

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 153.

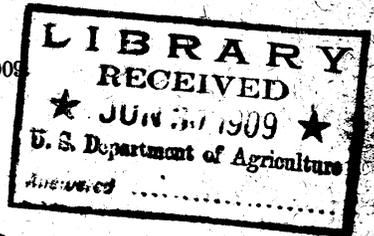
B. T. GALLOWAY, *Chief of Bureau.*

SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM OCTOBER 1  
TO DECEMBER 31, 1908:

INVENTORY No. 17; Nos. 23745 to 24429.

ISSUED JUNE 30, 1909



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1909.

## BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

The scientific and technical publications of the Bureau of Plant Industry, which was organized July 1, 1901, are issued in a single series of bulletins, a list of which follows.

Attention is directed to the fact that the publications in this series are not for general distribution. The Superintendent of Documents, Government Printing Office, Washington, D. C., is authorized by law to sell them at cost, and to him all applications for these bulletins should be made, accompanied by a postal money order for the required amount or by cash. Numbers omitted from this list can not be furnished.

- No. 1. The Relation of Lime and Magnesia to Plant Growth. 1901. Price, 10 cents.
2. Spermatogenesis and Fecundation of Zamia. 1901. Price, 20 cents.
3. Macaroni Wheats. 1901. Price, 20 cents.
4. Range Improvement in Arizona. 1901. Price, 10 cents.
6. A List of American Varieties of Peppers. 1902. Price, 10 cents.
7. The Algerian Durum Wheats. 1902. Price, 15 cents.
9. The North American Species of Spartina. 1902. Price, 10 cents.
10. Records of Seed Distribution, etc. 1902. Price, 10 cents.
11. Johnson Grass. 1902. Price, 10 cents.
12. Stock Ranges of Northwestern California. 1902. Price, 15 cents.
13. Range Improvement in Central Texas. 1902. Price, 10 cents.
15. Forage Conditions on the Border of the Great Basin. 1902. Price, 15 cents.
17. Some Diseases of the Cowpea. 1902. Price, 10 cents.
20. Manufacture of Semolina and Macaroni. 1902. Price, 15 cents.
22. Injurious Effects of Premature Pollination. 1902. Price, 10 cents.
24. Unfermented Grape Must. 1902. Price, 10 cents.
25. Miscellaneous Papers. 1903. Price, 15 cents.
27. Letters on Agriculture in the West Indies, Spain, etc. 1902. Price, 15 cents.
29. The Effect of Black-Rot on Turnips. 1903. Price, 15 cents.
31. Cultivated Forage Crops of the Northwestern States. 1902. Price, 10 cents.
32. A Disease of the White Ash. 1903. Price, 10 cents.
33. North American Species of Leptochloa. 1903. Price, 15 cents.
34. Silkworm Food Plants. 1903. Price, 15 cents.
35. Recent Foreign Explorations. 1903. Price, 15 cents.
36. The "Bluing" of the Western Yellow Pine, etc. 1903. Price, 30 cents.
37. Formation of Spores in Sporangia of Rhizopus Nigricans, etc. 1903. Price, 15 cents.
38. Forage Conditions in Eastern Washington, etc. 1903. Price, 15 cents.
39. The Propagation of the Easter Lily from Seed. 1903. Price, 10 cents.
41. The Commercial Grading of Corn. 1903. Price, 10 cents.
43. Japanese Bamboos. 1903. Price, 10 cents.
45. Physiological Role of Mineral Nutrients in Plants. 1903. Price, 5 cents.
47. The Description of Wheat Varieties. 1903. Price, 10 cents.
48. The Apple in Cold Storage. 1903. Price, 15 cents.
49. Culture of the Central American Rubber Tree. 1903. Price, 25 cents.
50. Wild Rice: Its Uses and Propagation. 1903. Price, 10 cents.
51. Miscellaneous Papers. 1905. Price, 5 cents.
54. Persian Gulf Dates. 1903. Price, 10 cents.
55. The Dry-Rot of Potatoes. 1904. Price, 10 cents.
56. Nomenclature of the Apple. 1905. Price, 30 cents.
57. Methods Used for Controlling Sand Dunes. 1904. Price, 10 cents.
58. The Vitality and Germination of Seeds. 1904. Price, 10 cents.
59. Pasture, Meadow, and Forage Crops in Nebraska. 1904. Price, 10 cents.
60. A Soft Rot of the Calla Lily. 1904. Price, 10 cents.
62. Notes on Egyptian Agriculture. 1904. Price, 10 cents.
63. Investigations of Rusts. 1904. Price, 10 cents.
64. Method of Destroying the Growth of Algae, etc., in Water Supplies. 1904. Price, 5 cents.
65. Reclamation of Cape Cod Sand Dunes. 1904. Price, 10 cents.
67. Range Investigations in Arizona. 1904. Price, 15 cents.
68. North American Species of Agrostis. 1905. Price, 10 cents.
69. American Varieties of Lettuce. 1904. Price, 15 cents.
70. The Commercial Status of Durum Wheat. 1904. Price, 10 cents.
71. Soil Inoculation for Legumes. 1905. Price, 15 cents.
72. Miscellaneous Papers. 1905. Price, 5 cents.
73. The Development of Single-Germ Beet Seed. 1905. Price, 10 cents.
74. Prickly Pear and Other Cacti as Food for Stock. 1905. Price, 5 cents.
75. Range Management in the State of Washington. 1905. Price, 5 cents.
76. Copper as an Algicide and Disinfectant in Water Supplies. 1905. Price, 5 cents.
77. The Avocado, a Salad Fruit from the Tropics. 1905. Price, 5 cents.
78. Improving the Quality of Wheat. 1905. Price, 10 cents.
79. Variability of Wheat Varieties in Resistance to Toxic Salts. 1905. Price, 5 cents.
80. Agricultural Explorations in Algeria. 1905. Price, 10 cents.

U. S. DEPARTMENT OF AGRICULTURE.  
BUREAU OF PLANT INDUSTRY—BULLETIN NO. 153.

B. T. GALLOWAY, *Chief of Bureau.*

---

# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM OCTOBER 1  
TO DECEMBER 31, 1908:

INVENTORY No. 17; Nos. 23745 TO 24429.

---

ISSUED JUNE 30, 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.

#### SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge*.  
Frank N. Meyer and William D. Hills, *Agricultural Explorers*.  
Albert Mann, *Expert in Charge of Special Barley Investigations*.  
F. W. Clarke, *Special Agent in Charge of Matting-Rush Investigations*.  
Frederic Chisolm, *Expert*.  
Walter Fischer, R. A. Young, and H. C. Skeels, *Scientific Assistants*.

## LETTER OF TRANSMITTAL

---

U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., April 14, 1909.*

SIR: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 153 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported During the Period from October 1 to December 31, 1908: Inventory No. 17; Nos. 23745 to 24429."

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.*



## CONTENTS.

---

	<b>Page.</b>
Introductory statement.....	7
Inventory.....	9
Index of common and scientific names.....	55

153 5



# SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM OCTOBER 1 TO DECEMBER 31, 1908: INVENTORY NO. 17; NOS. 23745 TO 24429.

---

## INTRODUCTORY STATEMENT.

It has been the custom for some time to mention in the introductory statement a few of the new arrivals which seem to be worthy the particular attention of the interested plant breeders and experimenters throughout the country. This does not mean that they will in the end prove the most valuable, for often the promising introductions are "dead failures," while those which come in like poor emigrants with scarcely a letter of introduction frequently crop up later somewhere in the country as new and valuable cultivated plants.

Those who are interested in the remarkable Chinese vegetables, whose possibilities have not at all been tested as they should be in this country, will find Mr. Meyer's collection, which he brought back personally from Peking, a most interesting one (No. 23932 and following). There can be little doubt that the Chinese restaurants which are scattered all over the country are creating a taste among Americans for these new vegetables, and the next step in their introduction will be their culture on a small scale to supply the growing demand of these restaurants.

Mr. W. T. Swingle has called attention to the possibilities of the Indian bael fruit (No. 23745), both as a possible new fruit which is prized in India and as a dry-land stock for the orange, and living plants of it have been secured.

Through Mr. Pink, a plant breeder of Queensland, a new raspberry has been secured which he claims has already become a favorite in Australia (No. 23478).

The Florida and California growers of the fruiting hedge plant *Carissa* will be interested in the newly secured species from Calcutta (No. 23750).

A new green-manure legume from Sao Paulo, Brazil, is highly recommended by Professor Hart (No. 23751).

A large collection of beans, cowpeas, squashes, field peas, and garbanzos and some remarkable hard-stemmed bamboos, which are quite different from the ordinary oriental bamboos, have been sent by Mr. Husbands (No. 23755 and following; No. 24211 and following; No. 24358 and following).

A number of additions to the strains or varieties of alfalfa have been made from Peru, Australia, Spain, and Chile. These are eagerly tried by the experts of the Department, who recognize the great possibilities which lie in any strain of this important plant which may fit into one of the many special conditions in the country.

A collection of seed from grasses representing the best grazing species on the veldt of Rhodesia (No. 23920 and following) will be tested by the agrostologist of the Department.

Mr. Meyer's collection of Chinese hollyhocks, prince's-feathers, morning-glories, four-o'clocks, balsams, Chinese pinks, marigolds, garden asters, etc., may have something of decided interest in it for American florists (No. 23995 and following).

A number of Syrian pomegranates from Sidon have come in for the experiments of the specialist of the Department, who is showing the possibilities of this fruit in America, which has so far been neglected by Americans.

A wild gooseberry from an altitude of 10,000 feet, which is used as a hedge plant in the Szechuan Province of central China, and a wild strawberry of good flavor from the same locality have been secured by Mr. Wilson, of the Arnold Arboretum (Nos. 24156 and 24165).

Two wild and possibly valuable dahlias from Mexico were sent in by Doctor Rose for the dahlia breeders (Nos. 24168 and 24169).

The Bahia Navel orange has been reimported by Consul Demers direct from Bahia, scions being taken from trees that were grafted on the "Laranja da terra" which are said to yield better fruits than those grafted on the "Laranja tanga," two different stocks in use there.

A distinct variety of the Para grass which has been so valuable in Texas has been secured from southern Brazil for trial in comparison with that already introduced (No. 24402).

A collection of *Stizolobium*, or velvet beans, has been sent on request by Director Treub, of the Royal Botanic Gardens of Java, for the purpose of comparison with the recently introduced species from the Philippines which has proved so unusually promising.

The inventory covers a period of three months, from October 1 to December 31, and includes 685 separate introductions. The preparation of the manuscript has been in the hands of Miss Mary A. Austin, and the determinations of the material have been made by Messrs. W. F. Wight and H. C. Skeels, of the Office of Taxonomic and Range Investigations.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,

*Washington, D. C., April 3, 1909.*

# INVENTORY.

---

- 23745.** BELOU MARMELOS (L.) W. F. Wight. **Bael tree.**  
From Savannah, Ga. Presented by Rev. Henry W. Hale. Received October 6, 1908.  
See No. 22957 for description.
- 23746.** BAMBOS SENANENSIS Franch. et Sav. **Bamboo.**  
From Japan. Presented by the Yokohama Nursery Company, Yokohama, Japan. Received October 2, 1908.  
“*Misuzudake*. This is a dwarf variety of bamboo growing wild at high altitude in the province of Shinshiu.” (*Yokohama Nursery Company*.)
- 23747.** MANGIFERA INDICA L. **Mango.**  
From Amritsar, Punjab, India. Procured from Mr. Theo. C. Maller. Received October 8, 1908.  
*Maller.*
- 23748.** RUBUS ROSAEFOLIUS ♀ × ELLIPTICUS ♂. **Raspberry.**  
From Wellington Point, Brisbane, Queensland, Australia. Presented by Mr. James Pink. Received October 3, 1908.  
“*Federal*. This is a cross between a variety received from Japan under the name of *Rubus flava* (= *R. ellipticus* Sm.), a strange growing plant, but useless commercially; this was the male parent, the mother parent being our native *Rubus rosae-folius* Sm. I crossed the plants in 1901. I did not think much of the product till the present season, when the variety has improved much by cultivation and has become a great favorite in the markets; in fact, it is the only *Rubus* grown for commercial purposes in Queensland. The fruit is larger than the English raspberry and of a bright crimson color.” (*Pink*.)
- 23749.** MEDICAGO SATIVA L. **Alfalfa.**  
From Lima, Peru. Presented by Señor Ignacio La Puente, through Mr. Charles J. Brand. Received July 10, 1908.  
“Señor La Puente states that this seed is from the latest crop, that it emanates from the Department of Supe, and that the variety is one greatly prized in the coast country of Peru. Kaerger in his paper ‘Die Landwirtschaft in Peru’ states that in the coastal region of Peru, alfalfa, strange to say, will not grow in the height of summer (January and February), even though it be given ample irrigation. The esteem in which this variety is held may bear some relation to this fact.” (*Brand*.)
- 23750.** CARISSA CARANDAS L.  
From Sibpur, Calcutta, India. Presented by Mr. W. W. Smith, acting superintendent, Royal Botanic Garden. Received October 1, 1908.

**23750**—Continued.

“A dense, spiny shrub or sometimes a small tree, flowering from February to April (in India) and bearing a small fruit which is grape-green when young, changing to white and pink as it approaches maturity, and black when fully ripe. The fruit ripens from July to August.

“In India the fruit is made into pickle just before it is ripe, and is also employed in tarts and puddings. For these purposes it is said to be superior to any other Indian fruit. When ripe it makes a very good jelly equal to the red currant, for which purpose it is cultivated in the gardens owned by Europeans. The shrubs are also grown for hedges.” (*Watt, Dictionary of Economic Products of India, 2: 165. 1889.*)

“This ought to be of value in southern California where the red currant does not thrive.” (*W. F. Wight.*)

**23751. STIZOLOBIUM** sp.

From Piracicaba, Sao Paulo, Brazil. Presented by Prof. J. William Hart, director, Agricultural College. Received September 14, 1908.

“I think this will prove one of our best legumes for green manuring.” (*Hart.*) Grown from No. 21094. See this number for description.

**23752 and 23753. MEDICAGO SATIVA** L.**Alfalfa.**

From Australia. Presented by Mr. Elwood Mead, The State River and Water Supply Commission, Treasury Gardens, Melbourne, Australia, who procured the seed from F. H. Brunning, Pty. Ltd., Melbourne, Australia, at the request of Mr. Charles J. Brand. Received August, 1908.

Seed of each of the following:

**23752.** *Hunter River or Tamworth.* “This comes from the chief alfalfa-growing district in Australia.” (*Mead.*)

**23753.** *Queensland.* “This alfalfa was grown at Clifton on the Downs by a man who is well up in the saving of a good strain of broadleaf alfalfa.” (*Brunning.*)

**23754. EDGEWORTHIA GARDNERI** (Wall.) Meism.**Mitsumata.**

From Yokohama, Japan. Procured from the Yokohama Nursery Company. Received October 12, 1908.

See No. 9162 for description.

**23755 to 23869.**

From Chile. Received from Mr. José D. Husbands, Limávida, Chile, October 7, 1908.

The following seeds and plants, descriptive notes by Mr. Husbands; native names quoted:

**23755 to 23759. PHASEOLUS VULGARIS** L. **Bean.**

**23755.** Extra fine. Grown dry in sandy soil, coast.

**23756.** “*Amidon*” (starch). Extra good.

**23757.** “*Coscorones Baya Pintado*.” Extra good class for any use. Good land.

**23758.** “*Bayas Chico*” (small bay).

**23759.** “*Mendez*.” Grown in black clay, irrigated.

**23760. VIGNA UNGUICULATA** (L.) Walp.

**Cowpea.**

“*Corregüela*.” Very good and extra prolific at the tops or points.

## 24755 to 23869—Continued.

## 23761 to 23834. PHASEOLUS VULGARIS L.

Bean.

23761. Name unknown. Extra fine class.

23762. "*Coscorones Baya*." Extra fine class. Prolific.23763. "*Entremetido Chico*" (small meddler). A commercial bean largely sown but not of the best quality. Stands droughts and grows in any soil.23764. "*Blanco*." Extra good for any purpose.23765. "*Barroso*" (muddy). Extra good class.

23767. Extra early.

23768. "*Aparcido*" (found). White pods.

The above (S. P. I. Nos. 23755 to 23768) grown by irrigation.

23769 to 23786. Grown dry about 10 miles from the sea.

23769. "*Rosilos de Riego*." Largely sown.23770. "*Rosilos de Rufo*." Largely sown.23771. "*Poratos Lacre*" (red beans). Grown dry in poor sandy soil.

23772. Grown in poor light soils.

23773. White. Extra fine class; grown in poor soil.

23774. Yellow. Grown dry on coast.

23775. Extra good class; grown in poor soil.

23776. Extra fine; grown in sandy soil.

23777. "*Bayas Chico*" (small bay). Grown in poor soil. Seed mixed.23778. "*Mantequilla*" (butter). Extra superfine class.

23779. Yellow and red. Grown in poor sandy soil.

23780. "*Burro Claro*" (light-colored donkey). Extra good class; grown in poor soil.

23781. Light yellow, medium size. Grown in poor soil.

23782. Cream and black. Medium quality; grown in bad soil.

23783. "*Burro Oscuro*" (dark donkey). Extra good class; grown in poor soil.

23784. Light yellow. Grown dry on the coast.

23785. Small, white, good; grown in bad soil.

23786. "*Amarillos Chico*" (small yellow). Grown in poor soil.

23787 to 23828. Stringless or garden beans grown by irrigation.

23787. Mixed, grown in clay soil.

23788. Round, yellow.

23789 and 23790. (No description.)

23791. Very good and productive.

23792 to 23795. (No description.)

23796. Brown.

23797. Good class.

23798 and 23799. (No description.)

23800. "*Palo*" (stick).

**23755 to 23869—Continued.****23761 to 23834—Continued.****23787 to 23828—Continued.****23801.** Good sort.**23802.** "*Siete Semanas*" (seven weeks). Good.**23803.** (No description.)**23804.** "*Ovros*." Good.**23805.** Early and very prolific.**23806.** Extra early and prolific.**23807.** Can be grown dry in loose, sandy soil.**23808.** Can be grown dry in loose, sandy soil.**23809 to 23811.** (No description.)**23812.** A good class.**23813 to 23815.** (No description.)**23816.** Geese beans.**23817 to 23819.** (No description.)**23820.** Green color. Rare.**23821 to 23827.** (No description.)**23828.** An extra early bean; grows two crops per year when irrigated.**23829 to 23834.** Stringless or garden beans from the coast; grown dry.**23829.** "*Trigo*" (wheat). Extra superfine quality. Prolific.**23830.** Extra prolific.**23831.** "*China Lejos Grande*." Grown dry in any soil.**23832.** All sorts. Grown dry in any soil.**23833.** Grown in poor, sandy soil.**23834.** No name.**23835 and 23836.** PHASEOLUS COCCINEUS L. **Scarlet runner bean.****23835.** Pink.**23836.** "*Parjares*." Said to be different from other white classes. Grown by marine dews only.

These beans grow in any soil without losing their size or merit. The difference between suitable good and bad land sowing is chiefly in the greater or lesser yield.

**23837 to 23840.** CUCURBITA sp. **Squash.****23837.** Extra good class.**23838.** Extra good; sweet, fiberless, prolific, meat solid; small cavity for seeds.**23839.** A very good class.**23840.** Pinkish color, large, thick flesh, sweet, mealy, prolific, good.**23841.** CUCURBITA MAXIMA Duch. **Squash.**  
Extra good class.**23842 to 23844.** CUCURBITA sp. **Squash.****23842.** Black skinned; thick, sweet, fiberless flesh; extra good.

