good productive variety in this region." (Hansen.)

### 24825. PUNICA GRANATUM L.

From La Tour-de-Peilz, Vaud, Switzerland. Purchased from Mr. J. Brunner, at the request of Mr. O. F. Sillig, of this Department. Received March 9, 1909.

Plants and cuttings.

Legrellei. "A type of pomegranate remarkable for its vigor and hardiness. Supposed to be the only variety with double flowers which will flower and sometimes ripen its fruits in a climate like that of central France and even near Paris, provided that it is planted in a favorable exposure. Petals salmon-red, lined with white, the tips sometimes spotted or striated with white." (Sillig.)

Mung bean.

Tree alfalfa.

### Teff.

Oat.

Pomegranate.

Wheat.

### 24828 to 24833. Gossypium barbadense L.

From Egypt. Presented by F. Fletcher, esq., School of Agriculture, Ghizeh, Egypt, at the request of Mr. T. H. Kearney. Received February 27, 1909.

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24828.	Ashmuni.	24831.	Sultani.
24829.	Mit Afifi.	24832.	Jannovitch.
24830.	Abbasi.	24833.	Nubari.

These cottons were obtained for Mr. T. H. Kearney's experimental work in the Southwest.

### 24839 and 24840. GLYCINE HISPIDA (Moench) Maxim. Soy bean.

Grown at the Arlington Experimental Farm, Virginia, from seed obtained from Dr. S. P. Barchet, Shanghai, China, in 1906.

Seed of the following:

24839. Greenish. Grown in 1908 under temporary numbers 0578 and 0579, which proved to be identical.

24840. Yellow. Grown in 1908 under temporary number 0580.

### 24845 to 24851.

From China. Received through Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department, February 4, 1909.

The following seeds:

24845. TRITICUM AESTIVUM L.

"(No. 1381.) The wheat commonly cultivated around Tatienlu, China, at altitudes between 8,000 and 11,000 feet." (Wilson.)

24846 and 24847. Avena nuda L.

"(Nos. 1382 and 1382a.) These are the oats cultivated in the neighborhood of Tatienlu, China, at from 6,500 to 11,000 feet altitude." (Wilson.)

24848. HORDEUM VULGARE HIMALAYENSE Rittig.

Distribution.—Cultivated in the mountains of the Chinese Empire, at elevations from 9,000 to 14,000 feet.

24849. Hordeum vulgare violaceum Koern.

"(Nos. 1379 and 1380.) These are barleys cultivated in the highlands west of Tatienlu, China. No. 1380 (S. P. I. No. 24849), a purple kind, is capable of cultivation at greater altitudes than any other cereal both in west and northwest Szechwan, China. Its belt is 11,000 to 13,000 feet." (Wilson.)

Distribution.-Cultivated in the mountains of the Chinese Empire. Also reported as cultivated in Sweden.

**24850.** Fagopyrum tataricum (L.) Gaertn. Buckwheat.

"(No. 1383.) Ku ch'iao is the buckwheat commonly cultivated to the west and southeast of Tatienlu, China.'' (Wilson.)

Distribution.-Cultivated in the mountains of China, and in India and to some extent in Europe.

### 24851. RHEUM sp.

"(No. 1247.) This medicinal rhubarb is fairly common in the uplands to the west and southeast of Tatienlu, China, at altitudes between 10,000 and 12,000 feet. It prefers moist, rocky ground. I have sent it that you may compare it with the rhubarb sent from Hupeh, China, last year (S. P. I. No. 21319). Personally I consider the plants identical." (Wilson.)

### Wheat.

Oat.

Barley.

Barley.

Cotton.

Rhubarb.

### 24853 to 24855.

From Hangchow, Chekiang, China. Presented by Rev. W. S. Sweet. Received March 5, 1909.

The following seeds, notes by Mr. Sweet:

24853. Cannabis sativa L.	Hemp.
"This is the Stewart hemp grown in Kentucky."	
24854. Corchorus capsularis L.	Jute.
24855. Sesamum orientale L.	Sesame.
"Used here on cakes for food."	

24856 to 24858.

From Florence, Italy. Presented by the Comizio Agrario di Firenze, Sezione Consorzio Agrario per l'Acquisito di Materie Utili in Agricoltura, through Mr. Charles J. Brand. Received February 27, 1909.

The following seeds:

 24856 and 24857. ONOBRYCHIS VICIAEFOLIA Scop. (ONOBRYCHIS SATIVA Lam.)
 Lupinella.

 24856. (P. L. H. No. 3389.)
 24857. (P. L. H. No. 3390.)

 "Lupinella sgusciata."

Distribution.—An herbaceous perennial, native to Europe and extending into Asia. Occasionally used in the southern part of the United States as a forage crop.

24858. Medicago sativa L.

"Herba medica." (P. L. H. No. 3391.)

### 24859. Medicago sativa L.

From Bridgeport, Kans. Purchased from Mr. Carl Wheeler. Received March 6, 1909.

"Variegated alfalfa, grown in 1908 without irrigation, at Bridgeport, Kans., from a field seeded in 1891 and which since has suffered no deterioration in stand. The field also produced good crops of seed in 1905, 1906, and 1907." (J. M. Westgate.)

### 24876. Alectryon excelsum Gaertn.

From Wellington, New Zealand. Presented by Mr. T. E. Donne, secretary, Department of Industries and Commerce. Received March 8, 1909.

Seeds.

"The titoki is a handsome evergreen tree, from 40 to 60 feet high, with a trunk sometimes 3 feet in diameter, but usually smaller.

"The fruit is both singular and handsome; when ripe it is one-third inch long, and almost woody, with a flattened crest on the upper portion, terminating in a spurlike prominence on one side; when the seed is ripe the fruit vessel becomes ruptured transversely, but not along any definite line. It is one celled, and contains a single pear-shaped, black seed, which is surrounded by a bright-scarlet, fleshy cup, termed an 'aril,' and has a granulated surface; the fiery scarlet of the aril and the glossy jet-black seed form a pleasing contrast, which is harmonized by the deeprusset pubescence of the fruit vessel.

"The flowers are produced during the months of November and December; the fruit requires a year to arrive at maturity, so that flowers and ripe fruit may be found on the tree at the same time.

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# Alfalfa.

Titoki.

Alfalfa.

### **24876**—Continued.

"Properties and uses.—Although the titoki does not afford a durable timber under exposure, it is justly valued on account of its great strength, toughness, and elasticity, while it is straight in the grain, even, compact, and easily worked; it is of light reddish color and destitute of figure.

"It is suitable for purposes which demand great strength and elasticity, but do not involve any great amount of exposure to the weather. It is highly valued for bullock yokes; with the exception of mangiao it is perhaps the best of all New Zealand timbers for that purpose; it is excellent for ax handles and for the handles of carpenters' tools, for singletrees, for light framing for machinery, and for some purposes of the cabinetmaker; but is most highly esteemed by the wheelwright and coach builder, being used for light spokes, fellies, hubs, panels, and bent ware. It is also suitable for the manufacture of the woodwork of many kinds of agricultural implements.

"*Distribution*.—Alectryon comprises only a single species, which is endemic in New Zealand. It is common in lowland woods or on their margins throughout the North Island, and, crossing Cook Strait, finds its southern limit on Banks Peninsula, on the east coast, and between Hokitika and Ross, on the west coast.

"Although essentially a lowland plant, it ascends from the sea level to upward of 2,000 feet." ("The Forest Flora of New Zealand," by Thomas W. Kirk, F. L. S.)

"It may be of interest to know that this was introduced from New Zealand to California at least thirty-five years ago, and there are trees bearing regularly at Berkeley and elsewhere in northern California; but it is such a slow grower that nobody ever paid much attention to it." (*Extract from letter of Dr. F. Franceschi, April 14, 1909.*)

<b>2487</b> 8.	ANDROPOGON	SORGHUM	(L.)	Brot.	Milo.
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From Liberal, Kans. Purchased from Mr. John L. Boles. Received March 8, 1909.

