U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 132.

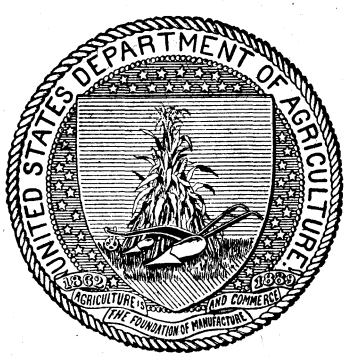
B. T. GALLOWAY, *Chief of Bureau.*

SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JULY, 1906, TO DECEMBER 31, 1907:

INVENTORY No. 13; Nos. 19058 TO 21730.

ISSUED DECEMBER 4, 1908.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1908.

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.

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[Continued on page 3 of cover.]

U. S. DEPARTMENT OF AGRICULTURE.

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

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WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1908.

BUREAU OF PLANT INDUSTRY.

Physiologist and Pathologist, and Chief of Bureau, Beverly T. Galloway.
Physiologist and Pathologist, and Assistant Chief of Bureau, Albert F. Woods.
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Investigations of Diseases of Fruits, Merton B. Waite, Pathologist in Charge.
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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., May 22, 1908.

SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 132 of the series of this Bureau, the accompanying manuscript, entitled, "Seeds and Plants Imported During the Period from July, 1906, to January, 1908: Inventory No. 13; Nos. 19058 to 21730."

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.

B. P. I.—379.

SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JULY, 1906, TO DECEMBER 31, 1907: INVENTORY NO. 13; NOS. 19058 TO 21730.

INTRODUCTORY STATEMENT.

This inventory, the thirteenth of the series which was begun in 1898, has been prepared under the direct supervision of Mr. Walter Fischer. It brings the total number of introduced plants up to 21,730 and includes 2,672 numbers, covering a period of eighteen months.

A feature of the work of Foreign Seed and Plant Introduction which is growing rapidly and which appears in this inventory is the introduction of small quantities of seeds and plants in response to requests of plant breeders who are at work on particular crops. This feature opens up the whole world as a new field to be explored, for there are hosts of wild forms which are related to our cultivated fruits and cereals and which the plant breeder needs to mix in with his American forms to get new combinations of valuable characters.

For example, the inventory includes seeds of the wild beet of Sicily for the sugar-beet breeder; a wild asparagus from Japan, another from Cape Town, and a third from southern France for the asparagus breeders of the country; wild rhubarbs from China and France; wild plums from Siberia and north China; wild blackberries, raspberries, and strawberries from China; wild currants from Korea; a wild pyrus from Norway; a collection of wild apples and pears from various parts of the world, the gift of the Arnold Arboretum; wild apricots from China; a wild rose from north China; a native wild timothy from Siberia; the *Solanum commersoni*, a wild wet-land potato from Uruguay, and a native wild cherry from Korea. All of these things are already in the hands of plant breeders, who will discover what they have of value in them for the production of new and valuable forms for general cultivation.

This work for the breeders is just beginning. It is longer in bringing in financial results to the country than the introduction of a superior strain of cereal or fruit, but it lies at the bottom of the origination of entirely new things whose possibilities are now quite unknown, and, judging by the experience of the past, it is safe to predict that a single one of these new forms may repay to the farmers or fruit growers of the country hundreds of times what their introduc-

tion has cost. While individual firms, through the increasing intercourse between countries, can be depended on more and more to introduce varieties of staple crops, there is no money to be made from the search for these wild forms for the use of plant breeders, who are generally spending all the money they can spare on their nurseries and trial grounds.

It is therefore a legitimate work for the Government to aid these experimenters, who are at the same time benefactors and who seldom make financial gains from their new originations, because there is no way of retaining control of their sale long enough to make them very profitable.

It may not be out of place to give here some idea of the labor involved in taking care of these new introductions as they come in.

In order to be as sure as possible that no plant gets in which is likely to be a weed or that has on it some dangerous insect pest or other plant disease; that, so far as it is possible to determine from an examination of the seeds or cuttings, the plant comes in under its true name; that the seeds are not dead before they are sent out; that the information which comes with the seeds is recorded on the inventory cards from which this printed inventory is made up, and that the experimenter in the field is written to and the shipment to him recorded in a card catalogue, every new introduction has to pass through the hands of fourteen different clerks or experts.