**23755 to 23869—Continued.****23842 to 23844—Continued.****23843.** Extra good class.

The above (S. P. I. Nos. 23837 to 23843) grown by irrigation,

**23844.** Not as good as watered sorts.**23845.** CUCURBITA MAXIMA Duch.**Squash.**

Good class; sweet, thick, fiberless meat.

The above (S. P. I. Nos. 23844 and 23845) grown dry near the coast. The squashes grown dry are of little merit when compared with the irrigated sorts.

NOTE.—“These squashes listed as *Cucurbita* sp. are probably *Cucurbita maxima* Duch., but not determinable until grown. These seeds are very different from any squash seeds found heretofore.”—(W. F. Wight.)**23846 to 23851.** PISUM ARVENSE L.**Field pea.**

The following are common field peas grown dry in poor, sandy soil:

**23846.** A large, extra sweet field pea; fall sown.**23847.** The most ordinary sort.**23848.** The most ordinary sort; seed mixed.**23849.** Ordinary white peas; grown in poor soil.**23850.** Common peas; grown in poor soil.**23851.** Grown in bad soil.**23852 to 23855.** CICER ARIETINUM L.**Chick-pea.****23852.** “*Garbanzos Chico*” (small). Grown dry in red clay.**23853.** “*Garbanzos Grande*” (large). Grown dry in loose soil near coast.**23854.** “*Garbanzos Negro*” (black). Grown dry in red clay.**23855.** “*Garbanzos Grande*” (large). Grown dry in clay soil.

These peas (S. P. I. Nos. 23846 to 23855) are not samples of the many best classes that can be had elsewhere in Chile, but are samples of the common hardy sorts that grow dry on hills whose soil is so poor that no vegetation of any kind exists except a few stunted red oaks. These are sown broadcast upon the ground and plowed in.

**23856 and 23857.** LATHYRUS SATIVUS L.**Grass-pea.****23856.** “*Chicharos Grande*” (large). Grow dry in any soil. Grow larger or smaller according to the quality of the soil.**23857.** “*Chicharos Chico*” (small). Grow dry in any soil. Always small no matter what class of soil.**23858 and 23859.** LENS ESCULENTA Moench.**Lentil.****23858.** “*Lentejas Rosillos*” (gray lentil). Grown dry in bad soil.**23859.** Common lentils. Grown dry in bad soil.**23860.** PISUM SATIVUM L.**Pea.**“*Arvejones.*” A class of stringless peas. Both peas and pods are eaten.**23861.** HORDEUM VULGARE L.**Barley.**“*Poda.*” Grain head has 8 rows. This is mixed with other classes having 2, 4, and 6 rows of grain, respectively. The 4-rowed is called “*Caballuna.*”**23862.** HORDEUM sp.**Barley.**

Common class grown in damp land; is discolored by the moisture of heavy dews.

**23755 to 23869—Continued.****23863.** JUGLANS NIGRA L.**Black walnut.**

Black walnuts long grown dry in Chile, but are not native of the country.

**23864.** CHUSQUEA VALDIVIENSIS E. Desv.**Bamboo.**

Colihue or bamboo. Solid stem, grows about 20 to 25 feet high, slightly drooping, small scant foliage, short joints, very tough, grows dry on any poor soil, extra hardy.

**23865.** CHUSQUEA VALDIVIENSIS E. Desv.**Bamboo.**

Colihue or bamboo. Solid stem, grows straight from 25 to 30 feet high, abundance of small, long-leaved foliage, a good industrial class, grows dry on any arid soil, extra hardy.

**23866.** ARUNDO DONAX L.**Giant reed.**

Colihue or bamboo. Hollow stem, grows erect, about 25 to 30 feet high; roots extend on top of the ground. From top to bottom has a rank leaf growth, like corn leaves, extending from two opposite sides; the second year it throws out branches. A valuable commercial class, extra hardy, resists droughts. This was found growing on pure sand which dries to a powder eight months of the year.

All of the above (S. P. I. Nos. 23864 to 23866) are from the Coast Cordilleras about 35 to 40 miles from the sea, are readily eaten by all animals; extra hardy.

**23867.** CHUSQUEA QUILA (Poir.) Kunth.**Bamboo.**

Quila. A long-leaf-stem class about 20 feet long; grows drooping.

**23868.** CHUSQUEA QUILA (Poir.) Kunth.**Bamboo.**

Quila. A drooping class whose short leaves grow in bunches close to the stem from each joint. When the leaves are eaten they quickly grow again and also sprout anew. A good forage class. From 10 to 20 feet long.

**23869.** CHUSQUEA QUILA (Poir.) Kunth.

Quila. Similar to S. P. I. No. 23867 in leaf; plant somewhat dwarfed; grows from 6 to 12 feet long.

All of the above (S. P. I. Nos. 23867 to 23869) are from the Coast Cordilleras about 40 miles from the sea, are extra hardy and grow dry in poorest arid soils.

**23870. RUBUS PANICULATUS Smith.****Raspberry.**

From Jaunsar District, Chakrata U. P., India. Presented by Mr. H. G. Billson, Deputy Conservator of Forests, requested by Mr. David Fairchild at the suggestion of Mr. Henry M. Dumbleton, Victoria, British Columbia. Received October 13, 1908.

"This 'blue raspberry' grows sparingly in the forests in the Jaunsar District. The bush is small and trailing; the fruit is about the size of a logan berry, but with a beautiful blue bloom, and is excellent eating." (Dumbleton.)

"This raspberry is the 'Kala Anchu.' It grows best below 6,000 feet and likes damp, shady ravines." (Billson.)

**23871. MEDICAGO SATIVA L.****Alfalfa.**

From Elche, Spain. Presented by Dr. L. Trabut, government botanist, Algiers, Algeria, through Mr. Charles J. Brand. Received February 14, 1908.

"This sample of alfalfa was grown at Elche, Spain, where Doctor Trabut personally collected it. It has unusually large leaves and Doctor Trabut regards it as being distinct from Algerian alfalfa." (Brand.)

**23872 to 23881.**

From Paris, France. Presented by Mr. E. Tisserand, Minister of Colonies, Jardin Colonial. Received October 4, 1908.

The following plants:

**23872 to 23874.** MUSA PARADISIACA L. **Banana.**

**23872.** *Chec Chwea* (Cambodia).

**23873.** *Primitivo* (Colombia).

**23874.** *Gabou* (Réunion).

**23875.** MUSA CAVENDISHII Lamb. **Banana.**

Sweet (New Caledonia).

**23876 and 23877.** COLOCASIA ESCULENTA (L.) Schott.

**23876.** Green.

**23877.** Violet.

**23878.** BOMBAX MACROCARPUM (Ham. & Schlecht.) Schum.

**23879.** PASSIFLORA LAURIFOLIA L.

**23880.** PASSIFLORA sp.

(Mexico.)

**23881.** AMORPHOPHALLUS BULBIFER (Roxb.) Blume.

**23882.** GARCINIA CORNEA L. (?)

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received October 15, 1908.

"The *Garcinia cornea* L. is a small tree, with horizontal branches; leaves, leathery, shining. Fruit the size of a small orange, bright red; seeds inclosed in a white, juicy, very acid aril." (*Hooker, Flora of British India.*)

"An evergreen tree; yields an inferior kind of gamboge; wood brown, heavy, of a coarse unequal fiber, hard, rather close grained." (*Watt, Economic Products of India.*)

"Imported for use in solving the mangosteen problem." (*Fairchild.*)

**23894 and 23895.** RUBUS CHAMAEMORUS L.

From Harrington Harbor, Canadian Labrador. Presented by Miss Edith Mayon, Deep Sea Mission Hospital. Received October 17, 1908.

"Plants and fruits of what is locally called the *Bake apple*; it resembles a yellow raspberry in color and size, tastes of honey and bananas mixed, grows in moist ground on a plant 4 inches high; the flower is white. It is very hardy, for our winters are long and severe, the surface of the ground is still frozen (May 26) and there is snow in all the hollows and shady places." (*Mayon.*)

**23896.** MEDICAGO SATIVA L. **Alfalfa.**

From Lima, Peru. Presented by Señor Ignacio La Puente, through Mr. Charles J. Brand. Received September, 1908.

"This seed probably originated in the vicinity of Supe, in the coastal plain region of Peru." (*Brand.*)

**23897.** CRYPTOCARYA RUBRA (Mol.) Skeels. (PEUMUS RUBRA MOL. SAGG. CHIL. 185. 1782.) (CRYPTOCARYA PEUMUS NEES.)

From Coronel, Chile. Presented by Mr. Teodoro Finger, Estación Colico, through Mr. O. W. Barrett. Received October 20, 1908.

**23897**—Continued.

“A beautiful Chilean tree, persistent leaves, produces a small pink fruit of the size of a small olive; natives eat the fruit after boiling it. Very ornamental when fruits are ripe. Requires wet soil, can stand frost, grows best in valley protected from wind, in forests.” (*Finger.*)

**23899.** *UVARIA RUFA* (Dun.) Blume.

From Pampanga, Philippine Islands. Presented by Mr. William S. Lyon, Gardens of Nagtajan, Manila, P. I. Received October 20, 1908.

“Small evergreen fruit tree, from sea level up to 2,000 feet, lat.  $10\frac{1}{2}^{\circ}$  S. to  $16^{\circ}$  N. Fruits oblong (5 cm.  $\times$  3 cm.) in grape-like clusters, 10 to 30 berries. These are edible and fairly palatable. Intense vermilion red, making tree in fruit very attractive.” (*Lyon.*)

**23900.** *ACTINIDIA ARGUTA* (S. & Z.) Planch. (?)

From Marblehead, Mass. Received October 21, 1908.

“From a 20-year-old vine on the place of Mr. Charles N. Parker, Marblehead, Mass. This vine has borne fruit regularly since it was 8 to 9 years old, and I saw fruit on it. There can be no doubt, therefore, that it is the female variety and a good bearer. The fruit is of delicate flavor.” (*Fairchild.*)

**23901.** *CECROPIA PELTATA* L.

From Kingston, Jamaica. Presented by Mr. W. Harris, superintendent, Public Gardens, Department of Agriculture, through Mr. P. J. Wester, Subtropical Garden, Miami, Fla. Received October 23, 1908.

“A variety of the urticaceous quick-growing *Cecropias* with edible, not very well-flavored fruits; available as a shade tree, abundant in the warmer valleys and rain-forests of Mexico. Introduced for testing at the Subtropical Garden, Miami, Fla.” (*Chisolm.*)

**23902.** *MEDICAGO SATIVA* L.**Alfalfa.**

From Peru. Presented by Mr. T. F. Sedgwick, Lima, Peru, for Mr. C. V. Piper. Received October 6, 1908.

*San Pedro.*

**23913.** *PINUS DENSIFLORA* Sieb. & Zucc.**Pine.**

From near Tungling, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, summer of 1908.

“(No. 1172a, Nov. 29–08.) This pine grows all over northern China and seems to vary a great deal.” (*Meyer.*)

**23914.** *NICOTIANA TOMENTOSA* Ruiz. & Pav.

From Erfurt, Germany. Purchased from Messrs. Haage & Schmidt, at the request of Mr. A. D. Shamel. Received October 26, 1908.

“I know very little about this species, but it was purchased at Mr. George W. Oliver’s suggestion in connection with our work in hybridizing tobacco. It is a very large species, with large leaves and tall stem. At present it is mainly of scientific interest, but on account of its leaf size would probably be valuable as a parent for a composite cross in regions where the yield of tobacco is the main consideration.” (*J. B. Norton.*)

**23915. CARICA PAPAYA L.****Papaw.**

From Singerton, near Hectorspruit, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture, Pretoria, Transvaal, South Africa. Received October 26, 1908.

"These seeds were procured at an altitude of 1,200 feet, subtropical climate and rather dry. The flavor was excellent, and though I can not say that it will prove superior to that of some grown in the States, it is worth trying." (*Davy.*)

**23916. PHASEOLUS LUNATUS L.**

From Rio Mucury, Brazil. Presented by Mr. Fred Birch, Casa do Correio, Theophiloto Ottoni, Minas Geraes, Brazil. Received October 26, 1908.

"We have become acquainted with a remarkable legume here. It is a vine which grows to a length of 40 to 50 feet or more, straggling over 3 or even 4 trees of the size of orange trees. It bears its pods of (we have heard) 'most delicious' beans for 3 years in succession, and is very accommodating to a planter who is hard pressed for time, for the beans will remain good on the vine for a long time after they are ripe. Wherever the summer is hot enough, as in Florida, and there is no frost, it would thrive, I think. The only thing it wants is a fertile soil and trees to climb over. One plant will yield a large quantity of beans; on one I saw there were, I should think, 100 pods. The beans are so good that one friend said 'Everyone is mad after them.'" (*Birch.*)

**23917. CARICA sp. Wild papaw.**

From Upper Rio Mucury, Brazil. Presented by Mr. Fred Birch, Casa do Correio, Theophiloto Ottoni, Minas Geraes, Brazil. Received October 26, 1908.

"Seed of a tree called the 'wild mamau' i. e., wild papaw, as it (the fruit) greatly resembles a papaw in shape. The tree has a large, thick, quickly tapering trunk about 2 feet 6 inches in diameter at the base and a comparatively small head, so that one is quite a remarkable object in the landscape; naturally it only grows in rich forest soil and usually on a slope. Whenever the natives find a young one in the forests they always take it home and plant it near their door, as it is in great repute as a medicine tree. They firmly believe that there is no finer remedy for anæmia than its fruits. Do not forget that this fruit is a somewhat difficult one to eat. It has the strange effect of scratching the tongue and sides of throat so much as to draw blood. Whether this is due to minute spicules of flinty substance or a corrosive property of the juice I have not yet found out, but I found that when my mouth and throat had become hardened by eating 3 or 4 I could take them with impunity. The largest fruits are quite small compared to the cultivated papaw, being only 4 inches long and 1½ inches in diameter, of a bright orange color, with tender skin and of luscious appearance. The foliage is very ornamental, like horse-chestnut in miniature; it is quite striking and unlike every other forest tree here." (*Birch.*)

**23918 and 23919.**

From New York. Presented by Mr. George V. Nash, head gardener, New York Botanical Garden, Bronx Park, New York City, at the request of Mr. Frank N. Meyer. Received October 26, 1908.

Seed of each of the following:

**23918. BERBERIS AMURENSIS Rupr.**

"Stock secured from Biltmore Nursery in 1903." (*Nash.*)

"A densely branched shrub 4 to 5 feet high, quite variable, as seen in the New York Botanic Garden. At the time of my visit, early in September,

**23918 and 23919—Continued.**

1908, the bushes were most heavily loaded with bright scarlet berries, making them extremely ornamental. Mr. Nash said that, in his expectation, this particular variety may even replace *B. thunbergii* on account of its early and ornamental fruiting capacities." (Meyer.)

**23919.** LIGUSTRUM sp.

"This came to us as *Ligustrum massaloungeanum*." (Nash.)

"A remarkable privet, with rather large leaves, of dark green, glossy appearance. Grows very densely branched and is of somewhat fastigate habit. May be of use in hybridization work when attempts are being made to create a privet combining the hardiness of *L. ibota* with the leaf characteristics of *L. ovalifolium*." (Meyer.)

**23920 to 23929.**

From South Africa. Presented by Mr. W. C. S. Paine, through Mr. W. D. Warne, Cecil Hotel, Umtali, Rhodesia, South Africa. Received July 20, 1908.

Seed of each of the following:

- 23920.** ERAGROSTIS sp.
- 23921.** ERAGROSTIS sp.
- 23922.** BAMBOS (?).
- 23923.** TRISTACHYA BISERIATA Stapf.
- 23924.** TRISTACHYA REHMANNI Hack.
- 23925.** POGONARTHRIA FALCATA (Hack.) Rendle.
- 23926.** PANICUM SERRATUM (Thunb.) R. Br.
- 23927.** THEMEDA FORSKALII Hack.
- 23928.** ANDROPOGON RUFUS (Nees) Kunth. (?)
- 23929.** ANDROPOGON PLEIARTHRON Stapf. (?)

"The above selection I made from veldt cattle favor, although I can not claim to state with any authority the specific value of the grasses. The soil is dioritic, a sandy loam, varying in color from pinkish red, deep red, and chocolate." (Paine.)

**23930 to 24113.**

From China. Brought by Mr. Frank N. Meyer, agricultural explorer, direct from China. Turned over to this office to be numbered for distribution October, 1908.

The following seeds:

**23930.** ASTRAGALUS SINICUS L.

"(No. 986a, May 31, 1908.) A few seeds of a most important leguminous plant, which is grown and plowed under for manure on low-lying rice fields. Sown in the autumn in rows or broadcast, plowed under in May or early June just before the rice has to be planted. According to the Chinese, is not fit as a cattle food. Collected on some bamboo boxes while en route to America aboard S. S. *Ashtabula*, the soil coming from near Hangchow, Chekiang, China." (Meyer.)

**23931.** MEDICAGO DENTICULATA Willd.

**Bur clover.**

"(No. 987a, May 28, 1908.) A yellow-flowered bur clover, grown by the Chinese on low-lying rice fields as a winter crop, to be plowed under in spring, serving as manure. Mostly sown in autumn in rows or broadcast after coming up by itself. The cattle feed eagerly upon this crop. Collected on some

## 23930 to 24113—Continued.

bamboo boxes aboard S. S. *Ashtabula*, while en route to America, the soil coming from near Hangchow, Chekiang, China." (*Meyer*.)

**23932. LAGENARIA VULGARIS Ser** **Gourd.**

From Chinanfu, Shantung, China. "(No. 988a, September, 1908.) A small-fruited ornamental gourd, out of which the Chinese manufacture little carved vessels for ornaments." (*Meyer*.)

**23933. CUCURBITA sp.**

From Spask, eastern Siberia. "(989a, Oct. 20, 1906.) An ornamental gourd, producing remarkable quaint fruits which vary in all ways. Given to me by a Russian farmer." (*Meyer*.)

**23934. CUCURBITA PEPO L.** **Squash.**

From Pangshan, Chihli, China. "(No. 990a, November, 1907.) A large turban-shaped gourd, one part of which is orange-yellow colored while the other part is green with orange stripes. Quite ornamental." (*Meyer*.)

**23935. CUCUMIS SATIVUS L.** **Cucumber.**

From Peking, Chihli, China. "(No. 991a, Mar. 25, 1908.) A Chinese cucumber called *Huang kua*; grown on trellises in the open ground." (*Meyer*.)

**23936. CUCUMIS MELO L.** **Muskmelon.**

From Peking, Chihli, China. "(No. 992a, Mar. 25, 1908.) A small muskmelon; grown on light sandy soil. Chinese name *Hsien kua*." (*Meyer*.)

**23937. LUFFA CYLINDRICA (L.) Roemer.**

From Peking, Chihli, China. "(No. 993a, Mar. 25, 1908.) A dishrag gourd, the tender young fruits of which are eaten by the Chinese. Chinese name *Shi kua*." (*Meyer*.)

**23938. BENINCASA CERIFERA Savi.** **Gourd.**

From Peking, Chihli, China. "(No. 994a, Mar. 25, 1908.) A gourd eaten by the Chinese. Chinese name *Tung kua*." (*Meyer*.)

**23939. ACTINOSTEMMA sp.**

From Peking, Chihli, China. "(No. 995a, Mar. 25, 1908.) A very rare cucurbitaceous plant, called in Chinese *Ly kua tze*." (*Meyer*.)

**23940 to 23945. LAGENARIA VULGARIS Ser.** **Gourd.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**23940.** "(No. 996a.) Chinese name *Yang hu lu*."