"Grown from G. I. No. 235, selected originally for earliness, dwarfness, uniformity, and productiveness." (*Carleton R. Ball.*)

### 24879. PANICUM DIVARICATUM L. (?)

From Surinam, Dutch Guiana. Presented by Mr. J. R. Wigman, director, Botanic Garden, Paramaribo, Surinam. Received March 9, 1909.

### 24880 to 24911.

From Abyssinia. Presented by Mr. Hubert S. Smiley, Drumalis, Larne, Antrim County, Ireland. Received March 2, 1909.

### The following seeds:

24880.	Hordeum distiction L.	Barley.
Two ro	wed, white. "Grown in January on any ground; irrigation n	ecessary."
24881.	Hordeum sp.	Barley.
Two re	wed, white. "Grown in June on any ground except black	earth."
24882.	Hordeum sp.	Barley.
Two ro	wed, black. "Grown in June on high land."	
24883.	TRITICUM Sp.	Wheat.
Black.	"Grown in June and August on high and low land."	
24884.	TRITICUM AESTIVUM L.	Wheat.
White,	"Grown in July on the plateau."	

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<b>24880 to 24911</b> —Continued.	
24885. TRITICUM AESTIVUM L.	Wheat.
Purple. "Grown in July on any ground."	
24886. TRITICUM Sp.	Wheat.
"Grown in August on clay ground."	
24887 and 24888. Eragrostis abyssinica (Jaco	(.) Schrad. Teff.
<b>24887.</b> Brown. <b>24888.</b> White.	•
<i>Distribution.</i> —A native of the northeastern part of in the mountains of Abuvainia and also in India	Africa, being cultivated
24880 and 24800 CLEEP ADJETINIAL	Chiek nos
24880 Brown 24800 Rhad	omek-pea.
24009. Drown. 24090. Drack.	Flore
24091 and 24092. LINUM USITATISSIMUM L.	riax,
24091. Drown. 24092. Winte.	Field nee
24093 to 24093. 1180M  ARVENSE L.	Field pea.
24093. Diowii. 24093. Winte.	
24894. Black.	0
24690. ZEA MAYS D.	Corn.
Grown on low ground. 04807 A uppercease generic (L.) Prot	<b>D</b>
24897. ANDROPOGON SORGHUM (L.) Brot.	Durra.
Grown in March on low ground.	1 - Common 1
identical with No. 12373." (Carleton R. Ball.)	kanr seeds; apparently
24898. TRIGONELLA FOENUM-GRAECUM L.	Fenugreek.
"Grown in July on any ground."	
24899. Andropogon sorghum (L.) Brot.	Durra.
"Brown-seeded variety; seems to be identical with $R$ , $Ball$ .)	No. 11967.'' (Carleton
24900. VICIA FABA L	Horse bean.
"Grown in June on heavy brown ground."	
<b>24901.</b> HORDEUM VULGARE COELESTE L	Barley.
Six-rowed hull-less white and black seeded variety.	
<b>24902.</b> GUIZOTIA ABYSSINICA (L. f.) H. Cass.	
"A black pulse for making oil. Grown in July on c	av ground."
Distribution.—A native and cultivated herbaceous	plant of tropical Africa:
also cultivated in India.	prime in a prior minor,
24903. Triticum monococcum L.	Emmer.
"Grown in June on any ground."	
24904. LENS ESCULENTA Moench.	Lentil.
24904. LENS ESCULENTA Moench. 24905. Coriandrum sativum L.	Lentil. Coriander.
24904. LENS ESCULENTA MOCHCH. 24905. CORIANDRUM SATIVUM L. 24906. PHASEOLUS VULGARIS L.	Lentil. Coriander. Bean.
<ul> <li>24904. LENS ESCULENTA Moench.</li> <li>24905. Coriandrum sativum L.</li> <li>24906. Phaseolus vulgaris L.</li> <li>White.</li> </ul>	Lentil. Coriander. Bean.
<ul> <li>24904. LENS ESCULENTA MOEDEN.</li> <li>24905. Coriandrum sativum L.</li> <li>24906. Phaseolus vulgaris L.</li> <li>White.</li> <li>24907. Pimpinella anisum L.</li> </ul>	Lentil. Coriander. Bean. Anise.
<ul> <li>24904. LENS ESCULENTA MOCHCH.</li> <li>24905. CORIANDRUM SATIVUM L.</li> <li>24906. PHASEOLUS VULGARIS L.</li> <li>White.</li> <li>24907. PIMPINELLA ANISUM L.</li> <li>24908. CARTHAMUS TINCTORIUS L.</li> </ul>	Lentil. Coriander. Bean. Anise. Safflower.

### **24880 to 24911**—Continued.

24909. NIGELLA SATIVA L.

Distribution.—A native of the southern part of Europe and cultivated in the Mediterranean region and in India.

24910. Andropogon sorghum (L.) Brot. Durra.

"White. Probably identical with some of the Abyssinian sorghums imported and grown in 1904." (Carleton R. Ball.)

**24911.** Hordeum sp.

Two-rowed black variety. "Grown in January in very cold country."

	24912 to 24914.	Dolichos lablab	L. 1	Bonavist	bean.
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From Herradura, Cuba. Presented by Mr. F. S. Earle. Received March 8, 1909. Seeds of the following:

**24912.** White. **24914.** Black.

24913. Brown.

## 24915 and 24916. Amygdalus persica L.

From about six miles out from Canton, China. Procured by Mr. G. W. Groff. Received at the Plant Introduction Garden, Chico, Cal., February, 1909.

Grafts of the following:

**24915.** *Hung wat to* (red-stone peach).

**24916.** *Paak wat to* (white-stone peach).

"The Hung wat to is a new variety and so recognized by the Chinese. From what I can gather they believe the *Paak wat to* to be the best, but have some trees of the Hung wat to. The Hung wat to seems to blossom much quicker than the *Paak wat to*." (Groff.)

### 24917. Corchorus capsularis L.

From Shanghai, China. Presented by Rev. J. M. W. Farnham. Received March 9, 1909.

### 24921. Rosa sp.

From Battle Mountain, Nev. Presented by Mrs. W. C. Hancock. Received March 12, 1909.

"A small double rose, very floriferous, resembling the Chinese yellow rose; plant medium tall, bushy, very hardy." (*Frank N. Meyer.*)

### **24922.** Stizolobium sp.

From Saigon, Cochin China. Presented by the Botanical Garden of Saigon, through Mr. Jacob E. Conner, United States consul. Received March 20, 1909.

### 24923. MEDICAGO SATIVA L.

From Heilbronn, Württemberg, Germany. Purchased from Mr. Heinrich Becker, at the request of Mr. Charles J. Brand. Received March 12, 1909.

Alt-Deutsche Fränkische lucern.

### **24924**. HIBISCUS sp.

From Oporto, Portugal. Presented by Baron de Soutellinho, 115 Entre Quintas. Received March 11, 1909.

"A pretty pink Hibiscus. It was a hybrid raised by me of *Hibiscus coccineus* Walt.  $\times$  moscheutos L. The culture is the same as for *H. coccineus* Walt. It is a deciduous perennial." (Soutellinho.)

### Peach.

Barley.

# Rose.

### Alfalfa.

## 24925. Polygonum bistorta L.

From Berlin, Germany. Presented by Prof. Dr. A. Engler, Director of the Royal Botanic Garden. Received March 12, 1909.

"The root of this species of Polygonum is reported to contain from 13.5 to 21 per cent of tannin. Introduced to test its availability as an agricultural crop for tannin production." (W. W. Stockberger.)

Distribution.—Found throughout the temperate region of Europe and Asia, extending into alpine and arctic regions.

### **24926.** Trifolium pratense L.

From Knoxville, Tenn. Received through Mr. S. M. Bain, special agent, March 3, 1909.

"This seed is from plants which successfully resisted the attacks of *Collectrichum* trifolii Bain. This disease has materially affected the successful production of clover in Tennessee and elsewhere." (J. M. Westgate.)

### 24927. MANGIFERA INDICA L.

From Cavite, Luzon, P. I. Presented by Mr. Donald MacIntyre, Moanalua Gardens, Honolulu, Hawaii Territory. Received March 3, 1909.