The time consumed in carrying out these different steps is generally from one to two weeks if there are not discovered on the shipment some diseases which make a quarantine necessary, in which case a much longer time will be required for the necessary fumigation and disinfection.

This large amount of labor is necessary, and it forms one of the reasons why the friends of this work who so kindly offer to send gratis all sorts of things from their regions have to be sent discouraging or rather unappreciative replies. It is such an easy thing to import a small packet of seeds or a few cuttings and such an expensive thing to get it into the hands of a great number of experimenters that unless the attention of the office force is limited to the handling of such things as are on the programme, so to speak, those actually imported will not get the attention they require. With increased funds an increasing number of new introductions will be handled.

Among the more notable collections which appear in this inventory are those of our agricultural explorer Mr. Frank N. Meyer, who has spent the entire time represented by this inventory in northern China and who has with most unusual devotion and bravery gathered together and successfully gotten to this country 680 different things. He has collected personally the seeds and cuttings of valuable trees and shrubs from the neighborhood of Peking; forage crops from

Manchuria, and grasses, legumes, vegetables, cereals, hardy stone fruits, apples, pears, grapes, and ornamentals from northern Korea, eastern Siberia, and Manchuria.

These explorations in China by Mr. Meyer have been the most extensive that have been undertaken by this office and at the same time the most economically conducted. Mr. Meyer has at two different times come very near losing his life, and during a large part of his journeyings he has been subjected to extreme hardships such as few of our previous explorers have had to contend with. His work is deserving of the highest praise.

This inventory also includes the collections of Prof. N. E. Hansen, of the South Dakota Agricultural College, who made, as agricultural explorer of this office, an extensive trip through northern Europe and across Siberia by rail. The results of his collections are recorded in 309 inventory numbers, and these include high-latitude grains and leguminous plants from above the Arctic Circle in Norway and Sweden; interesting forage grasses, clovers, and alcohol potatoes from Russia; vegetables, stone fruits, sorghums, and millets from Turkestan, and new cereals, grasses, alfalfas, and vetches from Siberia. Of these the most remarkable are the wild alfalfas, which form a part of the excellent wild hay of the steppes and which are subjected to most unusual cold and drought, and it is hoped that they will prove of value in the northern area of the Mississippi Valley.

The large importations of matting plants from the Orient which were made by our agricultural explorer Mr. John Tull in 1906 appear in this inventory and represent a difficult piece of introduction work which is likely to be of great value to the Southern States. Several acre plantings from these importations are now growing in the South.

Through a cooperative arrangement with the Arnold Arboretum, Mr. E. H. Wilson, the well-known botanical explorer of China, who is now on the Upper Yangtse River collecting seeds and plants for the arboretum, has secured some wheats, sorghums, raspberries, bamboos, and wild rhubarb of unusual interest, which are listed in this inventory.

Some collections, received through correspondence, of unusual interest are seeds of 28 varieties of dates for the seedling date orchards in the Southwest; 125 varieties of rice from Hawaii; new varieties of mangos, taros, and bananas from various parts of the world, and the Huasco seedless raisin grape from Chile.

DAVID FAIRCHILD,
Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., May 26, 1908.

INVENTORY.

19058. PERSEA GRATISSIMA. **Avocado.**

From Guatemala. Received through Mr. G. N. Collins, of the Bureau of Plant Industry, in the summer of 1906.

Seeds of a thick-skinned variety.

19060 and 19061.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture. Received July 30, 1906.

19060. LAGENARIA VILLOSA. **19061.** GLIRICIDIA MACULATA.

19062. CARICA PAPAYA. **Papaw.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture. Received August 1, 1906.

"Seed selected from splendid and typical Malay peninsula fruits." (*Lyon.*)

19079 to 19082. PERSEA GRATISSIMA. **Avocado.**

From Guatemala. Received through Mr. G. N. Collins, of the Bureau of Plant Industry, in the summer of 1906.