**23941.** "(No. 997a.) Chinese name *Yoh hu lu*."

**23942.** "(No. 998a.) Chinese name *Ko ko hu lu*."

**23943.** "(No. 999a.) Chinese name *Shoo yar yow hu lu*."

**23944.** "(No. 1000a.) Chinese name *Ta yar yow hu lu*."

**23945.** "(No. 1001a.) Chinese name *Ta paww hu lu*."

"The above Lagenarias are grown by the Chinese on trellises in their gardens; the very young fruits are often eaten stewed as a vegetable; the old, well-ripened gourds are used as bottles for oil, wine, and water, or when cut in two lengthwise are used for water dippers and for pans in which to keep things. The large round gourds serve the country Chinese for the same purpose as our drawers in cupboards do, viz, to keep things stored in; and lastly these Lagenaria seeds are often boiled with salt and sold as an appetizing delicatessen." (*Meyer*.)

## 23930 to 24113—Continued.

## 23946 to 23952. CUCURBITA PEPO L.

From Peking, Chihli, China. (Mar. 25, 1908.)

23946. "(No. 1002a.) Chinese name *San kua*."

23947. "(No. 1003a.) Chinese name *Nan kua*."

23948. "(No. 1004a.) Chinese name *Tau nan kua*."

23949. "(No. 1005a.) Chinese name *Tchoo tze kua*."

23950. "(No. 1006a.) Chinese name *Ba loeng woo kua*."

23951. "(No. 1007a.) Chinese name *Shi bin woo kua*."

23952. "(No. 1008a.) Chinese name *Hsi hu kua*."

"The above numbers include pumpkins and squashes and are used by the Chinese as vegetables, either stewed or boiled. The seeds too are roasted or boiled in salted water and then dried. The plants are mostly grown between corn, sorghum, and other tall-growing crops, sometimes even on rather alkaline soil." (*Meyer*.)

## 23953 to 23956. DOLICHOS LABLAB L.

## Bonavist bean.

From Peking, Chihli, China. (Mar. 25, 1908.)

23953. "(No. 1009a.) Chinese name *Lung tsoo pian doh*. Black colored."

23954. "(No. 1010a.) Chinese name *Tze pian doh*. Black colored."

23955. "(No. 1011a.) Chinese name *Ching pian doh*. Brown colored."

23956. "(No. 1012a.) Chinese name *Pai pian doh*. White colored."

"All the above hyacinth [bonavist] beans are grown by the Chinese against sorghum-stem fences and between sorghum and corn crops, in which case they use the stems of these last-named plants for their support. The pods when green and juicy are sliced and eaten boiled as a vegetable; the leaves when dry are boiled in soups and considered a rather expensive food." (*Meyer*.)

## 23957. PHASEOLUS COCCINEUS L.

## Scarlet runner bean.

From Peking, Chihli, China. "(No. 1013a, Mar. 25, 1908.) The scarlet runner is grown sparsely in northern China against fences of sorghum stems and on poles, apparently for ornament, though the fresh pods are sliced and eaten boiled and the dry beans are sometimes cooked in soups. Chinese name *Hua pian doh*." (*Meyer*.)

## 23958. PHASEOLUS VULGARIS L.

From Peking, Chihli, China. "(No. 1014a, Mar. 25, 1908.) A form of garden bean, loving a rich garden soil, but being able to stand much alkali. The young pods are eaten boiled as a vegetable; the dry beans are cooked in soups. Chinese name *Yueng pian doh*." (*Meyer*.)

## 23959. VIGNA SESQUIPEDALIS (L.) W. F. Wight.

From Peking, Chihli, China. "(No. 1015a, Mar. 25, 1908.) A long string bean, the pods of which are eaten boiled as a vegetable. Has to be grown on stakes and is remarkably productive. Chinese name *Chiang doh*." (*Meyer*.)

## 23960. ABRUS PRAECATORIUS L.

From Peking, Chihli, China. "(No. 1016a, Mar. 25, 1908.) The paternoster bean; grown by the Chinese for medicine and for ornament, namely, they manufacture beads and bracelets of the seeds by stringing them on strong threads. Chinese name *Yae ho hua*." (*Meyer*.)

## 23930 to 24113—Continued.

**23961. RICINUS COMMUNIS L.****Castor oil bean.**

From Peking, Chihli, China. "(No. 1017a, Mar. 25, 1908.) The castor oil bean which is grown all over China, the oil being used for culinary purposes, viz, all the doughnuts and small cakes which the Chinese eat for breakfast are fried in it, and it seems to lose its peculiar medicinal properties after having been heated. Chinese name *Ta ma tze*." (Meyer.)

**23962. COIX LACRYMA-JOBI L.****Job's tears.**

From Peking, Chihli, China. "(No. 1018a, Mar. 25, 1908.) The well-known Job's tears, seeds of which are used for ornaments. Chinese name *Tsao choo tze*." (Meyer.)

**23963 and 23964. BRASSICA PEKINENSIS (Lour.) Skeels. (SINAPIS PEKINENSIS Lour.) (BRASSICA PETSAI Bailey.)****Chinese cabbage.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**23963.** "(No. 1019a.) Chinese name *Boo to pai tsai*."

**23964.** "(No. 1020a.) Chinese name *Shoo pai tsai*."

"Sow the cabbages at the end of July or early in August, transplant in early September in well-worked and heavily manured soil. Do not let them suffer from lack of water. Harvest after the first heavy frost and store away in a cool, frostproof cellar. Will do especially well in the irrigated sections of the United States." (Meyer.)

**23965. BRASSICA JUNCEA (L.) Cass.****Chinese mustard.**

From Peking, Chihli, China. "(No. 1021a, Mar. 25, 1908.) Grown as an early vegetable for greens, being sown very early in spring in a well-worked, light, warm soil. Pulled up and sold in bunches; also picked for private use. Chinese name *Yi tsai*." (Meyer.)

**23966. BRASSICA RAPA L.****Turnip.**

From Peking, Chihli, China. "(No. 1022a, Mar. 25, 1908.) Probably a long, white spring turnip. As such, grow it in light, well-worked soil. Sow in rows as early as possible in a protected place. The turnips stewed with milk form a good dish in the early summer. Chinese name *Pien lang*." (Meyer.)

**23967. RAPHANUS SATIVUS L.****Radish.**

From Peking, Chihli, China. "(No. 1023a, Mar. 25, 1908.) A red variety. Sow in hills, distance  $1\frac{1}{2}$  feet apart, in early August, on well-drained soil. Harvest before heavy frost. Store in cellar for winter use. Eaten stewed like turnips. Chinese name *Tung lung hong lou ba*." (Meyer.)

**23968 and 23969. RAPHANUS SATIVUS L.****Radish.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**23968.** "(No. 1024a.) Chinese name *Tsui lou poo* (green radish-turnip)."

**23969.** "(No. 1025a.) Chinese name *Hong swee lou poo* (red radish-turnip)."

"These peculiar roots are largely eaten by the Chinese as appetizers and really are very pleasing to the taste and promote digestion. Sow in early August in well-drained soil, in hills  $1\frac{1}{2}$  feet apart in each direction. Harvest before a heavy frost and store in cool cellars for winter use. Always eaten raw and sliced lengthwise." (Meyer.)

## 23930 to 24113—Continued.

23970. *APIUM GRAVEOLENS* L.

Celery.

From Peking, Chihli, China. "(No. 1026a, Mar. 25, 1908.) A Chinese variety of celery, much used in soups and in various other dishes, although quite strong. May contain more of the active alkaloids than our own varieties and be of use in celery-salt manufacture. Chinese name *Hu diên mae hua*." (Meyer.)

23971. *DAUCUS CAROTA* L.

Carrot.

From Peking, Chihli, China. "(No. 1027a, Mar. 25, 1908.) A Chinese carrot. Sow in rows in somewhat sandy though rich soil. Do not let them have any lack of water. Chinese name *Hu lou poo*." (Meyer.)

23972. *CORIANDRUM SATIVUM* L.

From Peking, Chihli, China. "(No. 1028a, Mar. 25, 1908.) A well-known herb, the young leaves of which are used by the Chinese to flavor their soups with. The seeds are also used in various kinds of candy. Chinese name *Hsien tsai*." (Meyer.)

23973. *LACTUCA SATIVA* L.

Lettuce.

From Peking, Chihli, China. "(No. 1029a, Mar. 25, 1908.) A Chinese lettuce which does not form a head, but the stems get to be quite fleshy and are stewed like asparagus. Quite tasty. Chinese name *Sun tsai*." (Meyer.)

23974. *BETA VULGARIS* L.

Beet.

From Peking, Chihli, China. "(No. 1030a, Mar. 25, 1908.) Probably a red beet root, the young leaves of which are eaten stewed and also the roots when about full grown. This is inferior to our own varieties. Chinese name *Hong pai tsai*." (Meyer.)

23975. *CAPSICUM ANNUUM* L.

Pepper.

From Peking, Chihli, China. "(No. 1031a, Mar. 25, 1908.) A Chihli pepper grown by the Chinese partly for ornament and partly for condiments. Chinese name *Shi tze cheow*." (Meyer.)

23976. *SOLANUM MELONGENA* L.

Eggplant.

From Peking, Chihli, China. "(No. 1032a, Mar. 25, 1908.) An eggplant which may turn out to be more ornamental than useful. Chinese name *Chieng yen chi*." (Meyer.)

23977 to 23983. *CELOSIA ARGENTEA* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

23977. "(No. 1033a.) Chinese name *Hong gee kuan hua*."

23978. "(No. 1034a.) Chinese name *Huang gee kuan hua*."

23979. "(No. 1035a.) Chinese name *Huang shoo gee kuan hua*."

23980. "(No. 1036a.) Chinese name *Tze shoo gee kuan hua*."

23981. "(No. 1037a.) Chinese name *Hong shoo gee kuan hua*."

23982. "(No. 1038a.) Chinese name *Pai shoo gee kuan hua*."

23983. "(No. 1039a.) Chinese name *Kuan shang chiar kuan*."

"The above forms are grown by the Chinese as ornamental garden plants." (Meyer.)

23984 to 23988. *AMARANTHUS* spp.

From Peking, Chihli, China. (Mar. 25, 1908.)

23984. "(No. 1040a.) Chinese name *Lo lie show*."

23985. "(No. 1041a.) Chinese name *Hong doo chuang hua*."

## 23930 to 24113—Continued.

## 23984 to 23988—Continued.

23986. "(No. 1042a.) Chinese name *Sen doo chuang hua.*"

23987. "(No. 1043a.) Chinese name *Tze doo chuang hua.*"

23988. "(No. 1044a.) Chinese name *Pai doo chuang hua.*"

"The above plants are grown by the Chinese in their gardens as summer annuals." (*Meyer.*)

## 23989. PAPAVER SOMNIFERUM L.

Poppy.

From Peking, Chihli, China. "(No. 1045a, Mar. 25, 1908.) A poppy grown for its ornamental flowers in gardens in North China. Chinese name *Hong yeh̄n swee hua.*" (*Meyer.*)

## 23990 to 23992. PAPAVER RHOEAS L.

Poppy.

From Peking, Chihli, China. (Mar. 25, 1908.)

23990. "(No. 1046a.) Chinese name *Hong yih̄ mie ren hua.*"

23991. "(No. 1047a.) Chinese name *Pai yih̄ mie ren hua.*"

23992. "(No. 1048a.) Chinese name *Ten yih̄ mie ren hua.*"

"These flowering poppies are grown by the Chinese as ornamental garden annuals. Sow early." (*Meyer.*)

## 23993 and 23994. CASSIA OCCIDENTALIS L.

From Peking, Chihli, China. (Mar. 25, 1908.)

23993. "(No. 1049a.) Chinese name *Huang whee tze.*"

23994. "(No. 1050a.) Chinese name *Sing huang whee tze.*"

"The above are grown by the Chinese as ornamental garden plants." (*Meyer.*)

## 23995 to 23999. POLYGONUM ORIENTALE L.

Prince's-feather.

From Peking, Chihli, China. (Mar. 25, 1908.)

23995. "(No. 1051a.) Chinese name *Swee ping hua.*"

23996. "(No. 1052a.) Chinese name *Pai mow dan.*"

23997. "(No. 1053a.) Chinese name *Hong mow dan.*"

23998. "(No. 1054a.) Chinese name *Tze mow dan.*"

23999. "(No. 1055a.) Chinese name *Ten mow dan.*"

"All the foregoing varieties of prince's-feather are cultivated by the Chinese of North China in their gardens as ornamental plants. The colors of the bracts range from pure white to dark red. Plants are able to stand alkali very well and may be of use in the Western States." (*Meyer.*)

## 24000. HIBISCUS sp.

From Peking, Chihli, China. "(No. 1056a, Mar. 25, 1908.) An ornamental plant grown in gardens in North China. Chinese name *Huang tchu kwi hua.*" (*Meyer.*)

## 24001 and 24002. DATURA sp.

From Peking, Chihli, China. (Mar. 25, 1908.)

24001. "(No. 1057a.) Chinese name *Tze la ba hua.*"

24002. "(No. 1058a.) Chinese name *Ta pai la ba hua.*"

"Both of these are apparently Solanaceæ and are grown by the Chinese of North China as ornamental garden plants. They may prove to be novelties." (*Meyer.*)

**23930 to 24113—Continued.****24003 to 24008. MALVA sp.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24003. "(No. 1059a.) Chinese name *Hong shoo show gee*."  
 24004. "(No. 1060a.) Chinese name *Ten shoo show gee*."  
 24005. "(No. 1061a.) Chinese name *Pai shi gee hai tang*."  
 24006. "(No. 1062a.) Chinese name *Lang shi gee hai tang*."  
 24007. "(No. 1063a.) Chinese name *Hong shi gee hai tang*."  
 24008. "(No. 1064a.) Chinese name *Pai shi gee hai tang*."

"The above are grown by the Chinese of North China as ornamental garden plants." (Meyer.)

**24009 to 24016. ALTHAEA ROSEA (L.) Cav.****Hollyhock.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24009. "(No. 1065a.) Chinese name *Huang ta show gee*."  
 24010. "(No. 1066a.) Chinese name *Lang ta show gee*."  
 24011. "(No. 1067a.) Chinese name *Ile ta show gee*."  
 24012. "(No. 1068a.) Chinese name *Sen ta show gee*."  
 24013. "(No. 1069a.) Chinese name *Pou ta show gee*."  
 24014. "(No. 1070a.) Chinese name *Tze ta show gee*."  
 24015. "(No. 1071a.) Chinese name *Hong ta show gee*."  
 24016. "(No. 1072a.) Chinese name *Moo ho ta show gee*."

"The hollyhocks are favorite garden plants with the Chinese of North China, thriving well in the semiarid climate of northeast Asia. Among these preceding numbers there is one said to be black, No. 1067a (S. P. I. No. 24011), but in all probability the seeds will appear to be very much mixed, as with nearly all seeds to be had in China. There may be hardier and more disease-resistant varieties than those we possess at present among this lot." (Meyer.)

**24017 to 24019. DATURA sp.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24017. "(No. 1073a.) Chinese name *Hong ba hsien hua*."  
 24018. "(No. 1074a.) Chinese name *Pai ba hsien hua*."  
 24019. "(No. 1075a.) Chinese name *Lang ba hsien hua*."

"The above are grown as ornamental plants in North China." (Meyer.)

**24020 to 24029. IPOMOEA PURPUREA (L.) Roth.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24020. "(No. 1076a.) Chinese name *Hong la ba hua*."  
 24021. "(No. 1077a.) Chinese name *Huang la ba hua*."  
 24022. "(No. 1078a.) Chinese name *Tze la ba hua*."  
 24023. "(No. 1079a.) Chinese name *Pai la ba hua*."  
 24024. "(No. 1080a.) Chinese name *Sen la ba hua*."  
 24025. "(No. 1081a.) Chinese name *Lang la ba hua*."  
 24026. "(No. 1082a.) Chinese name *Hua la ba hua*."  
 24027. "(No. 1083a.) Chinese name *Luo ching la ba hua*."  
 24028. "(No. 1084a.) Chinese name *Noo ho la ba hua*."  
 24029. "(No. 1085a.) Chinese name *Shoo hong hua*."

**23930 to 24113—Continued.****24020 to 24029—Continued.**

"The above are in all probability different varieties of *Ipomoea purpurea*; grown by the Chinese in North China as ornamental garden climbers against fences and walls. There are said to be all kinds of colors among these, but the seeds are probably very much mixed." (*Meyer.*)

**24030. IPOMOEA sp.**

From Peking, Chihli, China. "(No. 1086a, Mar. 25, 1908.) A species of morning-glory grown in gardens in North China. (Chinese name *Lang chu ling tze.*" (*Meyer.*)

**24031. IPOMOEA sp.**

From Peking, Chihli, China. "(No. 1087a, Mar. 25, 1908.) Chinese name *Hu lu pian doh*, which name may be fictitious, as *pian doh* is the name for *Dolichos lablab*. This *Ipomoea* is grown like the rest of the morning-glories as an ornamental garden vine." (*Meyer.*)

**24032. IRIS ENSATA Thunb. (?)**

From Peking, Chihli, China. "(No. 1088a, Mar. 25, 1908.) Apparently an *Iris*, grown as an ornamental plant in gardens in North China. Chinese name *Shir yong chieng.*" (*Meyer.*)

**24033 to 24044. MIRABILIS JALAPA L.****Four-o'clock.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**24033.** "(No. 1089a.) Chinese name *Luan hong mu lee.*"

**24034.** "(No. 1090a.) Chinese name *Luan huang mu lee.*"

**24035.** "(No. 1091a.) Chinese name *Luan pai mu lee.*"

**24036.** "(No. 1092a.) Chinese name *Luan sen mu lee.*"

**24037.** "(No. 1093a.) Chinese name *Luan tze mu lee.*"

**24038.** "(No. 1094a.) Chinese name *Luan hua mu lee.*"

**24039.** "(No. 1095a.) Chinese name *Huang mu lee hua.*"

**24040.** "(No. 1096a.) Chinese name *Lang mu lee hua.*"

**24041.** "(No. 1097a.) Chinese name *Pai mu lee hua.*"

**24042.** "(No. 1098a.) Chinese name *Sen mu lee hua.*"

**24043.** "(No. 1099a.) Chinese name *Hong mu lee hua.*"

**24044.** "(No. 1100a.) Chinese name *Tchung tze hu mu lee hua.*"

"These twelve preceding numbers are varieties of the ordinary four-o'clock, which is a great favorite with the Chinese of North China. They are able to stand considerable alkali in the soil." (*Meyer.*)

**24045 to 24058. IMPATIENS BALSAMINA L.****Balsam.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**24045.** "(No. 1101a.) Chinese name *Lang ting tung.*"

**24046.** "(No. 1102a.) Chinese name *Sen ting to tung.*"

**24047.** "(No. 1103a.) Chinese name *Hong ting to tung.*"

**24048.** "(No. 1104a.) Chinese name *Tze ting to tung.*"

**24049.** "(No. 1105a.) Chinese name *Pai ting to tung hua.*"

**24050.** "(No. 1106a.) Chinese name *Suo ching ting to tung hua.*"

**24051.** "(No. 1107a.) Chinese name *Hua pien ting to tung hua.*"

**24052.** "(No. 1108a.) Chinese name *Moo ho ting to tung hua.*"

**24053.** "(No. 1109a.) Chinese name *Hong lung tsao tung hsien hua.*"

**23930 to 24113**—Continued.**24045 to 24058**—Continued.

- 24054.** "(No. 1110a.) Chinese name *Hua lung tsao tung hsien hua.*"  
**24055.** "(No. 1111a.) Chinese name *Tze lung tsao tung hsien hua.*"  
**24056.** "(No. 1112a.) Chinese name *Lang lung tsao tung hsien hua.*"  
**24057.** "(No. 1113a.) Chinese name *Pai lung tsao tung hsien hua.*"  
**24058.** "(No. 1114a.) Chinese name *Lang hua pien lung tsao tung hsien hua.*"

"All the preceding numbers are apparently varieties of the ordinary balsam, which is much grown by the Chinese as an ornamental summer annual, mostly in boxes and earthen vessels. There are some fine varieties among them, and as a whole they may prove to be somewhat hardier than our own strains." (*Meyer.*)

**24059 to 24062.** (Undetermined.)

From Peking, Chihli, China. (Mar. 25, 1908.)