Caraboa. The same remarks apply to this as to No. 24170.

Distribution.—A large tree, native to the tropical region of India and cultivated generally in the Tropics. In America cultivated in the West Indies, in tropical Mexico, and in southern Florida and southern California.

### 24928 to 24933.

From Riedöschingen, Germany. Purchased from Mr. Conrad Boehler, Alma, Nebr., through Mr. J. M. Westgate. Received February 26, 1909.

The following seeds (notes by Mr. Boehler):

24928. MEDICAGO SATIVA L.

*Provence.* This is one of the best and most productive fodder plants of Germany, lasting eight to ten years.

**24929.** TRIFOLIUM PRATENSE L.

The standard legume hay crop of Germany.

**24930.** Trifolium repens L.

This clover, harvested while in bloom, produces the well-known calf hay.

24931. ONOBRYCHIS VICIAEFOLIA Scop.

Esparsette, or sainfoin, produces good, sweet hay. Lasts from six to eight years.

24932. VICIA SATIVA L.

Especially suitable for green manuring on poor soils. May be seeded alone or with oats for green fodder.

24933. MEDICAGO LUPULINA L.

An excellent weed destroyer; produces a high yield, but a rather rough fodder. It can be cut but once.

### **24935 and 24936.** STIZOLOBIUM spp.

From Ceylon. Presented by Mr. C. Drieberg, secretary, Ceylon Agricultural Society, Colombo, Ceylon. Received March 13, 1909.

Seeds of each of the following:

24935. Small, black.

24936. Gray.

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# Red clover.

Mango.

# White clover.

# Red clover.

Sainfoin.

Common vetch.

Alfalfa.

### 24938. CHAYOTA EDULIS Jacq.

From Los Angeles, Cal. Presented by Mr. M. E. Cheney. Received March 15, 1909.

A medium-sized, pear-shaped, white variety, secured for cooperative work with the State Experiment Station, Baton Rouge, La. See No. 24671 for distribution of this species.

### 24939. Phaseolus semierectus L.

From Belize, British Honduras. Presented by Mr. E. J. F. Campbell, superintendent, Botanic Station. Received February 24, 1909.

See No. 24639 for distribution of this species.

### 24940. PISUM ARVENSE L.

From Guelph, Ontario, Canada. Presented by Prof. C. A. Zavitz, Ontario Agricultural College. Received March 16, 1909.

Early Brittain. An extremely promising variety, recently introduced into Ontario.

### 24956 to 24997. ANDROPOGON SORGHUM (L.) Brot.

Grown on the government experimental farm at Amarillo, Tex., by Mr. John F. Ross, season of 1908. Received March, 1909.

The following seeds:

24956 to 24964.

24956.	(G. I. No. 223.)	24961.	(G. I. No. 231.)
24957.	(G. I. No. 224.)	24962.	(G. I. No. 232.)
24958.	(G. I. No. 227.)	24963.	(G. I. No. 234.)
24959.	(G. I. No. 229.)	24964.	(G. I. No. 331.)
24960.	(G. I. No. 230.)		

Selected since 1905 for dwarf stature, erect heads, productiveness, and other desirable characteristics by Messrs. A. H. Leidigh and Carleton R. Ball.

### 24965 to 24970.

24965.	(G. I. No. 149A.)	24968.	(G. I. No. 236.)
24966.	(G. I. No. 149B.)	24969.	(G. I. No. 332A.)
24967.	(G. I. No. 149C.)	24970.	(G. I. No. 332B.)

Selected since 1905 for dwarf stature, erect heads, productiveness, and other desirable characteristics by Messrs. A. H. Leidigh and Carleton R. Ball.

### 24971 to 24984.

24971.	(G. I. No. 71.)	24978.	(G. I. No. 335.)
24972.	(G. I. No. 204.)	24979.	(G. I. No. 336.)
24973.	(G. I. No. 205.)	24980.	(G. I. No. 337.)
24974.	(G. I. No. 206.)	24981.	(G. I. No. 338.)
24975.	(G. I. No. 207.)	24982.	(G. I. No. 339.)
24976.	(G. I. No. 210.)	24983.	(G. I. No. 340.)
24977.	(G. I. No. 333.)	24984.	(G. I. No. 341.)

Selected since 1905 for dwarf stature, productiveness, and other desirable characteristics by Messrs A. H. Leidigh and Carleton R. Ball.

### Blackhull kafir.

Dwarf milo.

Chayote.

Field pea.

Milo.

### 24956 to 24997—Continued.

### 24985 to 24989.

24985.	(G. I. No. 34.)	24988.	(G. I. No. 212.)
24986.	(G. I. No. 68.)	24989.	(G. I. No. 215.)
24987.	(G. I. No. 69.)		

Selected since 1905 for dwarf stature, productiveness, and other desirable characteristics by Messrs, A. H. Leidigh and Carleton R. Ball.

### 24990 to 24995.

### Brown kowliang.

- 24990. (G. I. No. 122.) Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 17922 by Mr. Carleton R. Ball.
- **24991.** (G. I. No. 123.) Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 17923 by Mr. Carleton R. Ball.
- **24992.** (G. I. No. 171A.) **24994.** (G. I. No. 171C.)
- **24993.** (G. I. No. 171B.)
- Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 18518 by Mr. Carleton R. Ball.
- **24995.** (G. I. No. 261.) Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 20610 by Mr. Carleton R. Ball.

### 24996 and 24997.

# **24996.** (G. I. No. 27.) Originally from Algeria, through France. Improved by Mr. Carleton R. Ball through selection for erect heads, seed-holding power, etc.

**24997.** (G. I. No. 81.) Seed supposedly from Egypt; received from Austria. Improved by Mr. Carleton R. Ball through selection for erect heads, seed-holding power, etc.

### 24998 and 24999.

From Para, Brazil. Presented by Mr. George H. Pickerell, United States consul. Received February 23, 1909.

The following seeds:

24998. VIROLA SURINAMENSIS (Rol.) Warb.

Distribution.—A native of the Amazon Valley in Brazil, of Guiana, and of the West India Islands.

24999. Sapindus saponaria L.

Distribution.—A small tree found on the Florida keys, in Jamaica, and in Brazil. Cultivated in southern Florida and southern California.

### **25000.** CAJAN INDICUM Spreng.

From Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture, C. Juarez, Chihuahua, Mexico. Received March 17, 1909.

"This plant grows to about 20 feet high here in Mexico in the warmer regions; it might do all right in southern California or the warmer belts farther north." (Stearns.)

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Red kafir.

### White durra.

### 25001 to 25015.

From near Bakuba, a distance of 9 hours from Bagdad, Turkey. Procured by Mr. William C. Magelssen, United States consul, Bagdad, Turkey, for Mr. T. H. Kearney's work in the Southwest. Received March 15, 1909.

The following cuttings:

## 25001 to 25007. PUNICA GRANATUM L. Pomegranate.

- **25001.** Selimi. "A vigorous and very beautiful tree; fruit very large (the largest pomegranate of all), weighing sometimes as much as 1 kilo; the skin is thin, sometimes bright red when ripe; crown small and short; pulp is melting, very thick, and of a very dark red. The seeds are thin and small. The taste is agreeable, slightly acid; the flavor is exquisite. The fruit is exquisite and of the very first quality; ripens in October. It is highly esteemed in the trade and will keep for a year." (*Kearney.*)
- **25002.** *Hachiri* (indifferent). "Poor variety, blossoming much, but knotting little. Fruit average sized; skin thin, light green, tinged with pink. Pulp white, very sour, containing large seeds. The fruits, which are sold by the weight, are used as a condiment in the kitchen." (*Kearney.*)
- 25003. Hilou Ahmar.
- **25004.** Bila Hab (seedless). "Obtained it is said by means of cuttings, the marrow of which is removed with a needle. The shrub is rather stubby, and bears little fruit. Fruit of average size, with light-green skin, almost white; pulp rosy colored, sweet, but flavorless and not luscious. In this pulp instead of seeds there is a white albumen, soft, watery, and without kernel, so that the fruit may be eaten entirely. This variety is rare and little sought after." (Kearney.)
- **25005.** *Hilou Abiade* (sweet white). "Common tree, very fruitful; fruit rather large, thin skinned and of a light-green color; seeds elongated, white and with a tinge of pink. Pulp is luscious and sweet. This variety is common, but rather good." (*Kearney.*)
- **25006.** Roman Eswed (black pomegranate). "Shrub with a reddish stem, longer boughs, and larger leaves than other varieties. Fruit of average size, round with flattened crown; bark rather thin, of a very dark-violet color. Pulp melting and of an agreeable, sourish-sweet taste. Excellent variety." (Kearney.)
- **25007.** Gourtmi. "Very prolific tree; fruits small and growing in clusters at the end of the branches; the skin is thick, bright red and shiny. The seeds are rather large, with a sweet pulp. Indifferent variety." (*Kearney.*)

Grape.