Plants.

19083 to 19085. DANTHONIA SEMIANNULARIS. **Wallaby grass.**

From Wellington, New Zealand. Presented by Mr. T. W. Kirk, biologist, New Zealand Department of Agriculture. Received August 6, 1906.

"Seed of three local varieties. There is no special distinction between them, they being merely local forms." (*Kirk.*)

19083. (No. 103/0.) **19085.** (No. 103/D.)

19084. (No. 103/11.)

19086. XANTHOSOMA sp. **Yautia.**

From Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, in the summer of 1906.

19087. PACHIRA sp.

From Costa Rica. Received through Prof. H. Pittier, of the Bureau of Plant Industry, in the summer of 1905.

19088. VITIS VINIFERA. **Grape.**

From Coquimbo, Chile. Presented by Mr. Andrew Kerr, United States consular agent, through Mr. David Fairchild, August 10, 1906.

Huasco Seedless. "These cuttings represent the very best grown in the Huasco or Vallenar district. I would advise, however, that the seedless raisin comes rather from the exuberant growth of the plant than from a distinct species. Owing to the excessive quantity of grapes on the bunch, only some become full grown and the stunted ones only are mostly seedless." (*Kerr.*)

19089 and 19090. MANGIFERA INDICA. Mango.

From Miami, Fla. Received through the Subtropical Laboratory and Garden, August 10, 1906.

19089. *Mulgoba.* 19090. *No. 11.*

19093. GNETUM GNEMON.

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture, through Mr. Walter Fischer. Received August 15, 1906.

"A tree of erect habit growing in the East Indian Archipelago, where it is frequently cultivated; fruits edible. The leaves are also eaten when boiled, while cordage is made from the bast of the trunk. Imported not for its economic value, but for the interesting problems in morphology which it presents." (*Fischer.*)

19094. PERSEA GRATISSIMA. Avocado.

From Key Largo, Fla. Received through Mr. Edward Gottfried, August 15, 1906.

Seeds of a type of avocado described as follows:

"Shape, ovoid to roundish, obliquity marked. Seed medium, fitting very tightly in cavity and having a closely adherent seed coat which does not remain attached to cavity wall upon removal of seed. Flesh comparatively thick, practically fiberless; relatively large proportion of 'green.' Flavor medium to good. Skin more granular than leathery, thickish, separating readily from pulp. Name suggested for this variety, '*Gottfried.*'" (*Barrett.*)

19095. XANTHOSOMA sp. Yautia.

From Santa Barbara, Cal. Presented by Dr. F. Franceschi, of the Southern California Acclimatization Society. Received August 17, 1906.

"Offsets of the Linares, N. L., Mexico, yautia. Probably identical with S. P. I. No. 17149." (*Barrett.*)

19096 and 19097.

From Dehra Dun, India. Received through Mr. Frank Benton, apicultural investigator, U. S. Department of Agriculture, August 16, 1906.

19096. CASSIA sp.

"Seeds of a tree commonly grown for ornament and shade on the plains of India and up to an altitude of 3,500 feet; bears large yellow blossoms." (*Benton.*)

19097. TERMINALIA ARJUNA.

"A shade and ornamental tree growing commonly in the plains—the hottest portions of India. It will also grow at an elevation of 4,000 feet in India, but will not stand severe cold. The wood is useful and the blossoms, which are very sweet scented, are freely visited by bees for honey. The seed is very difficult to germinate. Probably it should be plunged into boiling water." (*Benton.*)

19098 to 19103. ORYZA SATIVA. Rice.

From Amani, German East Africa. Presented by Prof. Dr. A. Zimmermann, of the Biologisch Landwirtschaftliches Institute. Received August 20, 1906.

A collection of rice samples, the first five of which are from Neu Lanzenburg, Tenyika District, and the last one from Ujiji, German East Africa. The numbers in parentheses are those assigned by Doctor Zimmerman.