- 24059.** "(No. 1115a.) Chinese name *Ta nai kong.*"  
**24060.** "(No. 1116a.) Chinese name *Pai nai kong.*"  
**24061.** "(No. 1117a.) Chinese name *Hong sho yo.*"  
**24062.** "(No. 1118a.) Chinese name *Sun kuan moo.*"

"These four numbers represent apparently a *Salvia* or some closely allied genus of *Menthaceæ*; they are grown by the Chinese as ornamental garden plants." (*Meyer.*)

**24063 to 24066.** *DIANTHUS CHINENSIS* L.

Chinese pink.

From Peking, Chihli, China. (Mar. 25, 1908.)

- 24063.** "(No. 1119a.) Chinese name *Hong shir chow.*"  
**24064.** "(No. 1120a.) Chinese name *Ten shir chow.*"  
**24065.** "(No. 1121a.) Chinese name *Tze shir chow.*"  
**24066.** "(No. 1122a.) Chinese name *Pai shir chow.*"

"The above are apparently different varieties of Chinese pinks, which are favorite plants in Chinese gardens." (*Meyer.*)

**24067 to 24069.** (Undetermined.)

From Peking, Chihli, China. (Mar. 25, 1908.)

- 24067.** "(No. 1123a.) Chinese name *Hong wan sho chii hua.*"  
**24068.** "(No. 1124a.) Chinese name *Pai wan sho chii hua.*"  
**24069.** "(No. 1125a.) Chinese name *Huang wan sho chii hua.*"

"Grown as an ornamental garden plant in North China." (*Meyer.*)

"These seeds belong to a species of *Asteraceæ*." (*H. C. Skeels.*)

**24070.** *HELIANTHUS* sp.

From Peking, Chihli, China. "(No. 1126a, Mar. 25, 1908.) Apparently a *Helianthus* or a closely allied composite. Grown as an ornamental garden plant in North China. Chinese name *Hong mi lou sung.*" (*Meyer.*)

**24071 to 24073.** *HELIANTHUS ANNUUS* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

- 24071.** "(No. 1127a.) Chinese name *Huang kwi hua.*"  
**24072.** "(No. 1128a.) Chinese name *Checoo lien tung.*"

## 23930 to 24113—Continued.

## 24071 to 24073—Continued.

24073. "(No. 1129a.) Chinese name *Tsau yang hua*."

"These sunflower varieties are cultivated in China for their seeds, which are eaten as a delicatessen; for their leaves, which are fed to domestic animals; and for their stalks, which are used for fuel." (*Meyer*.)

24074 and 24075. *CRYSANTHEMUM CORONARIUM* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

24074. "(No. 1130a.) Chinese name *Hoow tze kang*."

24075. "(No. 1131a.) Chinese name *Yae lië hsiën*."

"The above are grown by the Chinese in North China as ornamental garden plants." (*Meyer*.)

24076 to 24078. *CRASSINA ELEGANS* (Jacq.) Kuntze.

Zinnia.

From Peking, Chihli, China. (Mar. 25, 1908.)

24076. "(No. 1132a.) Chinese name *Hong chung mae hua*."

24077. "(No. 1133a.) Chinese name *Huang chung ye mae hua*."

24078. "(No. 1134a.) Chinese name *Pai mu sië mae hua*."

"The above are apparently varieties of *Crassina elegans*, which is grown sparsely as a garden plant in North China." (*Meyer*.)

24079 to 24081. *CALENDULA OFFICINALIS* L.

Marigold.

From Peking, Chihli, China. (Mar. 25, 1908.)

24079. "(No. 1135a.) Chinese name *Ten hsi fan lien*."

24080. "(No. 1136a.) Chinese name *Hong hsi fan lien*."

24081. "(No. 1137a.) Chinese name *Chung tsaiën tze hua*."

"The above are varieties of the ordinary marigold, grown as an ornamental garden plant in North China." (*Meyer*.)

24082 to 24085. *TAGETES ERECTA* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

24082. "(No. 1138a.) Chinese name *Hung chii hua*."

24083. "(No. 1139a.) Chinese name *Hong chii hua*."

24084. "(No. 1140a.) Chinese name *Hong fu jung hua*."

24085. "(No. 1141a.) Chinese name *Huang fu jung hua*."

"The above are apparently varieties of *Tagetes erecta* or a form closely allied to it. They are grown as ornamental garden annuals by the Chinese of North China." (*Meyer*.)

24086. *LACTUCA SATIVA* L. (?)

From Peking, Chihli, China. "(No. 1142a, Mar. 25, 1908.) A composite. Grown as an ornamental garden plant in North China. Chinese name *Hong kwei hua*." (*Meyer*.)

24087 to 24109. *CALLISTEMMA CHINENSIS* (L.) Skeels. (*ASTER CHINENSIS* L.) (*CALLISTEPHUS CHINENSIS* Nees.)

China aster.

From Peking, Chihli, China. (Mar. 25, 1908.)

24087. "(No. 1143a.) Chinese name *Huang Chiang hsi la hua*."

24088. "(No. 1144a.) Chinese name *Lang Chiang hsi la hua*."

24089. "(No. 1145a.) Chinese name *Hwei Chiang hsi la hua*."

24090. "(No. 1146a.) Chinese name *Hua Chiang hsi la hua*."

**23930 to 24113—Continued.****24087 to 24109—Continued.**

24091. "(No. 1147a.) Chinese name *Tze chiang hsi la hua.*"  
 24092. "(No. 1148a.) Chinese name *Nan hong chiang hsi la hua.*"  
 24093. "(No. 1149a.) Chinese name *Moo ho jung tchu chiang hsi la hua.*"  
 24094. "(No. 1150a.) Chinese name *Hua yung tchu chiang hsi la.*"  
 24095. "(No. 1151a.) Chinese name *Fen yung tchu chiang hsi la.*"  
 24096. "(No. 1152a.) Chinese name *Tze yung tchu chiang hsi la.*"  
 24097. "(No. 1153a.) Chinese name *Hong yung tchu chiang hsi la.*"  
 24098. "(No. 1154a.) Chinese name *Pai yung tchu chiang hsi la.*"  
 24099. "(No. 1155a.) Chinese name *Pai hua pien chiang hsi la.*"  
 24100. "(No. 1156a.) Chinese name *Tze hua pien chiang hsi la.*"  
 24101. "(No. 1157a.) Chinese name *Chiang hsi chii.*"  
 24102. "(No. 1158a.) Chinese name *Pai kwei chow chii.*"  
 24103. "(No. 1159a.) Chinese name *Hong kwei chow chii.*"  
 24104. "(No. 1160a.) Chinese name *Huang kwei chow chii.*"  
 24105. "(No. 1161a.) Chinese name *Lang kwei chow chii.*"  
 24106. "(No. 1162a.) Chinese name *Fen kwei chow chii.*"  
 24107. "(No. 1163a.) Chinese name *Tze kwei chow chii.*"  
 24108. "(No. 1164a.) Chinese name *Hua kwei chow chii.*"  
 24109. "(No. 1165a.) Chinese name *Moo ho kwei chow chii.*"

"The above are apparently various forms and varieties of our ordinary garden aster, which is held in high esteem by the Chinese as a garden flower. There are said to be yellow-flowered varieties among this collection, but in general the seeds will be found to be very much mixed.

"As the garden aster is a native of northern Asia there may be found some types among this lot that may be of value for breeding purposes or for rather uncongenial climates." (*Meyer.*)

**24110 to 24112. PANICUM MILIACEUM L.****Proso millet.**

From northern Korea. (September, 1906.)

24110. "(No. 1168a.) A white-seeded drooping millet."  
 24111. "(No. 1169a.) A red-seeded drooping millet."  
 24112. "(No. 1170a.) A black-seeded drooping millet."

"Apparently rare forms of millet grown by the Koreans for food. These few seeds were picked by me, while passing a few fields near the upper regions of the Tumen River and I never came across them again later on." (*Meyer.*)

**24113. PANICUM sp.**

From northern Korea. "(No. 1171a, September, 1906.) A millet grown on very low lying lands; used by the poor peasants, when ground up, as a gruel. Try it on low river bottoms as a late fodder crop; it stools out enormously on rich land." (*Meyer.*)

**24114. ARACHIS HYPOGAEA L.****Peanut.**

From Marseille, France. Procured by Hon. Robert P. Skinner, American consul-general, at the request of Mr. W. R. Beattie and Mr. C. S. Scofield. Received October 27, 1908.

*Gambia.* "Pods medium size to small, light in color, closely netted, indentations quite shallow, so that the exterior surface of pods is comparatively smooth; generally two, sometimes three, and occasionally one pea in a pod; shells thin and quite firm and strong; peas medium size, one-third larger than Spanish, crowded together in pod and almost completely filling cavity, color of pea rather dark brown, outer skin adhering very tightly; flesh of pea clear white color, germ considerably extended at end of pea and easily removed.

"This pea will be exceptionally valuable for use in the manufacture of candy and other products where shelled nuts are required." (*W. R. Beattie.*)

"These peanuts were procured for testing in this country for their oil-yielding properties in comparison with the American varieties." (*R. A. Young.*)

**24115 to 24121.**

From Amani, German East Africa. Presented by Dr. A. Zimmerman, Biologic Agricultural Institute, at the request of Mr. C. V. Piper. Received October 23, 1908.

"The following seeds of legumes being tested here for their value as green fertilizing plants." (*Zimmerman.*)

- 24115. CROTALARIA sp.
- 24116. CROTALARIA sp.
- 24117. CROTALARIA sp.
- 24118. CROTALARIA HILDEBRANDTHI Vatke.
- 24119. CROTALARIA STRIATA Schrank.
- 24120. DOLICHOS (?).
- 24121. INDIGOFERA (?).

**24122 to 24127. ANDROPOGON SORGHUM (L.) Brot.****Kafir.**

From Greytown, Natal, South Africa. Procured from Mr. T. Thresh, "Thornton," Greytown, Natal, by Mr. E. Fitzgerald, Native Affairs Department, Pietermaritzburg, Natal, presented by Mr. A. E. LeRoy, Adams, M. S., Natal. Received October 6, 1908.

Seed of the following. Descriptive notes by Mr. Carleton R. Ball; native names by Mr. LeRoy:

- 24122. *Mehlo ka kuka.* *Blackhull* kafir, apparently typical. Small head, 7 inches long; glumes, short, shiny black; seeds medium, white.
- 24123. *Sibuyana.* *Blackhull* kafir type; very compact glumes and seeds slightly larger than normal, the seeds are white with distinct brownish tinge, especially at tip.
- 24124. *Simuktywana.* *Blackhull* kafir type; head compact, very similar to preceding (S. P. I. No. 24123), but seeds more deeply tinged with brown.
- 24125. *Ngabani omhlope.* Kafir type of head, but seeds large; whitish or mostly pearly glumes two-thirds as long as seeds, these are greenish or, in the case of those at the base of the head, reddish brown.

**24122 to 24127**—Continued.

**24126.** *Ngabani obomvu.* Red kafir, apparently typical head, shorter and more slender than normal for the United States. .

**24127.** *U Jiba.* "The natives do not like the taste of this, but raise it because the birds do not trouble it. Birds trouble all other kinds very greatly." (*LeRoy.*)

Related to *Red kafir*, but with very large seeds; glumes about two-thirds as long as seeds.

**24128 to 24130.** ANDROPOGON SORGHUM (L.) Brot. **Durra.**

From Egypt. Presented by Mr. Hubert S. Smiley, Gallowhill, Paisley, Scotland. Received September 23, 1908.

Seed of the following. Descriptive notes by Mr. Carleton R. Ball; native names by Mr. Smiley:

**24128.** *Bahr el Bugger.* Typical durra *Ahmar* or brown-seeded durra; glumes shiny black; large seeds, pale and shiny red.

**24129.** *Hamashi.* "This is considered the best for bread making." (*Smiley.*)

A form apparently intermediate between durra *Ahmar* and durra *Beda* the white form; the seeds are pale brown, head is otherwise identical with durra *Ahmar*.

**24130.** *Heygeri.* Seeds white or brownish white; glumes shiny black and naked.

"These are typical Egyptian durras with very large and heavy ovate, extremely compact, pendant heads; the same or very similar varieties tested by me in the last few years always have immense stalks, 2 to 3 inches in diameter at the base, 8 to 13 feet high, and having from 20 to more than 30 leaves; they are mostly very late and will therefore not mature in much of our dry plain region; they are not at all adapted to the more humid region, because the compact heads become moldy in wet weather and badly injured by worms." (*Ball.*)

"This durra is sown as a rain crop in Berber, Atbara, Zeidab, and Shendi districts. Directly the rains are over, the natives go out to the borders of the desert and sow the grain on the poor, rocky soil. They then leave it, as it requires no cultivation, and it receives no more water than that left in the soil by the rains. A good crop would be about 6 ardebs per feddan. These sorghums are the principal foodstuffs of the natives." (*Smiley.*)

**24131.** GARCINIA sp.

From Palawan, Philippine Islands. Procured by Mr. William S. Lyon, Gardens of Nagtajan, Manila, P. I. Received November 4, 1908.

"This species is from sea level, extending from coast inland 3 to 5 kilometers only; is generally 14 to 15 meters, although sometimes larger, wide spreading and seemingly a robust grower. Fruit edible by natives, monkeys, and parrots, but I balked at much of it." (*Lyon.*)

**24132.** BENZOIN sp. (?)

From Mokanshan, China. Presented by Rev. J. M. W. Farnham, Shanghai, China. Received November 4, 1908.

"This shrub grows 8 or 10 feet tall. In September (here) the branches are covered thick with beautiful, very bright red berries; a bush here and there among the green shrubbery around a lawn would be pretty. Sow in the autumn, I suppose." (*Farnham.*)

**24134 and 24135.**

From Florida. Grown by Mr. P. J. Wester at the Subtropical Garden, Miami, Fla. Numbered for convenience in recording distribution November 9, 1908.

**24134. CHRYSOPHYLLUM MONOPYRENUM Swartz.**

"This belongs to the Sapotaceae and is a native of south Florida, where it grows to a small tree, attaining sometimes a height of about 18 feet. The leaves are leathery and dark green, shining above and satiny beneath, something similar to the star apple, with which many are familiar, only this is darker and more lustrous than that species, making it more ornamental. The fruit is of no value." (*Wester.*)

**24135. THESPESIA POPULNEA (L.) Soland.**

"This is usually considered a native of the Old World, which has long been naturalized to the West Indies and has probably drifted with the Gulf Stream to the shores of Florida, where it grows wild on the Keys and occasionally on the mainland. This plant will attain a height here of about 20 feet or more and about the same spread under favorable conditions." (*Wester.*)

"These plants will probably be of value in southern California as ornamentals and shade trees. Both stand slight frosts." (*Wester.*)

**24136. CRINODENDRON PATAGUA Mol.**

From Jamaica Plain, Mass. Presented by the Arnold Arboretum. Received October 26, 1908.

"A tree attaining a height of 30 feet; pyramidal shaped; pretty foliage; very elegant, lily-shaped, drooping, red flowers." (*Dr. F. Franceschi.*)

**24137 and 24138. ZEA MAYS L.****Corn.**

From Ciudad Juarez, Chihuahua, Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture. Received November 2, 1908.

Seed of the following:

**24137.** "Blue corn, is regular Aztec corn, very much used for tortillas." (*Stearns.*)

**24138.** "White corn, used same as above (S. P. I. No. 24137)." (*Stearns.*)

**24140 to 24145.**

Collected near Simla, India, in the Himalayan foothills. Presented by Mr. Evarard Cotes, Greenwood Court, Simla, India, through Mr. Frank N. Meyer. Received November 10, 1908.

Seeds of the following. Descriptive notes by Mr. Frank N. Meyer:

**24140. PRUNUS ARMENIACA L.** **Wild apricot.**

Resembles the cultivated ones very much.

**24141 to 24144. AMYGDALUS PERSICA L.** **Peach.**

**24141.** Probably an improved cultivated form.

**24142.** Very small pits, probably the genuine wild type.

**24143.** Small heart-shaped pits.

**24144.** The pits seem to resemble those of the *Chinese Honey* peach.

**24145. PYRUS sp.** **Pear.**

A wild variety.

**24146. ASPARAGUS FILICINUS GIRALDII C. H. Wright.**

From Florence, Italy. Presented by Mr. Pasquale Bauarini, director, Orto Botanico del R. Instituto de Studi Superiori, via Romana 19. Received November 13, 1908.

"The form known in gardens as variety *Giraldii* is characterized by its large, broad, glossy, green phylloclades, usually borne in groups of five, and the solitary green flowers produced on very slender pedicels much longer than the phylloclades. The flower buds are brownish. This form has been collected in China in the Province of Shensi by Père Giraldi and in Szechwan and Hupeh by Dr. Aug. Henry.

"The species is a very variable one, and three varieties of it are enumerated in *Hooker's Flora of British India*, vi. 315, but the variety *Giraldii* has larger phylloclades than either of these." (*Charles Henry Wright, in The Gardeners Chronicle, August 15, 1908.*)

**24147. MALPIGHIA GUADALAJARENSIS (Wats.) Rose.**

From Ixtlan del Rio, Tepic, Mexico. Presented by Mr. Alfred Lonergan, through Mr. Frederic Chisolm. Received November 12, 1908.

"*Manzanita* or *Manzana del Cerro* (mountain apple). A low-growing tree, with small edible fruits of a taste resembling that of the apple. Grows wild on the steep, rough mountain sides in the eastern part of Tepic Territory and along the contiguous western border of the State of Jalisco, Mexico. The bark is used in tanning, and these fruits were imported to be planted at Brownsville, Tex., and Miami, Fla., to grow trees for this purpose." (*Frederic Chisolm.*)

**24148 to 24154. PUNICA GRANATUM L.****Pomegranate.**

From Sidon, Syria. Procured by Mr. G. Bie Ravndal, American consul-general, Beirut, Syria, from Mohamed Effendi Dada, gardener. Received November 13, 1908.

The following cuttings:

**24148.** *Suneiny.*

**24152.** *Mawardi.*

**24149.** *Malissah.*

**24153.** *Mukl el Bagel.*

**24150.** *Bint el Basha.*

**24154.** *Seify.*

**24151.** *Zaffani.*

"Perhaps the most popular varieties of sweet pomegranates grown here are the *Malissah* (S. P. I. No. 24149) and the *Bint el Basha* (S. P. I. No. 24150). The *Mawardi* (S. P. I. No. 24152) is also rather sweet, but considered slightly inferior to the varieties already mentioned, so also the *Mukl el Bagel* (S. P. I. No. 24153), the latter as well as the *Zaffani* (S. P. I. No. 24151) is somewhat tart, but not as acid as the *Suneiny* (S. P. I. No. 24148). The *Seify* (S. P. I. No. 24154) is well thought of in Syria. It is found in the Damascus region, as well as in the vicinity of Sidon.

"When seeds are planted the trees will be wild and require grafting, while cuttings will produce trees of the variety of the cuttings. Pomegranates out here thrive on shade and water. Rats are very fond of the fruit and climb the trees for meals, leaving the shells of the fruit hanging quite empty." (*Ravndal.*)

**24155 to 24165.**

From Szechwan Province, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received October and November, 1908.