25008 to 250	15. Vitis vinife	ra L.	
25008.	Erz Roumli.	25012.	Ajmi.
25009.	Kurdi.	25013.	Chaweesh.
25010.	Buhirzi.	25014.	Chadeh Arabieh.
25011.	Kishmishi.	25015.	Deis-al-A'anze.

"The Deis-al-A'anze (S. P. I. No. 25015) is said to be a very good variety, the Buhirzi (S. P. I. No. 25010) is early ripening, and the Erz Roumli (S. P. I. No. 25008) very rich yielding." (Magelssen.)

### 25016 to 25021.

From Khartum, Sudan. Presented by Mr. R. Hewison, Director of Agriculture and Lands, Sudan Government, at the request of Mr. ('. V. Piper. Received March 16, 1909.

The following seeds (native names quoted):

25016. VIGNA UNGUICULATA (L.) Walp.

" Masri "

**25017.** Andropogon halepensis (L.) Brot. Johnson grass. "Garawi."

"A variety of Johnson grass without rootstocks. This is a thing I have been looking for for some time, and judging from its behavior at Chillicothe, Tex., I think we have something that is going to be of high value. It looks something like Johnson grass, but is entirely devoid of rootstocks, and therefore could be easily eradicated." (C. V. Piper.)

Distribution .-- Apparently a native of southern Europe and Asia, but distributed as a weed and by cultivation generally throughout warm countries, extending north in the United States to southern Pennsylvania and Missouri.

25018. Dolichos lablab L.

"Kashrangaque."

25019. MEDICAGO SATIVA L.

25020. Pennisetum Americanum (L.) Schum. Pearl millet.

"Dokhu."

Distribution.—Cultivated generally throughout the Tropics; used in the Southern States for the seed and grown farther north for fodder.

25021. CAJAN INDICUM Spreng.

"Ads."

Distribution.-Probably a native of India, ascending to 6,000 feet in the Himalayas, and cultivated generally in the Tropics.

### 25022. MEDICAGO SATIVA L.

From Oberschüpf, Baden, Germany. Secured from Mr. Ludwig Keller, Oberschüpf, amt Boxberg, Baden, Germany, at the request of Mr. Charles J. Brand. Received March 11, 1909.

Alt-Deutsche Fränkische lucern.

### **25068.** Pelargonium odoratissimum (L.) Ait.

From Algeria. Presented by Dr. L. Trabut, Government Botanist, Mustapha-Alger, Algeria. Received March 19, 1909.

"Cuttings of oil geranium cultivated in Algeria. This variety does not seed." (Trabut.)

This was produced for Dr. H. True's experiments in the production of rose geranium oil.

Distribution.—A native of the Cape of Good Hope; cultivated in Spain and Algeria.

### 25079. Medicago sativa L.

From Grand Isle, Vt. Collected by Mr. N. Schmitz, summer of 1908.

"Seed from a single plant of alfalfa. This individual plant was growing under very undrained-soil conditions and local testimony indicated that this and associated scattering plants had withstood the unfavorable conditions present for eighteen years." (J. M. Westgate.)

# Alfalfa.

Geranium.

### Alfalfa.

Cowpea.

Bonavist bean.

Alfalfa.

### 25080. ALEURITES CORDATA (Thunb.) Muell. Arg.

### Japan wood oil.

From Tokyo, Japan. Purchased from The Japan Seed and Plant Company (Limited). Received at Seattle, Wash., February 8, 1909. Received at Washington, D. C., March 23, 1909.

"This shipment of seeds was imported for acclimatization experiments and for the extraction of oil to be used in chemical and physical analyses for comparison with S. P. I. No. 25081.

"In Japan this species is most commonly known under the names abura-giri and yama-qiri, meaning, respectively, oil-kiri and wild-kiri, kiri (giri) being the name for Paulownia imperialis, which it greatly resembles in its foliage. It is a tropical or semitropical plant and grown only in the provinces to the south of Tokyo (36° lat.). It is found also in Formosa, the coastal provinces of China as far inland as Chekiang, the Isle of Hainan, and sparingly in farther India and Cochin China, being indigenous probably to Japan and Formosa only.

"The seeds are very small compared with those of the other species of Aleurites, being about the size of large castor-oil seeds, which they very much resemble. The oil expressed from them, which serves chiefly as a drying oil, is comparable to the more abundant t'ung oil of China and to perilla oil, which is largely substituted for it in Japan, as it can be more cheaply grown. In Japan, as in China, the wood oil is grown on land not suited for general farming." (W. Fischer.)

### ALEURITES FORDII Hemsl. 25081.

### China wood oil.

From Hankow, China. Purchased through Hon. William Martin, consul-general.

"This shipment of seeds was imported for the purpose of continuing on a large scale some experiments commenced four years ago in the acclimatization of the tree which produces the t'ung oil or China wood oil of commerce. Of the few 1-year-old seedlings distributed by mail throughout the Southern and Pacific States, those sent to the Gulf have done so unusually well, growing so rapidly and some of them blossoming and fruiting the second year from transplanting, that it was thought advisable, now that the section climatically best adapted to them has been discovered, to try larger plantations, not only to find out whether they would be a paying crop on cheap land in the South, but to determine the best treatment necessary to make them a commercial success.

"The t'ung tree or t'ung-shu, from the seeds of which China wood oil is obtained, is distributed widely throughout the provinces drained by the Yangtze, principally up the river and south of it, extending into the peninsula. Its product should not be confused with the true wood oil, or Gurjun balsam, which is an oleo-resin and which is the exudation from the trunks of several species of Dipterocarpus of Indo-China. The name "wood oil" for the Chinese product is really a misnomer and was applied by foreigners on account of the universal use of the oil as a covering for woodwork. To the Chinese the tree, seed, and oil are known, respectively, as t'ung-shu, t'ung-tze, and t'ung-yü, the word t'ung being applied also quite generally to several other trees of similar aspect of foliage, such as the catalpa, Sterculia plantanifolia, and Paulownia imperialis. The trees are more restricted to the thin, dry soils of the hilly regions, where farming is unprofitable and where also the Chinese claim that they bear larger crops. They are propagated by seeds which sprout in a short time and are placed where the trees are to stand permanently; also by hard-wood cuttings, which root readily. The tree should be tried in this country, not only for its valuable seeds, but as an ornament. It attains a height of from 20 to 40 feet, and its large, heartshaped leaves, smooth, green bark, and striking panicles of white flowers slightly tinged with red, which appear with the leaves in the spring, make it a very desirable

### 25081—Continued.

ornamental tree at all seasons of the year. The fruits, which ripen in September, are the size of large, unhulled black walnuts and contain 5 warty seeds the size of chestnuts and the general form of castor-oil seeds.

"The seeds, which make up somewhat more than half by weight of the entire dried fruit, consist of 48 per cent shell and 52 per cent kernel, or 24 per cent oil cake and 28 per cent oil. During the past year the price of the oil in the United States was about 65 cents a gallon of 8 pounds, with linseed at 42 cents.