**24155 to 24165—Continued.**

The following seeds:

**24155. RUBUS XANTHOCARPUS** Bur. & Franch.

“(No. 806.) Subshrub 6 inches to 1 foot high; flowers white; fruits yellow, of good size and flavor. Common in abandoned cultivated areas and stony places generally in the valley of the Min River from 6,000 to 10,000 feet; abundant around the town of Sungpan. Fruit ripe July to end of August, according to altitude.” (*Wilson.*)

**24156. RIBES** sp.

“(No. 836.) Bush 6 to 12 feet; fruit green and very acid. The common gooseberry, abundantly employed as a hedge plant around Tatienu; altitude 8,000 to 10,000 feet.” (*Wilson.*)

**24157. TRITICUM AESTIVUM** L.**Wheat.**

“(No. 845.) A white awnless wheat; 3 to 4 feet high; ripening in May. A common crop on the Yangtze banks, Szechwan Province.” (*Wilson.*)

**24158. HORDEUM VULGARE** L.**Barley.**

“(No. 846.) Ordinary six-rowed barley; 2 to 3 feet high; ripening in May; cultivated in the Yangtze Valley, Szechwan.” (*Wilson.*)

**24159. HORDEUM** sp.**Barley.**

“(No. 847.) A common six-rowed awned barley; ripe in May; abundantly cultivated on the banks of the Yangtze River, Szechwan.” (*Wilson.*)

**24160. TRITICUM AESTIVUM** L.**Wheat.**

“(No. 848.) A red wheat; 3 to 4 feet high; ripe in May. A common crop in the Yangtze Valley, Szechwan.” (*Wilson.*)

**24161. HORDEUM VULGARE** L.**Barley.**

“(No. 849.) A barley with purplish glumes, ripe in May; sparingly cultivated in the department of Weichon on the borders of the Chentu plain.” (*Wilson.*)

**24162. BRASSICA JUNCEA** (L.) Cass.**Chinese rape.**

“(No. 851.) Large Chinese rape, *Ta tsai yu*; 4 to 6 feet high; abundantly cultivated throughout the Yangtze Valley and the Chentu plain.” (*Wilson.*)

**24163. BRASSICA** sp.

“(No. 852.) Small Chinese rape, *Hsas tsai yu*; 2 to 3 feet high; not quite such a common crop as No. 851 (S. P. I. No. 24162), but very generally cultivated in Szechwan. For special use of these and all the Szechwanese economic plants, see Consul-General Hosie's report on the Province of Szechwan.” (*Wilson.*)

**24164. TRITICUM AESTIVUM** L.**Wheat.**

“(No. 853.) A red awnless wheat; 3 feet high, with stout culms and ears; cultivated by the tribesfolk in western Szechwan and ripening in July or August, according to altitude. This wheat yields a very fine flour suitable for bread of all sorts.” (*Wilson.*)

**24165. FRAGARIA MOSCHATA** Duchesne.

“(No. 908.) Wild strawberry. Fruit red and of very good flavor, size and shape variable, abundant around Tatienu, 8,000 to 14,000 feet altitude.” (*Wilson.*)

**24166 and 24167. MELALEUCA LEUCADENDRON L.**

Presented by Dr. John Gifford, Coconut Grove, Fla., through Mr. P. J. Wester, in charge, Subtropical Garden, Miami, Fla. Received November 17, 1908.

**24166.** Seed from Australia.

**24167.** Cuttings from a tree 18 feet tall growing near Coconut Grove, Fla.

"The cajaput-tree of India and Australia. Reaches a height of 80 feet. Can be grown on the edges of salt-water swamps where no Eucalyptus will survive; the tree is believed to be valuable for subduing malarial vapors like Eucalyptus. The lamellar bark is valuable for preserving fruit wrapped in it. The wood is hard, close grained; and almost imperishable underground. The leaves yield as much as 2 per cent of the well-known cajaput-oil, closely allied to that of Eucalyptus." (*Extract from Von Mueller.*)

**24168 and 24169. DAHLIA spp.****Dahlia.**

From Boca del Monte, Vera Cruz, Mexico. Presented by Dr. C. A. Purpus, of Zacuapan, Mexico, through Dr. J. N. Rose, associate curator, United States National Museum. Received November 19, 1908.

Seed of the following:

**24168.** (Rose No. 08.314.) Flower orange or yellow.

**24169.** (Rose No. 08.315.) Flower purple; 6,000 to 7,000 feet altitude.

**24170. MANGIFERA INDICA L.****Mango.**

From Province of Imos, Philippine Islands. Presented by Mr. Donald MacIntyre, Moanalua Gardens, Honolulu, Hawaii. Received November 20, 1908.

*Pico.* "A variety of merit. It comes true from seed and by that method has been reproduced in that country for generations." (*MacIntyre.*)

**24172. ANONA SQUAMOSA L.****Sugar-apple.**

From Antigua, British West Indies. Presented by Mr. A. S. Archer to Mr. P. J. Wester, in charge, Subtropical Garden, Miami, Fla., who forwarded a small quantity to the Department November 9, 1908.

Variety *purpurea*.

**24173 to 24192.**

From Soochow, Kiangsu, China. Presented by Rev. R. A. Haden, B. D. Received November 14, 1908.

The following seeds. Quoted descriptions by Mr. Haden; descriptions of varieties by Mr. H. T. Nielsen:

**24173 to 24175. VICIA FABA L.**

**Broad bean.**

"These are varieties of the same bean, grown from about latitude 30° to 33°. They are planted in the fall; it is said that planted in the spring they will not produce. Plant 2 to 3 seeds in a hill, space about 1 foot each way. Stalk bushy and about 3 feet to 4 feet 6 inches high; foliage and seed pods quite smooth; blooms light lilac, slightly fragrant; very prolific. Among earliest plants to bloom in spring and these green beans are the earliest to be had in the market. These are cooked in the same way as butter or lima beans; when dry they are also parched and eaten, and, too, they are soaked until tender, the skin peeled off, and cooked, they are very good thus prepared."

**24176. SOLANUM MELONGENA L.**

**Eggplant.**

"A white variety of eggplant, very fine. I send these because I have never seen the white eggplant at home."

**24173 to 24192—Continued.**

- 24177 to 24179.** PISUM ARVENSE L. **Field pea.**
- 24177.** "Dark green English pea. Planted in fall with rye (October and November here). Stalk 4 to 5 feet high, branching. Flowers small, purple. Considered very prolific."
- 24178.** "Large white English pea. Planted as above (S. P. I. No. 24177); flowers white; stalks larger and more prolific; good."
- 24179.** "Small white. Remarks on the above (S. P. I. No. 24178) will apply to this."
- 24180 to 24184.** GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**
- 24180.** "Plant bunchy."  
Looks like *Nuttall*, No. 17253, also like No. 19183.
- 24181.** "Large yellow soy bean, early."
- 24182.** "Green soy bean, early."  
Seed looks like *Okute*, No. 19986.
- 24183.** "Small light green variety, early."  
Seed similar to *Haberlandt*, Nos. 17263 and 19985, but is a little smaller.
- 24184.** "Large yellow variety, medium early."  
Seed looks like *Haberlandt*, No. 17271.
- 24185 to 24192.** VIGNA UNGUICULATA (L.) Walp. **Cowpea.**
- 24185.** "*Smallpox* cowpea. This is a variety of what in Louisiana used to be known as the cowpea; however, I never saw any there as fine as these. Rank grower; long vines, tangled and in masses; prolific fruiter."  
Markings of seed like *Whippoorwill*, but shape different, having the most pronounced keel of any cowpea I have seen; shape somewhat like *Unknown*.
- 24186.** "Large brown. Ranks in all respects with the above (S. P. I. No. 24185) except that growth is not so rank."  
Shape similar to *Unknown*, but keel is longer and sharper and darker colored.
- 24187.** "Small brown. Very prolific; splendid fodder pea."  
Looks like an ordinary *Clay*, seed may be a trifle darker and smaller.
- 24188.** "Large black-eyed spotted pea. I have not seen this growing; it was a find and is said to be very good."  
Looks something like *Holstein*, but all the black except a few spots is around the hilum.
- 24189.** "*Black*. Rank grower extensively cultivated; weevil very bad in this."  
Looks like our ordinary *Black*.
- 24190.** "*Black-Eye* cowpea, large; not as extensively cultivated as other varieties in this collection."  
Looks just like our common *Black-Eye*.
- 24191.** "*Black-Eye* cowpea, small; good."  
Differs from our common *Black-Eye* only in having smaller seeds.
- 24192.** "*Brown-Eye* cowpea, small; good."  
Seed looks like our common *Brown-Eye*, but a little smaller; looks like *Brown-Eye*, No. 17855, from China.

**24193. ORYZA SATIVA L.****Rice.**

From Chevy Chase, Md. Grown by Mr. David Fairchild on his place "In the Woods." Received November 23, 1908.

Grown from dry-land rice No. 19188.

"Planted June 5; it matured a crop of ripe grain. I only planted a few kernels and it received no irrigation whatever. One plant had 17 heads on it and though not as tall as irrigated rice it looks like a promising thing to me. I also planted the same variety in April and got a good stand, somewhat better than the later planting, i. e., maturing earlier. I surmise that in such seasons as the last one (1908), May would be the best time to sow this rice in Maryland." (*Fairchild.*)

**24194. CARISSA CARANDAS L.**

From Peradeniya, Ceylon. Presented by Mr. John C. Willis, director, Royal Botanic Gardens. Received November 21, 1908.

See No. 23750 for description.

**24195. SCHOENOCaulon OFFICINALE (Schlecht.) Gray. Cebadilla.**

From Vera Cruz, Mexico. Presented by Mr. William W. Canada, American consul. Received November 10, 1908.

"The party who procured some of this seed for us in 1905 informs us that it is poisonous, containing Veratrum, and is therefore generally used in the form of a tincture for destroying body lice, etc., as also ticks on cattle. There are other varieties of the same species—the *Zygadenus mexicanus* and the *Stenanthium frigidum*, but these are considered as inferior. The plant is indigenous to the soil in some parts of the State of Vera Cruz. Cebadilla is a common commodity procurable of druggists in the United States." (*Extract from letter of Consul Canada, September 18, 1905.*)

**24196. CITRUS NOBILIS Lour. (?)****"Naartje."**

From Warm Baths, Transvaal, South Africa. Presented by Mr. C. A. Simmonds, at the request of Mr. R. A. Davis, government horticulturist, Transvaal Department of Agriculture, Pretoria. Received November 30, 1908.

*Groenskil.* "The word '*Groenskil*' means green skin, and the fruit of this variety bears more resemblance to the Emperor mandarin perhaps than to most others. It hangs for a long time on the trees in good condition, and is the latest ripening variety we have. It is also more hardy than the '*Platskill*' (S. P. I. No. 24326)." (*Extract from letter of Mr. Davis, February 13, 1908.*) See No. 21551 for further remarks.

**24197 to 24202.**

From Biloxi, Miss. Grown by Prof. S. M. Tracy, special agent, who procured the original seed from Prof. C. F. Baker, Experiment Station, Santiago de las Vegas, Cuba. Received November 30, 1908.

Plants of the following; notes by Professor Tracy:

**24197. CALOPOGONIUM COERULEUM (Benth.) Hemsl.**

A slender vine, 10 to 15 feet, rooting freely, poor climber, nodules abundant, no flowers.

**24198. CALOPOGONIUM ORTHOCARPUM Urb.**

A slender vine, 3 to 6 feet, rooting freely, poor climber, nodules abundant, no flowers.

**24199. GALACTIA TENUIFLORA (Willd.) W. & A.**

A slender, vigorous climber, nodules abundant, no seed.

**24197 to 24202—Continued.**

**24200.** *GALACTIA STRIATA* (Jacq.) Urb.

A slender, vigorous climber, nodules abundant, no seed.

**24201.** *TERAMNUS UNCINATUS* (L.) Swartz.

A dense mass of slender vines climbing poorly, nodules fair, no bloom.

**24202.** *BRADBURYA PLUMIERI* (Turp.) Kuntze.

A slender, thrifty climber, nodules few, no bloom.

**24203.** *CANANGA ODORATA* (Lam.) Hook. f. & Thoms. **Ilang ilang.**

From Lawang, Java. Presented by Mr. M. Buysman. Received December 11, 1908.

For description and other importations, see No. 22744.

**24204.** *CUCUMIS* sp.

From Ragaa, Bahr el Ghagel, Sudan, Africa. Presented by Mr. Hubert S. Smiley, Gallowhill, Paisley, Scotland. Received September 23, 1908.

"Seed of the *Koreish Battekh* (inedible oil pumpkin) is sown by natives among their other crops, all of which depend on rain. The oil from this pumpkin is used for cooking and other purposes, as is the better known 'semsen' oil. It is also used by the military and other officials, with the addition of tobacco juice, to protect their mules from the bite of the tse-tse fly. The oil is prepared as follows: Seeds are extracted and roasted similarly to the coffee beans; after roasting the seeds are ground up on a stove; after grinding they are thrown into a pot with oil and boiled. The oil comes to the top and is skimmed off for use." (*Smiley.*)

**24205.** *VICIA LEAVENWORTHII* Torr. & Gray.

From Arizona. Presented by Mr. Vernon Bailey, Bureau of Biological Survey, United States Department of Agriculture. Received December 3, 1908.

"These vetch seeds were collected September 23, 1908, at 8,500 feet altitude in the White Mountains of Arizona. The plant is abundant throughout Transition Zone, or from about 7,500 to 9,000 feet in the open yellow pine forest. It grows as a spreading bush 2 feet high and in many places covers the ground as an almost solid field of peas, loaded with fruit.

"Our horses were very fond of it and ate both pods and plant eagerly. For a week they had no other grain and ate little else, but steadily gained in flesh.

"Wild turkeys and grouse also feed on both its pods and leaves. It seems to be an unusually valuable forage plant." (*Bailey.*)

**24206 to 24310.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, December 4, 1908.

The following seeds and plants; notes by Mr. Husbands:

**24206 and 24207.** *GREIGIA SPHACELATA* (R. & P.) Regel.

**24206.** "Very spiny." (*R. A. Young.*)

**24207.** "Slightly spiny." (*R. A. Young.*)

**24208.** *PERSEA LINGUE* (R. & P.) Nees.

This is a very valuable industrial forest tree of large size, handsome, compact, evergreen, has glossy gray-blue-green leaves and is an extra quick grower; here it is not a delicate plant but grows quickly in any soil that is wet or very moist, also in water. The wood is light and tough like elm, but takes a very

**24206 to 24310—Continued.****24208—Continued.**

high finish. Its lumber is highly esteemed and is lasting if protected from the wet; used for furniture, bodies and poles of carts, ox yokes, etc. The wood is the color of white ash, finished has a yellowish tinge, takes any stain. Its bark is solely used for tanning and is largely exported to Europe. Every station south is filled to overflowing with thousands of bags of broken bark awaiting transportation. The forests are being stripped; in a very few years this tree will be very scarce. It is an extra beautiful shade tree. Its leaves are poisonous to animals, especially sheep, who are very fond of them. Medicinally it is a powerful astringent.

**24209. JUGLANS NIGRA L.****Black walnut.**

The *Bolivian* black walnut is of Bolivian origin and is a notable, majestic forest tree with handsome hanging foliage; a quick grower of great industrial value. Its wood is exploited largely in Bolivia, is a hardwood beautifully veined in dark and light grains, taking a very high finish and useful for any purpose. I have seen treelets 8 months old that measured 1 inch in diameter 3 feet from the ground, and 8 feet high. The fruit is large, abundant, and oily, but is not edible on account of its bitterness. These trees have been recently introduced into Chile and few are bearing any considerable quantity of fruit.

**24210. MEDICAGO SATIVA L.****Alfalfa.**

From Huasco in the northern part of Chile. It is called by botanists *Medicago sativa*, notwithstanding it is a new and very valuable strain still unnamed. In past times both common central Chile alfalfa and "Alfalfa Peruano" were sown; this I believe to be a cross between the two which combines the merits of both and is said to be the most valuable seed known.

**24211 to 24225. Stringless beans grown by irrigation:****24211 and 24212. PHASEOLUS VULGARIS L.****Bean.**

**24211.** Fair quality only; prolific.

**24212.** Very good class having large, good-flavored pods; productive.

**24213. VIGNA SESQUIPEDALIS (L.) W. F. Wight.**

A curious bean, has pods from 12 to 18 inches long; "Monkey's tail."

**24214 to 24225. PHASEOLUS VULGARIS L.****Bean.**

**24214.** "*Alqueado*." Very good and extra productive.

**24215.** Cream-colored pods, good flavor, productive.

**24216.** Extra superfine class, extra fine flavor, early, very prolific; a splendid bean to be eaten green.

**24217.** Green-colored pods, very prolific, medium quality.

**24218.** Early, good.

**24219.** "*Cholos*." Extra good class; extra large pods of good flavor; prolific.

**24220.** Early, good.

**24221.** Very good class.

**24222.** Cream-colored pod, extra early.

**24223.** Very good and extra productive.

**24224.** "*Turruco*." Good, prolific.

**24225.** Good class. Thin pod, good flavor, very prolific.

**24206 to 24310—Continued.**

**24226 to 24228.** PHASEOLUS COCCINEUS L. **Scarlet runner bean.**

Beans of the Lima class used both for food and their flowers:

**24226.** "*Pallares.*" Extra good.

**24227.** Flowers bright crimson.

**24228.** Flowers pink and scarlet.

**24229 to 24261.** PHASEOLUS VULGARIS L. **Bean.**

**24229 to 24231.** Field beans grown dry in the poorest soil:

**24229.** Grown dry but in better and more moist soil than the other samples (S. P. I. Nos. 24230 and 24231).

**24230.** Grown on the coast. Yellow; prolific.

**24231.** "*Chinalya.*" Grown on the coast.

**24232 to 24261.** Field beans. Names are unreliable; the same beans are known by different names in different sections; should there be duplicates, they are grown under such distinct conditions as to water, soil, etc., as to justify sending them:

**24232.** Unknown.

**24233.** Productive and extra fine.

**24234.** Unknown.

**24235.** Unknown.

**24236.** "*Trigo*" (wheat). Irrigated, extra fine, standard class.

**24237.** "*Porotos Blanco*" (white beans). Excellent class; irrigated.

**24238.** "*Baya Grande.*" Productive, largely sown, extra good.

**24239.** "*Baya Grande Pintado.*" A very good and profitable bean; irrigated.

**24240.** No data. I think it would grow dry.

**24241.** No name. Irrigated; extra fine table class like *Mendes*; there are two sorts in this lot.

**24242.** A white class very similar to others sent. These are grown at a distance in distinct soil and conditions. Extra good.

**24243.** "*Mendes Blanco.*" A first-class table bean; irrigated.

**24244.** Irrigated; grown in sticky black clay, extra fine table class.

**24245.** "*Manteca Claro*" (light-colored lard). An extra fine class of standard table beans.

**24246.** "*Coscorrones.*" Extra superfine class, very productive in good soil; irrigated.

**24247.** "*Bayas Oscura*" (dark bay). Largely sown for the working class.

**24248.** A valuable bean in every sense.

**24249.** "*Gentlemen.*" A standard class, extra good; irrigated.

**24250.** "*Burritos*" (little donkey). Extra good; I think the same as "*Burros Claro*" (S. P. I. No. 24260).

**24251.** Irrigated; extra fine table variety.

**24252.** "*Aparecido.*" Largest sown and best bean in Chile for laborers. Irrigated.

**24206 to 24310—Continued.****24229 to 24261—Continued.****24232 to 24261—Continued.**

**24253.** "*Rosillo.*" Productive and very good. Irrigated.

**24254.** A splendid variety for rich and poor. Swell to good size.

**24255.** Extra early; yellow pods; noncreeper; productive and extra good.

**24256.** "*Mendes.*" Irrigated. A fine table variety, extra good.

**24257.** "*Baya Chicha.*" Largely sown, profitable and good.

**24258.** "*Amarilla*" (yellow). Extra fine and very productive; a good bean.

**24259.** "*Aparecido Pintado.*" The largest sown and one of the best beans for the laboring classes.

**24260.** "*Burros Claro.*" A first-class bean, white when cooked. Irrigated. I think these are the same as "*Burritos*" (S. P. I. No. 24250).

**24261.** "*White Coscorrones.*" Extra superfine variety, productive in good soil. Irrigated.

**24262. PISUM ARVENSE L.****Field pea.**

Exquisite flavor, sweet, medium late, prolific; white flower; extra fine variety.

**24263. CYNARA SCOLYMUS L.****Artichoke.**

"*Chileno.*" Common sort.

**24264. VICIA FABA L.****Broad bean.**

Very large and early.

**24265. CICER ARIETINUM L.****Chick-pea.**

"*Garbanzas.*" Grown dry in poor soil. Sown the same as beans in rows or hills.

**24266. LUPINUS sp.**

A papilionaceous legume which grows wild in the sands near the seacoast. Yellow flower. Might be made a food plant.

**24267. LUPINUS sp.**

A papilionaceous legume which grows wild in the sands near the sea. Blue flower. Said to be used roasted as a substitute for coffee, but I think it is bad for this purpose. Might be made a food plant.

**24268 to 24278. CUCURBITA sp.****Squash.**

**24268.** Mottled skin, black and red variety; large size; very good.

**24269.** Mottled skin, yellow and dark green; large size; very good.

**24270.** Extra good variety; thick, mealy, sweet flesh; large and prolific.

**24271.** Extra good class, medium size; prolific; meat very thick, mealy, and extra sweet.

**24272.** Light drab color; large size and prolific; medium quality.

**24273.** Oblong shape.

**24274.** Yellow and drab color; medium thick and sweet flesh.

**24275.** Flesh color and white; thick meat.

**24276.** Blackish green with white stripes; thick, mealy, sweet flesh; prolific; extra good.

**24206 to 24310—Continued.****24268 to 24278—Continued.**

**24277.** Thick, sweet flesh; productive; extra good.

**24278.** White skin; thick, mealy, sweet meat; good.

**24279 and 24280.** CUCURBITA PEPO L.**Pumpkin.**

**24279.** A distinct class of good quality, about 20 inches long and from 4 to 6 inches wide; prolific and a good keeper.

**24280.** A distinct class; sweet but fibrous; grows large.

**24281 to 24293.** CUCURBITA sp.**Squash.**

**24281.** A black-skinned variety having thick, mealy, sweet flesh; good.

**24282.** Sweet, mealy, fiberless, and fleshy; good.

**24283.** Greenish white tint; thick, mealy, sugar-sweet flesh, no fiber; extra good.

**24284 and 24285.** (No description.)

**24286.** Extra good class; medium size; thick, mealy, fiberless, extra sweet flesh; prolific.

**24287.** Black skin, fine sort.

**24288 to 24291.** (No description.)

**24292.** A very good variety, called here tin colored; sweet, thick, fiberless flesh; large size; prolific; good keeper.

**24293.** (No description.)

**24294 to 24301.** CAPSICUM ANNUM L.**Pepper.**

*Aji Chileno.* Various sorts in daily use; noted for their extra fine flavor. Chile gave potatoes and red peppers to the world.

Ground or pounded with stones and mixed with finely chopped onions washed in salt and water and afterwards squeezed dry and wet with vinegar, they form a delicious seasoning sauce. In cooking it is used as "color." Heat the fat or butter until it is hot enough to sputter when a drop of water is dropped into the same, put the pounded or coarsely ground peppers into the same, and leave about a quarter of a minute; then add a little cold water, the object being to extract the color and flavor of the peppers in the grease and not permit the fire to so cook the peppers as to spoil the color or make the fat bitter or of bad flavor from overcooking. This red grease is used in every kitchen to flavor all unsweetened foods. The degree of hotness is determined by the amount of grease employed. Anything fried or roasted is much improved by its use; meats, fowls, and vegetables (especially onions) fried first in "color" and afterwards made into soups, etc., are fine in flavor and attractive in appearance.

**24294.** Small size, hot kind.

**24295.** Common variety in daily use in every house.

**24296.** Common variety in general daily use.

**24297.** Pepper eaten green in soups, sauces, etc.

**24298.** Common hot sort.

**24299.** Medium hot, common variety.

**24300.** "*White Chileno.*" Eaten green as a relish in soups, sauces, salads, pickles, etc., not nearly as hot as tabasco but better flavor.

**24301.** "*Goat Horns.*" Common variety in daily use.

**24302.** SOLANUM sp.

**24206 to 24310—Continued.**

**24303 and 24304.** *OPUNTIA FICUS-INDICA* (L.) Mill.

**24303.** Fruit of this is oblong and ripens in winter; the leaf is narrow and 2 to 3 feet long.

**24304.** Fruit of this ripens in midsummer; the leaves are large and thick; the thorns are very small.

**24305.** *ANDROPOGON SORGHUM* (L.) Brot.

**Durra.**

A food plant recently found in Chile; unknown.

“White durra with small, semicompact heads; glumes very pale and densely hairy, due probably to dry environment; seeds small, circular, and less flattened than in our domestic variety; florets awned; resembles somewhat the white durra of Syria.” (*Carleton R. Ball.*)

**24306.** *CUCURBITA* sp.

Alcayota, vegetable marrow; used for making preserves.

**24307.** *CANNABIS SATIVA* L.

**Hemp.**

The ordinary Chile sort; about the year 1545 it was introduced by the Spanish and has been largely grown since.

**24308.** *HORDEUM VULGARE* L.

**Barley.**

The common Chile sort; grown on dry hills in the worst class of red clay soil; if this same seed is sown in better land it increases largely in weight and size and grows cleaner. This seed is sent as harvested and thrashed by mares.

**24309.** *ACACIA CAVENIA* (Mol.) Bert.

“*Espino de Chile.*” An exceedingly valuable wild thorn tree, grows abundantly throughout central Chile, seeks the driest regions, and is generally used for fences, is impassable and durable if cut when the sap is down; when green, is flexible. It is used as a fence without posts, but more generally is woven between three wires, thus making a very cheap and effective fence. The wood is red streaked with black, extra hard, is used for cogs in mill wheels, and spokes of the heaviest carts, coaches, etc., are made from it. This wood makes the best, hottest, and most lasting charcoal, used exclusively for heating dwellings. Grows quickly in worst dry soil of any class; the long taproot reaches moisture at great depths in a few months. Sheep and goats are especially fond of the new leaf growth and the seeds. The seeds are sown with the dung of these animals. They require a long soak. These trees, when cut, quickly sprout anew. Their natural shape is half round; when pruned, they grow round. It is a splendid shade tree. Leaves are very fine and beautiful. Every part of the branches blooms (the females only) early upon the naked tree before leafing, forming a dense mass of yellow flowers so deliciously fragrant that the fragrance is extracted by the Paris perfumers.

**24310.** *CRYPTOCARYA RUBRA* (Mol.) Skeels.

Peumo with crimson fruit.

**24311.** *CITRUS AURANTIUM SINENSIS* L.

**Sweet orange.**

From Brazil. Presented by Mr. Pierre Paul Demers, American consul, Bahia, Brazil. Received December 11, 1908.

*Bahia* navel orange. “These scions were cut from very healthy orange trees, namely, the navel orange grafted upon the ‘Laranja da terra.’ I have eaten an orange from one of these trees measuring 15 inches in circumference, and its flavor was delicious. About one-third of these scions came from that particular tree.

**24311—Continued.**

“According to planters here the scions grafted upon ‘Laranja da terra’ give better results than those grafted upon the ‘Laranja tanga.’ For that reason the latter is not much used.

“These scions come from practically the only regular orange grove in this city, located at Cabula, about 3 miles from this place. The soil upon which the trees grew contains 60 per cent, more or less, of reddish clay. Navel oranges retail here for 3 and 4 cents each. They are not raised in sufficient quantities to supply the local demands, a fact which is only attributable to the laziness of the natives.” (*Demers.*)

**24312. VITIS VINIFERA L.****Grape.**

From Beni Abbes, Africa. Presented by Dr. L. Trabut, Mustapha, Algiers, Algeria. Received December 11, 1908.

“Large late grape. Reproduces itself from seed.” (*Trabut.*)

**24313. ILEX PARAGUARIENSIS St. Hil.**

From Buenos Aires, Argentina. Presented by Hon. Carlos Thays, director, Government Botanical Gardens. Received December 12, 1908.

For description, see No. 3035. For previous introductions, see that number; also, Nos. 8953 and 19105.

**24314 to 24325.**

From De los Villares de la Reina, Salamanca, Spain. Procured by Mr. M. Fraile, of this Department, at the request of Mr. Walter T. Swingle. Received September 15, 1908.

The following seeds, descriptive notes by Mr. Fraile:

**24314. PISUM SATIVUM L.** **Pea.**

The common narrow-podded garden pea of Spain.

**24315. VICIA MONANTHOS (L.) Desf.**

This is used for making a food concentrate for animals, being ground and mixed with coarser material, such as straw and the like.

**24316. LATHYRUS SATIVUS L.** **Grass-pea.**

“*Muelas.*” Used both as a food and for feeding animals.

**24317. AVENA SATIVA L.** **Oat.**

Common variety of oats in the vicinity from which this particular sample came, near the village of De los Villares de la Reina, in the Province of Salamanca.

**24318. HORDEUM VULGARE L.** **Barley.**

In this particular vicinity this variety is used for feeding and not for brewing.

**24319. VICIA ERVILIA (L.) Willd.** **Bitter vetch.**

An unknown variety. This vetch is ground like the algarroba (S. P. I. No. 24315) and mixed with roughage as a feed for oxen.

**24320. LENS ESCULENTA Moench.** **Lentil.**

Used as a food and for fattening pigs.

**24321. CICER ARIETINUM L.** **Chick-pea.**

One of the commonest articles of food among a large proportion of the population of Spain.

**24322. CICER ARIETINUM L.** **Chick-pea.**

This variety is prized for its greater endurance of untoward conditions than the preceding (S. P. I. No. 24321) and giving higher yields.

**24314 to 24325—Continued.****24323.** TRITICUM AESTIVUM L.**Wheat.**

*Candeal* (white or summer). A common variety of bearded wheat used for bread making in Spain.

**24324.** TRITICUM DURUM Desf.**Durum wheat.**

*Rubion* (red). A hard, bearded wheat, said to be used to some extent in the making of macaroni and for fattening pigs.

**24325.** TRITICUM AESTIVUM L.**Wheat.**

*Mocho*. A beardless variety of wheat grown in Spain.

**24326. CITRUS NOBILIS Lour. (?)****“Naartje.”**

From Warm Baths, Transvaal, South Africa. Presented by Mr. C. A. Simmonds, at the request of Mr. R. A. Davis, government horticulturist, Transvaal Department of Agriculture, Pretoria. Received December 14, 1908.

*Platskill*. “The meaning of *Platskill* is flat or smooth skin and appears also to apply to the shape of the fruit. The skin of this variety adheres closely to the segments and there is never any of the puffiness which accompanies so many varieties of mandarins. Although so closely adhering, it can be easily removed with the thumb and finger, but it is not exactly what one would call a ‘kid glove’ orange.” (Extract from letter of Mr. Davis, dated February 13, 1908.) See No. 21551 for further remarks.

**24327 to 24332. ORYZA SATIVA L.****Rice.**

From Honolulu, Hawaii. Received from Mr. F. G. Krauss, in charge of Rice Investigations, Hawaii Experiment Station, December 14, 1908.

Seed of each of the following rices, descriptive notes by Mr. Krauss:

**24327.** Sample of our old type Japan seed, No. 153, which has been carefully selected for some years.

**24328.** Variety No. 144, originally received through your Bureau as S. P. I. No. 12765. A very dwarf type of Japan seed; plant averaging less than 20 inches in height, fine foliaged and stemmed, of spreading habit, heavy tillering, 25 fruiting culms per plant; small seeded; matures in one hundred to one hundred and ten days from sowing.

**24329.** Variety No. 161 (*Omachi*), 24 inches to 28 inches tall; slightly spreading and inclined to lodge in heavy weather. Yields well and produces a good kernel; one hundred and ten to one hundred and twenty days to maturity. Similar to No. 153 (S. P. I. No. 24327).

**24330.** Variety No. 162 (*Shimokaburi*), 26 inches to 30 inches tall; of erect growth; tillers well and bears heavily; kernel not of highest type.

**24331.** Variety No. 165. An opaque kernel type; 36 inches to 40 inches tall; inclined to lodge; yields well; a kernel suited to the manufacture of oriental cake flours; matures one hundred and twenty days.

**24332.** Variety No. 163. Japan type, received by Hawaii station from Dr. G. Otsaka, Imperial Agricultural Experiment Station, Kumamoto, Japan, fall of 1907. Said to be “the most prevailing variety in the southern prefectures,” there called “Shinriki” or “Sinriki.”

Seed sown February 12, 1908; matured and was harvested June 25. Height 25 inches to 28 inches; fine stemmed; well foliaged; tillers well; quite spreading, but not inclined to lodge. Yields prolifically a medium small kernel of excellent quality. Recommended for further trial.

**24333. TUMION CALIFORNICUM (Torr.) Greene.****California nutmeg.**

From San Francisco, Cal. Presented by Mr. Marsden Manson, Mechanics Bank Building. Received November 21, 1908.

"This is a rare and very beautiful ornamental tree, reaching a size of at least 3 to 4 feet in diameter and 50 to 75 feet in height, with handsome dark olive-green leaves, somewhat like the leaves of the large fir. It requires a deep, moist, and well-drained loam, and is a fairly rapid grower after once starting. The nuts sprout quickest if planted in a paper or straw box and carefully hulled." (*Manson.*)

**24334. CERATONIA SILIQUA L.****Carob tree.**

From Miami, Fla. Received from Mr. P. J. Wester, in charge, Subtropical Garden. Received December 14, 1908.

Grown from No. 6342. See No. 3112 for description.

**24335 and 24336.**

From Marandellas, Rhodesia, South Africa. Presented by Mr. J. H. Finch through Mr. W. D. Warne, Umtali, Rhodesia. Received December 14, 1908.  
The following seeds:

**24335.** ELEUSINE CORACANA (L.) Gaertn. **Ragi millet.**

**24336.** PENNISETUM AMERICANUM (L.) Schum. **Pearl millet.**

**24337. THESPESIA POPULNEA (L.) Soland.**

From Miami, Fla. Received from Mr. P. J. Wester, in charge, Subtropical Garden, December 16, 1908.

See No. 24135 for description.

**24338. PINUS PEUCE Griseb.**

From Bulgaria. Presented by Prof. C. S. Sargent, Arnold Arboretum, Jamaica Plain, Mass. Received December 17, 1908.

"This is one of the best exotic pines for the Northern States." (*Sargent.*)

**24339 to 24347.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received December 15, 1908.

The following seeds:

**24339.** ANDROPOGON SORGHUM (L.) Brot.

"Variety *Roxburghii*. The dark glumes are gaping and involute at maturity; seeds much as the following (S. P. I. No. 24340) but more flinty; awned." (*Carleton R. Ball.*)

**24340.** ANDROPOGON SORGHUM (L.) Bröt.

"Probably variety *Roxburghii*. Seeds medium size, somewhat flattened, flinty." (*Carleton R. Ball.*)

**24341.** VIGNA UNGUICULATA (L.) Walp.

**Cowpea.**

**24342.** PISUM ARVENSE L.

**Field pea.**

**24343.** ELEUSINE CORACANA (L.) Gaertn.

**Ragi millet.**

**24344.** SESAMUM ORIENTALE L.

**Sesame.**

**24345.** ARACHIS HYPOGAEA L.

**Peanut.**

**24346.** PHASEOLUS VULGARIS L.

**Bean.**

**24347.** ORYZA SATIVA L.

**Rice.**

**24348. DIOSCOREA sp.****Yam.**

From Manila, Philippine Islands. Presented by Mr. W. S. Lyon. Received December 16, 1908.

"*Tongó*. This is far the best yam in existence, in my opinion, which is based upon experience with two or three of the alleged best varieties of both the East and West Indies.

"Habitat: Thin wooded or brush lands, growing in pretty stiff clay. Ripens and stays dormant in the ground from October or November until the following May." (*Lyon.*)

**24349. HIPPEASTRUM sp.**

From Caldera, Chile. Presented by Señor Enrique E. Gigoux. Received December 18, 1908.

"A yellow-flowered ornamental form." (*P. L. Ricker.*)

**24350. BAMBOS SENANENSIS Franch. & Sav.****Bamboo.**

From Japan. Purchased from the Yokohama Nursery Company, Yokohama, Japan, through Mr. William D. Hills, agricultural explorer. Received November 27, 1908.

"Seed produced in Shinshu and Hida provinces only." (*Hills.*)

*Suzu-Dake*. "This bamboo also goes by the following names: *Yama-Dake*, *Mi-Suzu*, and *No-Suzu*, and in several of the provinces is often called *Iiei-Jiku-Chiku*. It resembles *Kuma-Zasa* (*B. veitchii* or *B. palmata*, both of which go by this name) but is larger. The nodes are not prominent and the largest stems attain a growth of 1 sun (inch) with a stature of 10 feet and more. The leaves are 5 or 6 sun in length with a width of about 1 sun, narrower than those of the sasa and tapering off at the tip. Seen from a distance the tree resembles *Miscanthus sinensis* (*Xiphagrostis japonica* (Thunb.) Coville).

"*B. senanensis* grows wild on mountains and open uplands and resists the greatest extremes of cold. It spreads right into the deepest recesses and up to the highest summits of the mountains. In some places it grows and spreads over an extent of many square miles, being especially abundant at Suwa and Kiso, in the province of Shinano, and the hills of Nambu in the province of Rikuchiu.

"In China this bamboo is said to be used for making arrows. It is tough and flexible, so that crooked stems can be easily straightened, but the slender culms of those found in the Kiso Mountains are perfectly straight and well formed. They are split in half and plaited into baskets of various shapes and into mats, forming one of the products of Shinano. Where this bamboo grows wild it hinders the development of trees and obstructs the path of the mountaineer; but it is very useful for binding together the crumbling sides of declivities and for thatching the cottages of the peasantry, in mountainous parts of the country.

"Both in China and in the northern parts of Japan the young sprouts are pickled and eaten. Furthermore, the seeds of this plant and of the sasa furnish the poorer classes with food.

"In 1843 all the bamboos around the town of Takayama, in Hida, for a distance of many miles seeded, and the population, young and old, assembled to harvest the crop at the rate of 5 or 6 *to* (equals one-half bushel) per diem—in all, some 250,000 *koku* (the *koku* equals 5 bushels, nearly). This bamboo seed resembles wheat somewhat, both in shape and taste, the common people calling it natural rice or bamboo corn. It is eaten either parched or ground, the flour being made into small dumplings and coarse vermicelli. Chemical analyses show that the composition is the same as that of wheat or rye." (*Adapted from Satow's Cultivation of Bamboos in Japan.*) (*Walter Fischer.*)

**24350—Continued.**

“Introduced especially for the purpose of testing its stems in the manufacture of a matting woven for the purpose of taking the place of ordinary laths. If the stems are suitable for lath-matting purposes it may be possible to grow this bamboo profitably on steep hillsides in the South. Its use as a soil-binder is worthy of consideration, but the effect on the development of trees should be carefully considered before the plant is given a wide distribution.” (*David Fairchild.*)

**24351. ALEURITES MOLUCCANA (L.) Willd.****Candle nut.**

From Honolulu, Hawaii. Received through Mr. J. E. Higgins, horticulturist, Agricultural Experiment Station, December 17, 1908.