"For centuries the Chinese have found innumerable uses for wood oil, chief of which may be mentioned the preservation of woodwork from moisture, the waterproofing of cloth, umbrellas, etc., and the making of oil papers and putty; from the oil cake, various calking compounds and fertilizer, and the best India inks from the soot obtained from its combustion. Americans are the only foreigners who have used wood oil to any great extent and then only during the last ten or twelve years. Their appreciation of its good qualities is shown by the steady demand, which has led several importing firms to establish branch houses in the chief exporting centers, Hankow and Hongkong, and by the steadily increasing importations, which grew to 2,000,000 gallons in 1907.

"The wood oil now imported is used almost exclusively in varnish making, but the manufacture of such products as linoleum, enamel paints, and high-grade elastic oilcloths has just commenced, while other uses have been suggested. It belongs to the class of drying oils typified by linseed, but it is much harder, quicker drying, and more impermeable to water, though less lightproof and elastic. Owing to certain physical disadvantages which it possesses, it can not replace linseed, but used in conjunction with it gives most excellent results, especially for outdoor use, where such qualities as it possesses are highly desirable." (W. Fischer.)

Distribution.—A native of the southeastern part of China, extending from Hongkong north to the province of Hupeh.

### 25082 and 25083.

From China. Presented by Mr. D. MacGregor, Shanghai, through Mr. Frank N. Meyer. Received March 20, 1909.

Seeds of each of the following:

25082. Astragalus sinicus L.

From near Shanghai. "Used in the Chekiang Province as a leguminous green-manure crop on the low-lying rice fields." (*Meyer.*)

Distribution.—A native of the southeastern part of the Chinese Empire, and of Japan.

**25083.** Arisaema sp. (?)

From Mokanshan. "Fruit plum colored, aromatic, vinuous flavor; seeds in pulp; fruit the size of a plum." (*MacGregor.*)

## 25087. PRUNUS PSEUDO-CERASUS Lindl. Flowering cherry. From Japan. Purchased from the Yokohama Nursery Company. Received March, 1909.

"Seedling plants and seeds of the wild cherry of Japan upon which the Japanese bench-graft all their flowering cherries. I am informed by the Yokohama Nursery Company that this wild cherry, in contrast with the double-flowering and other Japanese ornamental varieties, can be reproduced very easily from cuttings, and that the scions of named varieties are grafted on pieces of the root and not budded, as is the custom in this country with the fruiting cherries. May this new stock not possibly

### 25087—Continued.

be easier to cultivate than the Mazzard or Mahaleb seedlings which are now in use and the propagating work done in the winter on the bench instead of in the field? The difficulties in getting a stock large enough to bud in regions where the leaf-blight is bad has suggested the trial of this Japanese wild cherry as a possible way out of this difficulty. By recent tests I have shown that this wild form strikes very easily in sand." (Fairchild.)

### **25088.** VIGNA UNGUICULATA (L.) Walp. Cowpea.

From Muskegon, Mich. Presented by Mr. C. D. McLouth. Received March 15, 1909.

Red Ripper (?). "My seed of this variety has been developed from a solitary plant found in a field of Whippoorwill cowpeas grown in 1905. This seed was purchased from a local dealer. It is by far the best variety I have grown in its earliness and abundant pod production." (McLouth.)

### **25089.** BELOU GLUTINOSA (Blanco) Skeels.

From Philippine Islands. Presented by Mr. William S. Lyon, Manila, P. I. Received March 22, 1909.

Seed. See No. 24591 for description.

Distribution.—A small tree, native of the Philippine Islands.

### 25090 and 25091.

From Strasburg, Germany. Presented by Mr. George Wintz, Benson, Minn., through Mr. J. M. Westgate. Received March 15, 1909.

Seeds of each of the following:

25090. TRIFOLIUM PRATENSE L.

25091. Medicago sativa L.

"This seed was received under the name Spitzeklee, which is said to be hardier than ordinary alfalfa." (Westgate.)

### 25094. FICUS SYCOMORUS L.

From Cairo, Egypt. Presented by Mr. W. Lawrence Balls, botanist, Khedivial Agricultural Society. Received March 22, 1909.

"This species of fig is grown largely along the north coast of Africa as a shade tree. Giant specimens are to be found in Alexandria and Cairo and at Biskra. The trees are beautiful shade trees, and make wonderful avenues in these dry climates where irrigation is practiced. The fruits are small, about the size of a pigeon's egg, and are sometimes eaten by the Algerian Arabs. They are, however, of no commercial importance.

"As the plants are grown easily from cuttings and make very rapid growth this tree may be expected to thrive well in the practically frostless regions of California and Florida. I do not know how low temperatures it will stand, but probably not more than a temperature of 18° or 20° F.

"Like many valuable things, it has its drawbacks. The Europeans in Egypt complain of a bad odor exhaled by the tree during the fruiting season." (Fairchild.)

"This tree will probably not fruit in the absence of its peculiar fig insect, which is in this case not a Blastophaga at all but belongs to another genus. Probably this will solve the malodorus fruit problem. I fear you will find it rather tender." (Walter T. Swingle.)

Distribution .- A large tree found in Egypt and the adjacent countries of the northeastern part of Africa.

Red clover. Alfalfa.

## 25095. CITRULLUS VULGARIS Schrad.

### Watermelon.

From the island of Raiatea, Society Islands. Presented by Mr. Julius D. Dreher, United States consul, Tahiti, Society Islands. Received March 15, 1909.

"This melon was of a rich green color; its rind was thin and its pulp unusually red, tender, and sweet. It was eaten at the consulate and we regarded it as so good that I decided to send the seed to America for trial." (*Dreher.*)

### **25096.** Passiflora quadrangularis L.

From Ancon, Canal Zone, Panama. Presented by Mr. Henry F. Schultz, horticulturist, Isthmian Canal Commission, Quartermaster's Department. Received March 24, 1909.

"I doubt whether the fruit of this variety is as good as some of those in Mexico, but I must say that the seed was taken from one of the best fruits which I have sampled in Panama." (Schultz.)

Distribution.—A native of Central America, being cultivated as well as found wild in Guatemala, Nicaragua, and Panama.

### 25097 to 25101.

Grown at Miami, Fla., by Mr. P. J. Wester, in charge of Subtropical Garden. Numbered for convenience in recording distribution, March 24, 1909.

**25097** and **25098**. Original seed presented by Dr. A. Robertson Proschowsky, Nice, France.

25097. Solanum marginatum L.

"(S. G. No. 1051.) A shrub attaining a height of from 3 to 5 feet; foliage white tomentose, prickly; flowers 1 inch or more in diameter, white with blue veins or ribs; fruit 1 inch or more across, prickly." (Wester.)

Distribution.—A native of the upper part of the Nile Valley, especially in Abyssinia.

25098. Melia Azedarach L.

"(S. G. No. 1052.) Indigenous to Jamaica. A low-growing tree with leaves deeply incised; flowers in axillary panicles; small, light lilac, fragrant; in constant succession." (*Wester.*)

### **25099.** CERATONIA SILIQUA L.

### Carob.

"(S. G. No. 900.) Original seed presented by Mr. J. F. Kraemer, Miami, Fla., who received it from a United States consul in Spain. This is said to be very superior to the ordinary varieties grown." (*Wester.*)

Distribution.—A tall tree, native in the region bordering on the Mediterranean Sea and cultivated generally in the Tropics. In the United States cultivated in southern Florida and southern California.

25100. GALPHIMIA NITIDA Hort.

"(S. G. No. 941.) Original seed presented by Mr. S. K. Brown, Lemon City, Fla. A shrub 4 or more feet tall, quite compact in growth and pyramidal in habit. The small, yellow, fragrant flowers are produced in great profusion." (*Wester.*)

**25101.** Ocotea catesbyana (Mich.) Sarg.

### Lancewood.

"(S. G. No. 996.) Indigenous to south Florida and grown from seed collected in Brickell hammock, Miami, Fla. This is an evergreen, glabrous tree, attaining a height of from 20 to 30 feet; the leaves are narrowly elliptic lanceolate,

### 25097 to 25101—Continued.

making a very dense crown. From the observations I have made of this tree in its native habitat I believe it is well worth introducing as a shade tree in all parts of the United States where it would not be injured by frost." (*Wester.*)

Distribution.—A native of southern Florida and the Bahamas.

### 25104 to 25106. CHAETOCHLOA ITALICA (L.) Scribn. Millet.

From Haka, Chin Hills, Burma. Presented by Rev. H. East, A. B. Mission. Received March 10, 1909.

Seeds of the following:

25104. A yellow-seeded variety.

"Chin name *Fatao*. Is considered as good as rice by the Chins, and it is a good food, rich in gluten." (*East.*)

25105. A black-seeded variety.

"Chin name Yet(r)ing. Is also used as food, but is less valued than Fatao (S. P. I. No. 25104) and *Hlisen* (S. P. I. No. 25106)." (*East.*)

25106. A yellow-seeded variety.

"Chin name *Hlisen*. Has a large grain; is a good food, but not as rich as *Fatao* (S. P. I. No. 25104). Both kinds have unusually large heads." (*East.*) "These three varieties need lots of water to grow." (*East.*)

### 25107. CAMOENSIA MAXIMA Welw.

From Angola, West Africa. Presented by Mr. John Gossweiler, botanist in the service of the Portuguese Government of Angola, at the request of Mr. A. E.
Evans, Director of Agriculture, Gold Coast, West Africa. Received March 24, 1909.

Seeds.

"Probably the largest flowered and certainly one of the most delicately beautiful vines in the world is *Camoensia maxima*, which has recently flowered for the first time in the United States. Its pure white, fluted petals are margined with gold, changing to a darker tinge with age, and have a delicious fragrance when first opening. The individual flowers are sometimes 8 inches long, which we believe eclipses even the largest flowered hybrid clematis. This magnificent vine adorts the tops of lofty trees on the outskirts of forests in tropical Africa. The clusters are pendulous and sometimes contain nearly a dozen flowers. Unlike the sweet pea, the petals are separate, not forming wings and a keel. The standard is fully 4 inches across.

"The great drawback to the cultivation of this noble plant is that it will bloom only in hothouses of considerable size, and hitherto it has been extremely slow in coming into bloom. Plants were first distributed by Kew in 1873, but did not flower in cultivation until 1882, when blooms appeared at Trinidad. However, Mr. George W. Oliver, propagator to the United States Department of Agriculture, who first bloomed the Camoensia here, thinks it 'very likely that this plant will flower oftener and more profusely in this country than in Europe, particularly in England, because of our higher summer temperature, which enables the plant to grow rapidly and ripen its wood.'

"The Camoensia is named after the Shakespeare of the Portuguese, the poet Camoens, author of 'Lusiade." (The Garden Magazine, May, 1908.)

"I am informed by Doctor André, of Trinidad, that Camoensia is a wonderful success there. It ought to be extensively planted in Hawaii, Panama, Porto Rico, and the Philippines." (*Fairchild.*)

Distribution.—A tall-climbing vine, native of the woods of western tropical Africa, extending from Guinea through the Kongo region and into Portuguese West Africa.

## 25110 to 25112. MEDICAGO SATIVA VARIA (Mart.) Urb.

### Sand lucern.

From Zürich, Switzerland. Presented by Dr. G. Stebler, director, Schweizerische Samenuntersuchungs und Versuchsanstalt, Zürich, through Mr. Charles J. Brand. Received March 13, 1909.

Seeds of each of the following:

**25110.** (P. L. H. No. 3412.) **25112.** (P. L. H. No. 3414.)

**25111.** (P. L. H. No. 3413.)

"The samples of seed represented by these numbers were not grown in Switzerland, but were submitted by seedsmen to the seed control station for test." (*Brand.*)

### 25114. Medicago sativa L.

From the Arlington Experimental Farm, Virginia. Received March 27, 1909.

*Peruvian.* "Seed secured from crop of 1908 from transplanted crowns of Peruvian alfalfa. The original crowns were transplanted from a broadcasted stand in April, 1906, to rows 39 inches apart for the purpose of increasing the production of seed." (*Westgate.*)

## 25115. MEDICAGO SATIVA VARIA (Mart.) Urb. Sand lucern.

From Bromberg, West Prussia, Germany. Purchased from Mr. Ludwig Keller, Oberschüpf, Baden, Germany, who secured the seed from Rudolph Zawadski, in Bromberg, at the request of Mr. Charles J. Brand. Received March 18, 1909.

### 25116 to 25118.

From Pithoragarh, Kumaun District, India. Presented by Miss L. W. Sullivan. Received March 26, 1909.

Seeds of each of the following:

25116 and 25117. ORYZA SATIVA L.

- **25116.** "Jamal. These seeds are first germinated by being placed in a basket set in a tub of water; when roots are about 1 inch long the seed-lings are sown thick in a swampy place; when about 8 or 10 inches high like grass the small plants are separated and transplanted into a swampy place. We put the seeds to soak in May and harvest the grain in October." (Sullivan.)
- **25117.** "This, our staple food (rice in husk), grows in ordinary soil during our rainy season when the ground is never dry. We sow in March and harvest in September. The fields are weeded three times." (Sullivan.)

25118. GLYCINE HISPIDA (Moench) Maxim.

"Bhat dal." A small, black variety of soy bean.

### **25119.** Medicago sativa L.

From Vienna, Austria. Secured from Gebrüder Boschan, successors to Wieschnitzky & Clauser, Vienna, Austria, through Mr. Charles J. Brand. Received March 13, 1909.

### **25120.** Stizolobium sp.

From Sibpur, Calcutta, India. Presented by Mr. A. T. Gage, superintendent, Royal Botanic Garden. Received March 29, 1909.

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### Alfalfa.

# Alfalfa.

Soy bean.

### Rice.

### 25121 to 25126.

From Brazil. Presented by Mr. William Hope, The-Kenesaw, Washington, D. C., through Mr. W. W. Tracy, sr. Received March 25, 1909.

Seeds of each of the following:

## 25121 to 25123. CITRULLUS VULGARIS Schrad. Watermelon.

**25121.** Black seeded. **25123.** Red seeded.

25122. Black seeded.

25124 to 25126. Cucumis melo L.

**25124.** Long melon; yellow, wavy, smooth skin; yellow flesh; rind 1 centimeter.

25125. Long melon; yellow, wavy skin; white flesh; very little rind.25126. Round melon; yellow, wavy skin; yellow flesh; rind 1 centimeter.

### 25127. CITRUS TRIFOLIATA L.

From Tsingtau, China. Received through Mr. Wilbur T. Gracey, United States consul, who procured the seed from Mr. Haas, head forester of the German Government at Tsingtau, March 29, 1909.

Procured for Mr. Walter T. Swingle's hybridization work.

### 25130 and 25131. GLYCINE HISPIDA (Moench) Maxim. Soy bean.

From Knoxville, Tenn. Grown at the Agricultural Experiment Station. Received through Prof. H. A. Morgan, March 29, 1909.

Seeds of each of the following:

25130. Early brown.

25131. Medium yellow.

### 25132 to 25149.

From Soochow, Kiangsu, China. Presented by Rev. R. A. Haden, B. D. Received March 19, 1909.

The following seeds (quoted descriptions by Mr. Haden):

25132. Dolichos lablab L.

### Bonavist bean.

Black seeded. "Purple, flat bean; name from color of bloom, stalk, and leaves; all are purple. Eaten in green state, pod and all. Enormously productive in vine and leaf: not especially remarkable in the amount of fruit. Should be given plenty of room and vine supported."

## 25133 to 25137. GLYCINE HISPIDA (Moench) Maxim. Soy bean.

- **25133.** Small yellow. "Tom Thumb soy. The smallest variety; used only for bean sprouts."
- **25134.** Large yellow. "Mammoth yellow soy. This is the very largest of the yellow soys. Used especially for oil and bean curd."
- **25135.** Large green. "Tea green soy. Sutt variety. May be put to all the uses of the soy, but in practice they are only used to make parched Sutt beans, eaten as a relish."
- **25136.** Large reddish brown. "Mammoth red soy. Used only for eating in the green state, but may be used for all the soy purposes. This is the largest of all the soys."
- **25137.** Looks like *Meyer.* "Mammoth mottled soy. Used especially for bean curd; said to give a special flavor to this; has also abundant oil qualities."