“Seeds procured for experiments in Cuba, Isle of Pines, and Porto Rico and for the expression of samples of candle-nut oil for analysis and comparison with the oils furnished by other species of the same genus.

“*Aleurites moluccana* (very generally known also under the synonym of *A. triloba*) is at home throughout Malaysia and Polynesia and has been naturalized on the tropical mainland of Asia, in Madagascar, and other tropical countries. It is abundant in the forests of New Guinea, Queensland, Samoa, Tahiti, New Caledonia, Fiji, and many of the Malayan Islands, extending to the Philippines. It is strictly an East Indian or Polynesian plant and may not originally have been native farther west than Java. The tree in its native haunts appears to prefer protected situations, being common in woods and especially in narrow valleys and gullies. It grows luxuriantly to an altitude of 3,000 feet, becoming gradually rarer to 4,000 feet, when it falls off altogether. It is a rapid grower and gross feeder, and propagates itself readily from seeds, which sprout in from 4 to 5 weeks. Its large, three-lobed leaves, silvery pubescent underneath and glossy above, make it admirably suited for shade and ornament in tropical countries, where it should be planted for its valuable seeds.

“The fruits resemble in size, and somewhat in appearance, the black walnut, with a thick fleshy rind and one or two heart-shaped seeds about the size of a horse-chestnut. The seeds or nuts are very thick shelled, containing but 33 per cent of kernel. The kernels yield approximately 60 per cent oil, making for the unshelled seeds 20 per cent of oil, which, owing to the thickness of the shells, is lower than that for *Aleurites fordii*, although the percentage of oil in the kernel is higher than in the Chinese species. The raw kernels are purgative, but are said to lose this property when roasted; so, too, the half-ripe seeds are considered of delicate flavor when eaten with salt, while the ripe ones are unwholesome. The Pacific islanders roast or cook the nuts slightly, when the shells can be broken with a light tap. The kernels are then threaded on bamboo splinters or cocoanut-leaf ribs, bound in leaves or bark, and in this way beautifully bright burning, but sooty and disagreeably smelling torches are obtained—herein the origin of the name candle nut.

“Candle-nut oil is known and sold under many names, which are used also to designate the tree or nuts which produce it: In Hawaii, kukui; in Ceylon, kekune; in India, belgaum walnut; in Jamaica, Spanish or country walnut; in the Philippines, lumbang; in French colonies, bancoul or noix de Moluques or chandelles (candle). According to Louis Edgar Andés the oil compares favorably with linseed in the durability of products made from it, but with some advantage over the latter in the rapidity with which it dries. It can consequently be used industrially for the manufacture of the same products. Its present price however—due principally, it seems, to the lack of cheap and efficient methods of shelling the nuts—does not allow it to compete with linseed. Candle-nut oil is not imported into the United States, but small quantities of the kernels find their way from Australia, various parts of Polynesia and Malaysia and the Philippines to European ports, where the oil expressed from them is used principally for soap making.” (*Walter Fischer.*)

**24353 to 24364.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, December 17, 1908.

The following seeds, with notes by Mr. Husbands:

**24353.** *MEDICAGO SATIVA* L. **Alfalfa.**

Imported from Switzerland.

**24354 to 24357.** *CUCURBITA* sp. **Squash.**

**24354.** Extra large; good for fodder.

**24355.** From Curico. A good table class.

**24356.** From Curico. A good table class.

**24357.** From Rancagua. A good table class.

**24358.** *SOLANUM TUBEROSUM* L. **Potato.**

"*Perhuenchas.*" Named from an Indian tribe of the same name. Grown without deterioration from the beginning of colonial days.

**24359.** *PASSIFLORA QUADRANGULARIS* L.

"*Pasionaria de Ecuador.*" Has an edible fruit; I think it has a blue flower. Grown in Chile.

**24360.** *PASSIFLORA PINNATISTIPULA* Cav.

"*Pasionaria de Chile.*" The wild residence of this plant is in the provinces of Valparaiso and Aconcagua, near the sea. It belongs to the subgenus *Tacsonia* of *Passiflora*.

**24361 to 24364.** *ANONA CHERIMOLA* Mill.

**24361 and 24362.** (No remarks.)

**24363.** Somewhat small, with dark skin.

**24364.** A large variety, about 5 inches by 4 inches; a splendid fruit.

**24365 and 24366.** *MALUS* spp.

From Jamaica Plain, Mass. Presented by Mr. Jackson Dawson, Arnold Arboretum. Received December 19, 1908.

Seeds of the following:

**24365.** *MALUS SYLVESTRIS* × *BACCATA*.

**24366.** *MALUS BACCATA* (L.) Moench.

"These are extraordinary keepers, and, as most of our crab apples are not good keepers, these therefore may be used in experimental work." (*Dawson.*)

To be used in breeding or as stocks in cooperative experiments with the Mississippi Valley Apple Breeders' Association.

**24367.** *MEDICAGO SATIVA* L. **Alfalfa.**

From Arabia. Purchased from Mr. H. P. Chalk, manager for the Hills Brothers Company, in Bussorah, Persian Gulf, through Mr. William C. Magelssen, American consul, Bagdad, Turkey. Received December 5, 1908.

*Arabian alfalfa* or *Jet*. (See No. 12992 for description.) This has proved of great promise in Arizona and California.

**24368.** *PANICUM SULCATUM* Aubl.

From Miami, Fla. Received through Mr. P. J. Wester, in charge, Subtropical Garden, December 5, 1908.

**24368—Continued.**

"This plant does exceedingly well here, and it has recently occurred to me that it would be a successful and cheap substitute for palms for decorative purposes in the North." (*Wester.*)

"This is extensively grown in gardens in Mexico as an ornamental under the name of 'Hoja de vandra.'" (*Frederic Chisolm.*)

**24369. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Biloxi, Miss. Procured by Prof. S. M. Tracy. Received November 25, 1908.

"A variety of cowpea, the vines of which were 50 feet long, and it was stated by the owner to grow 100 feet long. The plants were dead when I saw them, but the owner states that the plant is perennial. The pods are very large, measuring 10 inches in length and  $\frac{1}{2}$  inch in width, while the seeds closely resemble those of the ordinary *Whippoorwill* variety." (*Tracy.*)

**24370 to 24401.**

From Russia. Received through Prof. N. E. Hansen, director, Agricultural Experiment Station, Brookings, S. Dak., December, 1908, while traveling as an agricultural explorer for this Department.

The following seeds and cuttings:

**24370.** RIBES NIGRUM L.

**24371.** RIBES sp.

"(No. 5.) A wild black currant from near village Mali Ssusum, steamer landing place on the Obi River, a short distance north of Barnaul, Tomsk, western Siberia." (*Hansen.*)

**24372.** RIBES sp.

(Stat. Baljatakaija.)

**24373.** RIBES sp.

**24374.** RIBES sp.

"(No. 96.) A wild black currant from Taischet, between Krasnojarsk, central Siberia, and Irkutsk, on Lake Baikal, Siberian railway. For fruit breeding." (*Hansen.*)

**24375.** RUBUS sp.

"(No. 1.) A red wild raspberry as found native at Besentsug, near Samara, Volga River region, Russia. For fruit breeding." (*Hansen.*)

**24376.** RUBUS FRUTICOSUS L.

"(No. 6.) A wild raspberry gathered near Gorodische, on Obi River, a few miles north of Barnaul, Tomsk, western Siberia. Fruit much gathered by peasants and sold at steamer landings." (*Hansen.*)

**24377.** RUBUS FRUTICOSUS L.

"(Nos. 30 and 31.) A wild raspberry much gathered by peasants in western Siberia; this was procured at steamer landing Katschiskaya. For fruit breeding." (*Hansen.*)

**24378.** RUBUS sp.

"(No. 34.) Wild red raspberry from station Tiaschet, between Krasnojarsk, central Siberia, and Irkutsk, on Lake Baikal, Siberian railway. For fruit breeding." (*Hansen.*)

**24370 to 24401**—Continued.**24379.** *RUBUS CHAMEAMORUS* L.

“(No. 95.) A wild red raspberry from vicinity of Irkutsk, near western shore of Lake Baikal, eastern Siberia. May prove useful in plant breeding.” (Hansen.)

**24380.** *PRUNUS PADUS* L.

“(No. 7.) A wild cherry gathered by peasants and sold at steamer landing at Gorodische, on Obi River, a few miles north of Barnaul, Tomsk, western Siberia.” (Hansen.)

**24381.** *PRUNUS PADUS* L.

(Bada.)

**24382.** *PRUNUS PADUS* L.

(Bada.)

**24383.** *PRUNUS PADUS* L.

(Bada Baikal.)

**24384.** *PRUNUS DOMESTICA* L.**24385.** *ROSA* sp.

“(No. 19.) A wild rose as found between Ruchekowa and Koliwan, in northern Altai Mountain Range, southern Tomsk province, western Siberia.” (Hansen.)

**24386.** *ROSA* sp.

“(No. 20.) A wild rose as found between Ruchekowa and Koliwan, in northern Altai Mountain Range, southern Tomsk province, western Siberia.” (Hansen.)

**24387.** *ROSA* sp.

“(No. 47.) Wild rose from a sand desert, an arm of the Gobi desert, at station Charonte, Transbaikal region, a few miles over the Chinese border, on the Siberian railway.” (Hansen.)

**24388.** *ROSA* sp.

“(No. 80.) A wild rose from the open steppe at Belaglasowa, southern Tomsk province, western Siberia.” (Hansen.)

**24389.** *MALUS* sp.

“(No. 36.) From village Lisinsk, Semipalatinsk province, western Siberia. Probably a variety of the Siberian crab, *Pyrus* (*Malus*) *baccata*. See No. 44 (S. P. I. No. 24390).” (Hansen.)

**24390.** *MALUS* sp.

“(No. 44.) Same as No. 36 (S. P. I. No. 24389). Both from a lot sent to the experiment station, Omsk, Siberia.” (Hansen.)

**24391.** *PYRUS* sp.

“(No. 45.) A small-fruited yellow pear sold by Chinese at fruit bazaar, station Manchuria, Siberian railway. Said to come from Harbin.” (Hansen.)

**24392.** *MALUS* sp.

“(No. 48.) Seeds of a medium-sized subacid apple, yellow with red blush; sold by Chinese at fruit bazaar, station Manchuria, Siberian railway. Said to be shipped from Harbin district.” (Hansen.)

**24393.** *MALUS* sp.

“(No. 49.) Same as No. 44 (S. P. I. No. 24390), but of a larger fruited variety.” (Hansen.)

**24370 to 24401—Continued.****24394.** PYRUS sp.**24395.** CRATAEGUS sp.**Hawthorn.**

“(No. 62.) Native hawthorn from Irkutsk, near Lake Baikal, eastern Siberia.” (*Hansen.*)

**24396.** VACCINIUM sp.

“(No. 46.) As gathered wild near Chita, Transbaikal region, and sold on fruit bazaar. The largest fruit of blueberry type I have ever seen, averaging three or four times larger than ordinary blueberries.” (*Hansen.*)

**24397.** FRAGARIA VESCA L.

“(No. 2.) Seeds of a wild strawberry from near Syrastan, on the Siberian railway, western Siberia, between Zloutoust and Chelabinsk. For fruit breeding.”

**24398.** RUBUS sp.

“(No. 97.) Wild raspberry from station Bogotol, between Taiga and Krasnoyarsk, central Siberia, on Siberian railway.” (*Hansen.*)

**24399.** FRAGARIA VESCA L.

(St. Tajga.)

**24400.** PAEONIA sp.

“(No. 93.) As found wild near Stretinsk, near beginning of the Amur River, Transbaikal region, eastern Siberia. Here it gets extremely cold in winter. Of interest to breeders of Paeonias.” (*Hansen.*)

**24401.** CORYLUS sp.

“(No. 70.) Probably *C. heterophylla*. The wild hazelnut from near Buchedu, in the Chingan Mountains, on the Siberian railway, in western Manchuria, the farthest eastern point reached in my 1908 trip.” (*Hansen.*)

**24402 and 24403.**

From Piracicaba, Brazil. Presented by Dr. J. W. Hart. Received February 28, 1908. Numbered for convenience in distributing December, 1908.

The following plants:

**24402.** PANICUM MUTICUM Forsk.**Para grass.**

Apparently distinct from the ordinary variety of Para grass grown in the United States.

**24403.** CAPRIOLA DACTYLON (L.) Kunze.**Bermuda grass.**

This grass is grown in Brazil under the name of “*Graminaz fina*.” The variety is apparently distinct from the ordinary variety of Bermuda grass grown in the United States.

**24404. COPERNICIA CERIFERA Mart. Carnauba palm or Brazilian wax palm.**

From Piracicaba, Brazil. Presented by Dr. J. W. Hart. Received December 26, 1908.

“This tree is not native to this section of Brazil and it may be possible that these seeds will give you hardier plants than those grown in the hotter portions of the country.” (*Hart.*)

“The stem of this plant furnishes starch; the sap, sugar; the leaves, a rope fiber; the pinnae are woven into mats, hats, baskets, and brooms; the inner part of the leaf stalks serves as a substitute for cork, and most important of all the young leaves are

**24404—Continued.**

covered with a valuable wax harder than that of bees and used for making candles, covering phonograph cylinders, etc. Each tree furnishes about 4 pounds of wax annually." (*Adapted from Von Mueller.*)

**24405 to 24413. EUCALYPTUS spp.**

From Los Angeles, Cal. Purchased from Messrs. Johnson & Musser. Received December 21, 1908.

Seed of the following varieties to be tested in south Texas, Florida, and the Gulf Coast States on the recommendation of Messrs. Johnson & Musser:

- 24405. EUCALYPTUS CORNUTA Labill.
- 24406. EUCALYPTUS CLADOCALYX F. Muell.
- 24407. EUCALYPTUS LEUCOXYLON F. Muell.
- 24408. EUCALYPTUS LONGIFOLIA Link.
- 24409. EUCALYPTUS POLYANTHEMOS Schauer.
- 24410. EUCALYPTUS LONGIROSTRIS Muell.
- 24411. EUCALYPTUS RUDIS Endl.
- 24412. EUCALYPTUS SIDEROPHLOIA Benth.
- 24413. EUCALYPTUS VIMINALIS Labill.

**24415. EUCALYPTUS ALBA Reinw.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received December 4 and 21, 1908.

See No. 21394 for previous introduction and descriptive note.

**24416. FRAGARIA sp.****Strawberry.**

From Shanghai, Kiangsu, China. Presented by Mr. J. M. W. Farnham. Received at the Plant Introduction Garden, Chico, Cal., December 16, 1908.

White.

**24417 and 24418.**

From China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., 1907; numbered for convenience in recording distribution December, 1908.

**24417. CINNAMOMUM CAMPHORA (L.) Nees & Eberm. (?)**

From Hangchow, Chekiang, China. "(No. 736a, June 27, 1907.) A very ornamental evergreen tree, bearing leaves like the camphor tree, but darker green and producing blue-black berries on red petioles. The Chinese chop the leaves up very fine, let them steep in water with clay or soil, and obtain a very good, weather-resisting cement in that way, especially used in plastering over old coffins which are kept standing above the ground." (*Meyer.*)

**24418. SALIX BABYLONICA L.**

From Fengtai, near Peking, Chihli, China. "(No. 665a, Mar. 26, 1907.) A weeping willow growing on very dry places; used as a shade tree in the streets of Peking under trying climatic and other conditions; well worth giving a trial in the western regions of the United States. Chinese name *Tsa yang liu.*" (*Meyer.*)

**24419. GARCINIA** sp.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received December 30, 1908.

Variety *pyriformis*.

**24420. TRIFOLIUM SUBTERRANEUM** L.

From Auckland, New Zealand. Presented by Mr. A. B. Leckenby, Central Hotel, through Mr. C. V. Piper. Received December 21, 1908.

"Abundant and useful in New Zealand." (*Leckenby*.)

**24421. ANONA CHERIMOLA** Mill.

From Calabria, Valley of Messina, Italy. Presented by Mr. C. Sprenger, Vomero, Naples, Italy. Received December 3, 1908.

Variety *Calabrica*.

**24422 to 24428.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received December 28, 1908.

The following seeds:

**24422.** STIZOLOBIUM sp.

**24426.** MUCUNA sp.

**24423.** STIZOLOBIUM sp.

**24427.** MUCUNA sp.

**24424.** STIZOLOBIUM sp.

**24428.** MUCUNA sp.

**24425.** MUCUNA sp.

**24429. CUCUMIS MELO** L.**Muskmelon.**

From Odessa, Russia. Presented by Mr. Alired W. Smith, American vice and deputy consul. Received December 28, 1908.

"This is a variety of sweet melon grown here and cultivated in several colors. It is known here as '*Kachanka*' and sometimes also called '*Tsesarka*,' on account of its spotted surface, resembling a guinea fowl's plumage." (*Smith*.)



## INDEX OF COMMON AND SCIENTIFIC NAMES.

- Abrus praeatorius*, 23960.  
*Acacia cavenia*, 24309.  
*Actinidia arguta*, 23900.  
*Actinostemma* sp., 23939.  
*Aegle marmelos*. See *Belou marmelos*.  
*Aleurites moluccana*, 24351.  
Alfalfa, Arabian, 24367.  
    (Chile), 24210, 24353.  
    Elche, 23871.  
    Hunter River or Tamworth,  
    23752.  
    (Peru), 23749, 23896, 23902.  
    Queensland, 23753.  
*Althaea rosea*, 24009 to 24016.  
*Amaranthus* sp., 23984 to 23988.  
*Amorphophallus bulbifer*, 23881.  
*Amgudalus persica*, 24141 to 24144.  
*Andropogon pleiarthron*, 23929.  
    *rufus*, 23928.  
    *sorghum*, 24122 to 24130,  
    24305, 24339, 24340.  
*Anona cherimola*, 24361 to 24364, 24421.  
    *squamosa*, 24172.  
*Apium graveolens*, 23970.  
Apricot (India), 24140.  
*Arachis hypogaea*, 24114, 24345.  
Artichoke (Chile), 24263.  
*Arundo donax*, 23866.  
*Asparagus filicinus giraldui*, 24146.  
Aster, China, 24087 to 24109.  
*Astragalus sinicus*, 23930.  
*Avena sativa*, 24317.  
Bael. See *Belou marmelos*.  
Balsam. See *Impatiens balsamina*.  
Bamboo (Chile), 23864 to 23869.  
    Misuzudake, 23746.  
    Suzu-Dake, 24350.  
*Bambos* sp., 23922.  
    *senanensis*, 23746, 24350.  
Banana (France), 23872 to 23875.  
Barley (Chile), 23861, 23862, 24308.  
    (China), 24158, 24161.  
    (Spain), 24318.  
Bean (Africa), 24346.  
    bonavist. See *Dolichos lablab*.  
    broad, 24173 to 24175, 24264.  
    castor oil. See *Ricinus communis*.  
    (Chile), 23755 to 23759, 23761 to  
    23836, 24211, 24212, 24214 to 24225,  
    24229 to 24261.  
    (China), 23958.  
    scarlet runner. See *Phaseolus coc-*  
    *cineus*.  
Beet (China), 23974.  
*Belou marmelos*, 23745.  
*Benincasa cerifera*, 23938.  
*Benzoin* sp., 24132.  
*Berberis amurensis*, 23918.  
*Beta vulgaris*, 23974.  
*Bombax macrocarpum*, 23878.  
*Bradburya plumieri*, 24202.  
*Brassica* sp., 24163.  
    *juncea*, 23965, 24162.  
    *pekinensis*, 23963, 23964.  
    *rapa*, 23966.  
Brazilian wax palm. See *Copernicia cri-*  
*ficata*.  
Cabbage, Chinese. See *Brassica pekin-*  
*ensis*.  
*Calendula officinalis*, 24079 to 24081.  
California nutmeg. See *Tunion califor-*  
*nicum*.  
*Callistemma chinensis*, 24087 to 24109.  
*Calopogonium coeruleum*, 24197.  
    *orthocarpum*, 24198.  
*Cananga odorata*, 24203.  
Candle nut. See *Aleurites moluccana*.  
*Cannabis sativa*, 24307.  
*Capriola dactylon*, 24403.  
*Capsicum annuum*, 23975, 24294 to 24301.  
*Carica* sp., 23917.  
    *papaya*, 23915.  
*Carissa carandas*, 23750, 24194.  
Carnauba palm. See *Copernicia cerifera*.  
Carob. See *Ceratonia siliqua*.  
Carrot (China), 23971.