### Muskmelon.

## 25132 to 25149—Continued.

25138. GLYCINE SOJA Sieb. & Zucc.

"Horse-feed peas, a literal translation of the Chinese. It grows wild over a very large portion of China. In the north peas by the same name, but a different variety, are extensively cultivated. Long vines, climbing on anything in reach; fruited from bottom to top. I think this should receive special attention, for the following reasons: It will be a good nitrogen producer. It is extensively used in Chinese médicine, entering largely into prescriptions taken internally for eye trouble. It will make a better drink than anything except good coffee. Parch until brown the whole pea, grind, and treat as boiled coffee. This I have tried and am very fond of it as a drink."

Distribution.—An annual vine, native and cultivated in the eastern part of Asia, extending from Amur and Manchuria through China and eastern India; also in Japan.

25139 to 25141. PHASEOLUS ANGULARIS (Willd.) W. F. Wight.

**25139.** Red.

**25141.** Mottled black.

**25140.** Yellow.

"The uses of the above are the same as cowpeas, but the foliage is more abundant."

25142 and 25143. PHASEOLUS CALCARATUS Roxb.

25142. Red.

25143. Greenish yellow.

"From the shape of the seed these are called 'Crab-eye.' They are also the 'Lazy-man' peas, for the reason that they replant themselves. Growth rank; vine bunchy, not very long. Should be extra fine for renewing land and for fodder."

Distribution.—Native and cultivated in India and the Malay Archipelago, rising to an elevation of 5.000 feet in the Himalayas.

### **25144 to 25147.** VIGNA UNGUICULATA (L.) Walp.

25144. Small red.

25145. Large red. "Vine rank, long, prolific; used especially for gruel."

25146. Reddish brown.

25147. Large brown eye.

25148 and 25149. VIGNA SESQUIPEDALIS (L.) W. F. Wight.

25148. Reddish brown.

25149. Marked red and white.

### 25152 to 25160. Dolichos LABLAB L. Bonavist bean.

Grown at the Arlington Experimental Farm, Virginia, season of 1908. Numbered for convenience in recording distribution, March 30, 1909.

Seeds of each of the following:

**25152 to 25155.** Original seed presented by Dr. S. P. Barchet, Shanghai, China.

**25152.** (Agros. No. 0525.) A variety with white seeds. This variety at the Arlington Experimental Farm was very vigorous and very prolific; flowers white.

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Cowpea.

### 25152 to 25160—Continued.

25152 to 25155-Continued.

- **25153.** (Agros. No. 0522.) Very similar to No. 0525 (S. P. I. No. 25152). Seeds white, subglobose.
- 25154. (Agros. No. 0523.) Flowers pale purple; pods longer and narrower than any other variety; seeds large, dark purple, nearly black. A vigorous grower.
- **25155.** (Agros. No. 0524.) A very prolific variety, with pink flowers and large purple-black seeds.
- **25156.** (Agros. No. 0108.) Original seed obtained from J. M. Thorburn & Co., New York. A variety with small white seeds and white flowers. Very vigorous and prolific. One of the best under conditions at the Arlington Experimental Farm.
- **25157.** (Agros. No. 0691.) Original seed obtained from Mr. A. W. Barlett, superintendent, Government Botanic Gardens, Georgetown, British Guiana. A variety with small, pure white seeds and white flowers. Very similar to No. 0108 (S. P. I. No. 25156).
- **25158.** (Agros. No. 0425.) Original seed obtained from the island of Barbados. Seeds and flowers similar to the preceding (S. P. I. No. 25157), but plant not vigorous and leaves much affected with a spot disease.
- **25159.** (Agros. No. 0438A.) A variety grown at the Arlington Experimental Farm, of unknown origin. Seeds small, brownish purple; flowers pink. Not vigorous nor prolific.
- **25160.** (Agros. No. 0438B.) Similar to the preceding (S. P. I. No. 25159), with small, spotted seeds. Likewise of unknown origin.

## **25161.** GLYCINE HISPIDA (Moench) Maxim.

### Grown at the Arlington Experimental Farm, Virginia. season of 1908, under Agros. No. 0824. Numbered for convenience in recording distribution, March 31, 1909.

Eda. (?) Original seed from the Indiana Agricultural Experiment Station, where it was grown as Early Brown.

"This turned out to be identical with *Ito San* in every particular except color of seed. It is a uniform light brown, while *Ito San* is yellow. Neither superior nor inferior to *Ito San*." (*II. T. Nielsen*.)

### 25163 to 25165.

From Buitenzorg, Java. Presented by Dr. M. Treub. Director of Agriculture. Received March 12 and 15, 1909.

25163. NEPHELIUM LAPPACEUM L.

" Atjeh matjan."

 $Distribution.{--}{\mathbf{A}}$  large tree, native of the Malay Archipelago, several varieties being cultivated.

25164. NEPHELIUM MUTABILE Bl.

"Poclasan manis."

Distribution.—A native of the Malay Archipelago and of the islands of Java and Borneo.

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# Ramboetan.

Soy bean.

### 25163 to 25165-Continued.

25165. NEPHELIUM LAPPACEUM L.

"Atjeh Lebak boeloes."

Distribution.—A large tree, native of the Malay Archipelago, several varieties being cultivated.

"The ramboetan, or Atjeh, as the Dutch in Java call Nephelium lappaceum, is one of the showiest and one of the most delicately flavored of tropical fruits, superior to the Poelasan (*N. mutabile*). Although the mangosteen ranks first, in my mind, among all the tropical fruits of the world, there are many Dutch residents on the island of Java, where both of these fruits occur, who prefer the ramboetan to the mangosteen. I think even such a connoisseur as Doctor Treub would hesitate to decide which of these two fruits is the finest. The ripe fruits as sold on the markets in Java are about the size of a Japanese plum, but furnished with numerous weak protuberances. In color they are a handsome wine-red. The outer shell, or coating, is thick and leathery, but can be easily broken by a sharp twist of the hands. The flesh inside is much like that of the leitchee, to which it is a near relative, except that in general there is more of it and it is more delicately flavored, and it is my impression that as a rule it is juicier. So far as my limited experience goes with different varieties of leitchee, this ramboetan surpasses them all in excellence. I do not think the trees are cultivated in orchards, for very few orchards of any kind exist in Java. The trees are scattered through the kampongs, or little villages, all over the island. So far as I know, the ramboetan is not a grafted fruit, but grown only from seed. Owing to its thick rind, the fruit of the ramboctan should be a good shipper, and if the plants can be grown on the Panama Canal Zone, in Porto Rico, or southern Florida they should make a decided sensation when they are first offered for sale on our markets." (Fairchild.)

### 25166. CUCUMIS MELO L.

From Peleka, Corfu Island. Presented by Mr. Carlo Sprenger, Vomero, near Naples, Italy. Received March 30, 1909.

"Seed of a splendid winter melon. Flesh white or greenish white; shell golden yellow. Very fine and never seen before." (*Sprenger.*)

### 25167 and 25168.

From Erfurt, Germany. Received from Mr. N. L. Chrestensen, Thüringer Central-Saatstelle, Erfurt, Germany, through Mr. Charles J. Brand, March 15, 1909.

Seeds of the following:

25167. Medicago sativa L.

*Deutsche blaue.* "(P. L. H. No. 3417.) This strain of alfalfa is said to be very resistant to severe, snowless winters, and to endure a long series of years. It is produced on exposed situations in Thuringia." (*Brand.*)

25168. Medicago sativa varia (Mart.) Urb.

Böhmische. (P. L. H. No. 3418.)

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### Muskmelon.

### Alfalfa.

Sand lucern.

### 25169 to 25171.

From Portuguese East Africa. Presented by Mr. O. W. Barrett, Director of Agriculture, Lourenço Marquez. Received March 30, 1909.

The following seeds:

25169. Anona senegalensis Pers.

"(No. 23.) A small tree, wild near Lourenço Marquez. Fruit 2 to 4 inches long, yellowish skin, bright yellow pulp. Edible. Shironga (Kafir) name M'zhampfo or Mazhópfa." (Barrett.)