- Cassia occidentalis*, 23993, 23994.  
 Cebadilla. See *Schoenocaulon officinale*.  
*Cecropia peltata*, 23901.  
 Celery (China), 23970.  
*Celosia argentea*, 23977 to 23983.  
*Ceratonia siliqua*, 24334.  
 Cherry, wild. See *Prunus padus*.  
 Chick-pea. See *Cicer arietinum*.  
 Chinese pink. See *Dianthus chinensis*.  
*Chrysanthemum coronarium*, 24074, 24075.  
*Chrysophyllum monopyrenum*, 24134.  
*Chusquea quila*, 23867 to 23869.  
     *valdiviensis*, 23864, 23865.  
*Cicer arietinum*, 23852 to 23855, 24265,  
     24321, 24322.  
*Cinnamomum camphora*, 24417.  
*Citrus aurantium sinensis*, 24311.  
     *nobilis*, 24196, 24326.  
 Clover, bur. See *Medicago denticulata*.  
*Coix lachryma-jobi*, 23962.  
*Colocasia esculenta*, 23876, 23877.  
*Copernicia cerifera*, 24404.  
*Coriandrum sativum*, 23972.  
 Corn, blue, 24137.  
     (Mexico), 24137, 24138.  
     white, 24138.  
*Corylus* sp., 24401.  
 Cowpea (Africa), 24341.  
     Black, 24189.  
     Black-Eye, 24190, 24191.  
     brown, 24186, 24187.  
     Brown-Eye, 24192.  
     (Chile), 23760.  
     (China), 24185 to 24192.  
*Crassina elegans*, 24076 to 24078.  
*Crataegus* sp., 24395.  
*Crinodendron patagua*, 24136.  
*Crotalaria* sp., 24115 to 24117.  
     *hildebrandtii*, 24118.  
     *striata*, 24119.  
*Cryptocarya rubra*, 23897, 24310.  
 Cucumber (China), 23935.  
*Cucumis* sp., 24204.  
     *melo*, 23936, 24429.  
     *sativus*, 23935.  
*Cucurbita* sp., 23837 to 23840, 23842 to  
     23844, 23933, 24268 to 24278,  
     24281 to 24293, 24306, 24354 to  
     24357.  
     *maxima*, 23841, 23845.  
     *pepo*, 23934, 23946 to 23952,  
     24279, 24280.  
 Currant (Siberia). See *Ribes* spp.  
*Cynara scolymus*, 24263.
- Dahlia (Mexico), 24168, 24169.  
*Dahlia* sp., 24168, 24169.  
*Datura* sp., 24001, 24002, 24017 to 24019.  
*Daucus carota*, 23971.  
*Dianthus chinensis*, 24063 to 24066.  
*Dioscorea* sp., 24348.  
*Dolichos* sp., 24120.  
     *lablab*, 23953 to 23956.  
 Durra. See Sorghum.  
*Edgeworthia gardneri*, 23754.  
 Eggplant (China), 23976.  
     white, 24176.  
*Eleusine coracana*, 24335, 24343.  
*Eragrostis* sp., 23920, 23921.  
*Eucalyptus alba*, 24415.  
     *cladocalyx*, 24406.  
     *cornuta*, 24405.  
     *leucoxydon*, 24407.  
     *longifolia*, 24408.  
     *longirostris*, 24410.  
     *polyanthemos*, 24409.  
     *rudis*, 24411.  
     *siderophloia*, 24412.  
     *viminalis*, 24413.  
 Four o'clock. See *Mirabilis jalapa*.  
*Fragaria* sp., 24416.  
     *moschata*, 24165.  
     *vesca*, 24397, 24399.  
*Galactia striata*, 24200.  
     *tenuiflora*, 24199.  
*Garcinia* sp., 24131, 24419.  
     *cornea*, 23882.  
*Glycine hispida*, 24180 to 24184.  
 Gourd (China), 23932, 23937, 23938,  
     23940 to 23945.  
 Grape (Africa), 24312.  
 Grass, Bermuda. See *Capriola dactylon*.  
     Para. See *Panicum muticum*.  
 Grass-pea. See *Lathyrus sativus*.  
*Greigia sphacelata*, 24206, 24207.  
 Hansen, N. E., seeds and cuttings se-  
     cured, 24370 to 24401.  
*Helianthus* sp., 24070.  
     *annuus*, 24071 to 24073.  
 Hemp (Chile), 24307.  
*Hibiscus* sp., 24000.  
*Hippeastrum* sp., 24349.  
 Hollyhock. See *Althaea rosea*.  
*Hordeum* sp., 23862, 24159.  
     *vulgare*, 23861, 24158, 24161,  
     24308, 24318.

- Husbands, José D., seeds and plants secured, 23755 to 23869, 24206 to 24310, 24353 to 24364.
- Ilang ilang. See *Cananga odorata*.  
*Ilex paraguariensis*, 24313.  
*Impatiens balsamina*, 24045 to 24058.  
*Indigofera* sp., 24121.  
*Ipomoea* sp., 24030, 24031.  
*purpurea*, 24020 to 24029.  
*Iris ensata*, 24032.
- Job's tears. See *Coix lacryma-jobi*.  
*Juglans nigra*, 23863, 24209.
- Kafir. See Sorghum.
- Lactuca sativa*, 23973, 24086.  
*Lagenaria vulgaris*, 23932, 23940 to 23945.  
*Lathyrus sativus*, 23856, 23857, 24316.  
*Lens esculenta*, 23858, 23859, 24320.  
Lentil. See *Lens esculenta*.  
Lettuce (China), 23973, 24086.  
*Ligustrum* sp., 23919.  
*Luffa cylindrica*, 23937.  
*Lupinus* sp., 24266, 24267.
- Malpighia guadalupensis*, 24147.  
*Malus* sp., 24389, 24390, 24392, 24393.  
*baccata*, 24365.  
*sylvestris* × *baccata*, 24366.  
*Malva* sp., 24003 to 24008.  
*Mangifera indica*, 23747, 24170.  
Mango, Maller, 23747.  
Pico, 24170.  
*Medicago denticulata*, 23931.  
*sativa*, 23749, 23752, 23753, 23871, 23896, 23902, 24210, 24353, 24367.  
*Melaleuca leucadendron*, 24166, 24167.  
Meyer, Frank N., seeds secured, 23913, 23930 to 24113, 24417, 24418.  
Millet, pearl. See *Pennisetum americanum*.  
proso. See *Panicum miliaceum*.  
ragi. See *Eleusine coracana*.  
*Mirabilis jalapa*, 24033 to 24044.  
Mitsumata. See *Edgeworthia gardneri*.  
Morning-glory. See *Ipomoea purpurea*.  
*Mucuna* sp., 24425 to 24428.  
*Musa cavendishii*, 23875.  
*paradisica*, 23872 to 23874.  
Muskmelon (China), 23936.  
(Russia), 24429.  
Mustard, Chinese. See *Brassica juncea*.
- "Naartje," Groenskil, 24196.  
Platskill, 24326.  
*Nicotiana tomentosa*, 23914.
- Oat (Spain), 24317.  
*Opuntia ficus-indica*, 24303, 24304.  
Orange, Bahia navel, 24311.  
*Oryza sativa*, 24193, 24327 to 24332, 24347.
- Paeonia* sp., 24400.  
*Panicum*, sp., 24113.  
*miliaceum*, 24110 to 24112.  
*muticum*, 24402.  
*serratum*, 23926.  
*sulcatum*, 24368.  
*Papaver rhoeas*, 23990 to 23992.  
*somniferum*, 23989.  
Papaw (Transvaal), 23915.  
wild (Brazil), 23917.  
*Passiflora* sp., 23880.  
*laurifolia*, 23879.  
*pinnatistipula*, 24360.  
*quadrangularis*, 24359.
- Pea, chick. See *Cicer arietinum*.  
field. See *Pisum arvense*.  
garden. See *Pisum sativum*.  
grass. See *Lathyrus sativus*.
- Peach (India), 24141 to 24144.  
Peanut (Africa), 24345.  
Gambia, 24114.  
Pear (India), 24145.  
See also *Pyrus* sp.  
*Pennisetum americanum*, 24336.  
Pepper (Chile), 24294 to 24301.  
(China), 23975.  
*Persea lingue*, 24208.  
*Phaseolus coccineus*, 23957, 24226 to 24228.  
*lunatus*, 23916.  
*vulgaris*, 23755 to 23759, 23761 to 23836, 23958, 24211, 24212, 24214 to 24225, 24229 to 24261, 24346.
- Pine (Bulgaria), 24338.  
(China), 23913.  
*Pinus densiflora*, 23913.  
*peuce*, 24338.  
*Pisum arvense*, 23846 to 23851, 24177 to 24179, 24262, 24342.  
*sativum*, 23860, 24314.  
*Pogonarthria falcata*, 23925.  
*Polygonum orientale*, 23995 to 23999.  
Pomegranate (Syria), 24148 to 24154.  
Poppy (China), 23989 to 23992.  
Potato (Chile), 24358.

- Prince's-feather. See *Polygonum orientale*.
- Prunus armeniaca*, 24140.  
*domestica*, 24384.  
*padus*, 24380 to 24383.
- Pumpkin (Chile), 24279, 24280.  
 inedible oil, 24204.
- Punica granatum*, 24148 to 24154.
- Pyrus* sp., 24145, 24391, 24394.
- Radish (China), 23967 to 23969.
- Rape (China), 24163.  
 Chinese. See *Brassica juncea*.
- Raphanus sativa*, 23967 to 23969.
- Raspberry, blue, 23870.  
 Federal, 23748.  
 See also *Rubus* spp.
- Ribes* sp., 24156, 24371 to 24374.  
*nigrum*, 24370.
- Rice (Africa), 24347.  
 dry-land, 24193.  
 (Hawaii), 24327 to 24332.
- Ricinus communis*, 23961.
- Rosa* sp., 24385 to 24388.
- Rose (Siberia), 24385 to 24388.
- Rubus* sp., 24375, 24378, 24398.  
*chamaemorus*, 23894, 23895, 24379.  
*fruticosus*, 24376, 24377.  
*paniculatus*, 23870.  
*rosaefolius* × *ellipticus*, 23748.  
*xanthocarpus*, 24155.
- Salix babylonica*, 24418.
- Schoenocaulon officinale*, 24195.
- Sesamum orientale*, 24344.
- Solanum* sp., 24302.  
*melongena*, 23976, 24176.  
*tuberosum*, 24358.
- Sorghum, durra (Egypt), 24128 to 24130.  
 white (Chile), 24305.  
 kafir, Blackhull, 24122 to 24124.  
 (Natal), 24122 to 24127.  
 Red, 24126.  
 undetermined (Transvaal),  
 24339, 24340.  
 See also *Andropogon sorghum*.
- Soy bean (China), 24180 to 24184.  
 green, 24182, 24183.  
 yellow, 24181, 24184.  
 See also *Glycine hispida*.
- Squash (Chile), 23837 to 23845, 24268 to  
 24278, 24281 to 24293, 24354 to  
 24357.  
 (China), 23934.
- Stizolobium* sp., 23751, 24422 to 24424.
- Strawberry (China), 24165.  
 (Siberia), 24397.  
 white, 24416.
- Sugar-apple. See *Anona squamosa*.
- Tagetes erecta*, 24082 to 24085.
- Teramnus uncinatus*, 24201.
- Themeda forskalii*, 23927.
- Thespesia populnea*, 24135, 24337.
- Trifolium subterraneum*, 24420.
- Tristachya biseriata*, 23923.  
*rehmanni*, 23924.
- Triticum aestivum*, 24157, 24160, 24164,  
 24323, 24325.  
*durum*, 24334.
- Tumion californicum*, 24333.
- Turnip (China), 23966.
- Undetermined, 24059 to 24062, 24067 to  
 24069.
- Uvaria rufa*, 23899.
- Vaccinium* sp., 24396.
- Vetch, bitter. See *Vicia ervilia*.
- Vicia ervilia*, 24319.  
*faba*, 24173 to 24175, 24264.  
*lavenworthii*, 24205.  
*monanthos*, 24315.
- Vigna sesquipedalus*, 23959, 24213.  
*unguiculata*, 23760, 24185 to 24192,  
 24341, 24369.
- Vitis vinifera*, 24312.
- Walnut, black (Chile), 23863.  
 Bolivian black, 24209.
- Wheat (China), 24157, 24159, 24160, 24164.  
*durum*. See *Triticum durum*.  
 (Spain), 24323 to 24325.
- Willow (China), 24418.
- Wilson, E. H., seeds secured, 24155 to  
 24165.
- Yam (Philippine Islands), 24348.
- Zea mays*, 24137, 24138.
- Zinnia. See *Crassina elegans*.

[Continued from page 2 of cover.]

- No. 81. Evolution of Cellular Structures. 1905. Price, 5 cents.
82. Grass Lands of the South Alaska Coast. 1905. Price, 10 cents.
83. The Vitality of Buried Seeds. 1905. Price, 5 cents.
84. The Seeds of the Bluegrasses. 1905. Price, 5 cents.
86. Agriculture without Irrigation in the Sahara Desert. 1905. Price, 5 cents.
87. Disease Resistance of Potatoes. 1905. Price, 5 cents.
88. Weevil-Resisting Adaptations of the Cotton Plant. 1906. Price, 10 cents.
89. Wild Medicinal Plants of the United States. 1906. Price, 5 cents.
90. Miscellaneous Papers. 1906. Price, 5 cents.
91. Varieties of Tobacco Seed Distributed, etc. 1906. Price, 5 cents.
94. Farm Practice with Forage Crops in Western Oregon, etc. 1906. Price, 10 cents.
95. A New Type of Red Clover. 1906. Price, 10 cents.
96. Tobacco Breeding. 1907. Price, 15 cents.
98. Soy Bean Varieties. 1907. Price, 15 cents.
99. Quick Method for Determination of Moisture in Grain. 1907. Price, 5 cents.
100. Miscellaneous Papers. 1907. Price, 25 cents.
101. Contents of and Index to Bulletins Nos. 1 to 100. 1907. Price, 15 cents.
102. Miscellaneous Papers. 1907. Price, 15 cents.
103. Dry Farming in the Great Basin. 1907. Price, 10 cents.
104. The Use of Feldspathic Rocks as Fertilizers. 1907. Price, 5 cents.
105. Relation of Composition of Leaf to Burning Qualities of Tobacco. 1907. Price, 10 cents.
106. Seeds and Plants Imported. Inventory No. 12. 1907. Price, 15 cents.
107. American Root Drugs. 1907. Price, 15 cents.
108. The Cold Storage of Small Fruits. 1907. Price, 15 cents.
110. Cranberry Diseases. 1907. Price, 20 cents.
111. Miscellaneous Papers. 1907. Price, 15 cents.
112. The Use of Suprarenal Glands in the Physiological Testing of Drug Plants. 1907. Price, 10 cents.
113. Comparative Tolerance of Plants for the Salts Common in Alkali Soils. 1907. Price, 5 cents.
114. Sap-Rot and Other Diseases of the Red Gum. 1907. Price, 25 cents.
115. Disinfection of Sewage Effluents for Protection of Public Water Supplies. 1907. Price, 10 cents.
116. The Tuna as Food for Man. 1907. Price, 25 cents.
117. The Reseeding of Depleted Range and Native Pastures. 1907. Price, 10 cents.
118. Peruvian Alfalfa. 1907. Price, 10 cents.
119. The Mulberry and Other Silkworm Food Plants. 1907. Price, 10 cents.
120. Production of Easter Lily Bulbs in the United States. 1908. Price, 10 cents.
121. Miscellaneous Papers. 1908. Price, 15 cents.
122. Curly-Top, a Disease of Sugar Beets. 1908. Price, 15 cents.
123. The Decay of Oranges in Transit from California. 1908. Price, 20 cents.
124. The Prickly Pear as a Farm Crop. 1908. Price, 10 cents.
125. Dry-Land Olive Culture in Northern Africa. 1908. Price, 10 cents.
126. Nomenclature of the Pear. 1908. Price, 30 cents.
127. The Improvement of Mountain Meadows. 1908. Price, 10 cents.
128. Egyptian Cotton in the Southwestern United States. 1908. Price, 15 cents.
129. Barium, a Cause of the Loco-Weed Disease. 1908. Price, 10 cents.
130. Dry-Land Agriculture. 1908. Price, 10 cents.
131. Miscellaneous Papers. 1908. Price, 10 cents.
132. Seeds and Plants Imported. Inventory No. 13. 1908. Price, 20 cents.
133. Peach, Apricot, and Prune Kernels as By-Products of the Fruit Industry. 1908. Price, 5 cents.
134. The Influence of a Mixture of Soluble Salts, Principally Sodium Chlorid, upon the Leaf Structure and Transpiration of Wheat, Oats, and Barley. 1908. Price, 5 cents.
135. Orchard Fruits in Piedmont and Blue Ridge Regions, etc. 1908. Price, 20 cents.
136. Methods and Causes of Evolution. 1908. Price, 10 cents.
137. Seeds and Plants Imported. Inventory No. 14. 1909. Price, 10 cents.
138. The Production of Cigar-Wrapper Tobacco under Shade. 1908. Price, 15 cents.
139. American Medicinal Barks. 1909. Price, 15 cents.
140. "Spineless" Prickly Pears. 1909. Price, 10 cents.
141. Part I. The Relation of Nicotine to the Quality of Tobacco. 1908. Price, 5 cents. Part II. The Granville Tobacco Wilt. 1908. Price, 5 cents.
142. Seeds and Plants Imported. Inventory No. 15. 1909. Price, 10 cents.
143. Principles and Practical Methods of Curing Tobacco. 1909. Price, 10 cents.
144. Apple Blotch, a Serious Disease of Southern Orchards. 1909. Price, 15 cents.
145. Vegetation Affected by Agriculture in Central America. 1909. Price, 15 cents.
146. Superiority of Line Breeding over Narrow Breeding. 1909. Price, 10 cents.
147. Suppression and Intensification of Characters in Cotton Hybrids. 1909. Price, 5 cents.
148. Seeds and Plants Imported. Inventory No. 16. 1909. Price, 10 cents.
149. Diseases of Deciduous Forest Trees. [In press.]
150. Wild Alfalfas and Clovers of Siberia. 1909. Price, 10 cents.
151. Fruits Recommended for Cultivation in the United States and Canada. [In press.]
152. Loose Smuts of Barley and Wheat. [In press.]