Distribution. - A low shrub or small tree, native to the tropical region of Africa, extending from Guinea and the upper valley of the Nile south to the Zambezi Valley.

25170. Strychnos spinosa Lam.

### Kafir orange.

"(No. 24.) A tree 15 to 25 feet high, in bush veld from Zululand to Rhodesia. Fruit spherical, 2 to 3 inches in diameter, yellow when ripe, hard shelled. Edible. Flavor like 'cinnamon and pears.' Shironga (Kafir) name M'sála." (Barrett.) See No. 9611 for the original importation and description.

Distribution.—A small tree native to the tropical region and the southern part of Africa and also in the Seychelle Islands and in Madagascar.

25171. VANGUERIA INFAUSTA Burch.

"(No. 25.) A small tree near Lourenço Marquez, in sandy soil. Fruit roundish, flattened distal. Edible: pulp dry, sweet. Shironga (Kafir) name M'pfilo.'' (Barrett.)

Distribution.—A native of the southeastern part of Africa, being found in the vicinity of Johannesburg and of Natal, and in the eastern part of Cape Colony.

### 25172 to 25174. MEDICAGO spp.

From farm of Mr. Lewis Brott, Sextorp, Nebr. These three lots were grown in cultivated rows, 42 inches apart, for seed and were open to the possibilities of cross-pollination among themselves. The Turkestan alfalfa was separated from Brott's Dry-Land alfalia by 14 rows of sand lucern. Seed collected by Mr. J. M. Westgate, August 15, 1908.

Seeds of the following:

25172. Medicago sativa L.

### Brott's Dry-Land. "From same stock as S. P. I. No. 19566, grown in row adjacent to row of sand lucern (S. P. I. No. 20457) and presumably crosspollinated with the same." (Westgate.)

25173. MEDICAGO SATIVA VARIA (Mart.) Urb. Sand lucern.

"Grown from S. P. I. No. 20457 in row adjacent to Brott's Dry-Land alfalfa." (Westgate.)

25174. MEDICAGO SATIVA L.

Turkestan. "Grown from S. P. I. No. 18751 in row adjacent to sand lucern (S. P. I. No. 20457)." (Westgate.)

### 25175 and 25176. MEDICAGO SPD.

From Berlin, Germany. Secured from J. & P. Wissinger, Samenhandlung, Berlin, Germany, through Mr. Charles J. Brand. Received March 24, 1909.

Alfalfa.

### Alfalfa.

### 25175 and 25176-Continued.

Seeds of the following:

25175. Medicago sativa L.

Alt-Deutsche Fränkische lucern. "(P. L. H. No. 3420.) This alfalfa usually has a very large percentage of hard seed, in some samples as high as 63 per cent failing to germinate in the five-day germination test. On this point Wissinger says: 'We could bring the seed to greater germinating power by scratching, were it not for the fact that the hardness of shell is thought here to be a desirable quality under certain conditions. Indeed, it is believed that the longevity of a stand of Franconian lucern is due to its hard-shelled seeds, some of which often lie dormant for years, thereby constantly rejuvenating the stand with a fresh supply of young plants. The appearance of this seed, as furnished, is not first class. We would not, however, wish to do anything that would impair its originality.'

"The present sample was grown in Iphofen, Franconia." (Brand.)

### 25176. MEDICAGO SATIVA VARIA (Mart.) Urb. Sand lucern.

Bohemian. "(P. L. H. No. 3421.) This seed was grown on the right bank of the Elbe in Bohemia." (Brand.)

### 25177. TRIFOLIUM SUAVEOLENS Willd.

From Amritsar, Punjab, India. Secured from Mr. Philip Parker, experimental officer in the Indian Irrigation Secretariat, through Mr. Charles J. Brand. Received April 1, 1909.

"Shaftal, which is an annual plant, is the chief fodder crop in the valleys of the northwest frontier of India. It is always grown with irrigation and gives exceedingly good yields.

"Experiments begun in 1907 with the seed previously presented by Mr. Parker (S. P. I. Nos. 19506 and 19507) have proceeded far enough to show considerable promise for this clover, especially in our hot irrigated valleys." (Brand.)

### 25178 and 25180. Medicago spp.

From Vienna, Austria. Secured from Gebrüder Boschan, successors to Wieschnitzky & Clauser, through Mr. Charles J. Brand. Received March 25, 1909.

The following seeds:

25178. MEDICAGO SATIVA VA	LIA (Mart.) Urb. Sand lucern.
Böhmische. (P. L. H. No. 34	
25179. Medicago sativa L.	Alfalfa.

25179. Medicago sativa L.

Ungarische. (P. L. H. No. 3429.)

25180. MEDICAGO SATIVA L.

Mährische. (P. L. H. No. 3430.)

### 25181 to 25185. MEDICAGO SATIVA L.

From Bonn-Poppelsdorf, Germany. Presented by Prof. Dr. Th. Remy, director, Institut für Bodenlehre und Pflanzenbau der Königlichen landwirtschaftlichen Akademie, Bonn am Rhein, through Mr. Charles J. Brand. Received March 25, 1909.

The following seeds:

25181. Pfalzer. (P. L. H. No. 3422.) Original seed from Frankenthal, Rhein-Pfalz, Germany.

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Alfalfa.

## Alfalfa.

Shaftal.

### 25181 to 25185—Continued.

- **25182.** Eifeler. (P. L. H. No. 3423.) Original seed from Bitburg, in the Eifel, Prussia.
- **25183.** *Alt-Fränkische.* (P. L. H. No. 3424.) Original seed from Lagerhaus für das Frankenland, Tauberbischofsheim, Baden, Germany.
- **25184.** *Provenzer.* (P. L. H. No. 3425.) Original seed grown near Trier, in the Moselthal of Prussia.
- **25185.** Ungarische. (P. L. H. No. 3426.) Original seed grown at Csorvas, Komitat Bekes, Hungary.

### 25186 to 25190.

From Pisa, Italy. Presented by Prof. G. E. Rasetti, director, Cattedra Ambulante di Agricultura per la Provincia di Pisa, Italy, through Mr. Charles J. Brand. Received March 31, 1909.

The following seeds:

25186 and 25187. Medicago sativa L.

25186. (P. L. H. No. 3431.) Grown near Setif, Algeria.

**25187**. (P. L. H. No. 3432.) *Herba medica*. The form commonly grown in Italy. This sample was produced near Pisa, Italy.

- 25188 to 25190. TRIFOLIUM PRATENSE L. Red clover.
   25188. (P. L. H. No. 3433.) "Professor Rasetti states that this variety is known as Southar, and that it was produced at Santhia in the
  - riety is known as Spadone, and that it was produced at Santhia, in the province of Novara, Italy." (Brand.) **25189.** (P. L. H. No. 3434.) This is the form commonly cultivated
  - in Italy. Gathered near Pisa, Italy.
  - **25190.** (P. L. H. No. 3435.) This variety is known as *Vische*, and is cultivated in Vische, in the province of Novara.

### 25191. Medicago sativa L.

### Alfalfa.

Alfalfa.

From Chico, Cal. Seed collected by Mr. Roland McKee at the Plant Introduction Garden, July 13, 1908. Numbered for convenience in recording distribution, March, 1909.

"This seed was collected from a single plant grown from S. P. I. No. 19508. Mother plant possessed flowers borne in compound racemes. The flowers were open to the visits of insects and were presumably cross-pollinated with pollen from the numerous other lots of alfalfa in the alfalfa nursery." (J. M. Westgate.)

"This plant was noticed by me on May 1, 1908, while walking over the grounds of the Plant Introduction Garden at Chico, Cal., with Mr. Roland McKee. The plant was noticeable even from a distance because of the profusion of its flowers. Upon examination this was found to be due to the fact that the flower clusters were much branched instead of being simple as usual.

"As the plant seemed healthy and vigorous in spite of its profusion of flowers, it seemed desirable to direct attention to it with a view to obtaining a new variety—perhaps able to produce a better quality of hay and also more seed than the ordinary plants of the parent strain." (W. T. Swingle.)

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- 159. Local Adjustment of Cotton Varieties. 1909. Price, 10 cents.
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