19098. *Sihara.* (No. 138.)
19099. *Hadji jakunjwa.* (No. 139.)
19100. *Mpungara.* (No. 142.)
19101. *Guindimba.* (No. 143.)
19102. (No. 144.)
19103. (No. 145.)

19104. PORTULACARIA AFRA. **Spek-boom.**

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, of the Transvaal Department of Agriculture. Received August 20, 1906. (Professor Davy's No. 87/06.)

"A fleshy, round-leaved, scrubby, soft-wooded tree or bush which is recognized as a very valuable food plant for sheep, cattle, and even horses. Successful efforts have been made to grow it in Namaqualand from cuttings. As these are liable to rot when put in green and nearly severed, they should be spread out for a fortnight to allow the wounds to dry. Where animals are well fed and pampered they sometimes lose taste for this excellent natural food. In the neighborhood of Oudtshoern, on a farm where in the spring of 1895 ostriches were dying in hundreds, clumps of spek-boom were within easy reach, but the birds would not touch it, having been accustomed to feed on lucern. Nevertheless, when birds are brought up to eat it, they thrive well and seem fond of it. The spek-boom is a bush which revives rapidly from the injury done by too close browsing by stock if a season's respite be granted to it. When spek-boom and *Mesembrianthemum floribundum* are present, stock care but little about their daily visits to the water-vlei." (*Wallace. Farming Industries of Cape Colony, p. 88.*) (See also S. P. I. No. 12020.)

19105. ILEX PARAGUAYENSIS.

From Buenos Aires, Argentina. Presented by Hon. Carlos Thays, director, Government Botanical Gardens. Received August 6, 1906.

Native name *Yerba mate.*

19106 to 19110.

From Sydney, New South Wales. Presented by Hon. W. S. Campbell, director, New South Wales Department of Agriculture. Received August 20, 1906.

19106. PENNISETUM SPICATUM. **Pearl millet.**

19107. ANDROPOGON SORGHUM. **Sorghum.**

19108. ANDROPOGON SORGHUM. **Sorghum.**

Planter.

19109. ANDROPOGON SORGHUM.

Early Amber Sugar Cane.

19110. ANDROPOGON SORGHUM. **Kafir corn.**

19111 to 19115.

From Coronel, Chile. Presented by Mr. Teodoro Finger. Received August 20, 1906.

19111. ACACIA CAVENIA.

"Spanish name *Espino chileno.* From central Chile; grows on very dry ground. Its timber is highly esteemed and considered the best for charcoal." (*Finger.*)

"The *Espino* of the present inhabitants of Chile, the *Caran* of the former population. A small tree with exceedingly hard wood, resisting underground moisture. The plant is well adapted for hedges. The husks contain 32 per cent tannin, particularly valuable as dye material." (*F. v. Mueller.*)

19112. EMBOTHRIUM COCCINEUM. **Firebush.**

"Araucanian name *Notra.* A large, high bush from the south of Chile; of great popularity on account of the large bunches of bright scarlet-red blossoms on each branch. The foliage of long, dark-green leaves is also very ornamental. This bush grows with preference in clayish soil and is found in every garden and park as a favorite plant." (*Finger.*)

"From Chile to the Straits of Magellan. The *Notra* (Araucanian) or *Ciruelillo* (Spanish), a tree of exquisite beauty, but seldom reaching above 30 feet in height. The wood is utilized for furniture." (*F. v. Mueller.*)

19111 to 19115—Continued.

19113. ARISTOTELIA MACQUI.

"Spanish name *Maqui*. A beautiful evergreen bush or tree which produces a small, reddish black fruit of the size of a pepper. The juice of this fruit is used for coloring wine, and is therefore imported in large quantities to Europe, Argentina, and Peru. It has a sweet-acid taste. The plant prefers alluvial soil along river banks and would pay to be cultivated." (*Finger.*)

"The berries of this plant though small have the pleasant taste of billberries and are largely consumed in Chile. The plant would thrive in mild forest valleys." (*F. v. Mueller.*)

19114. SAXEGOTHAEA CONSPICUA.

"Spanish name *Maniu*. This is one of the prettiest Chilean forest trees, growing to a height of 18 meters in dense forests. It is a tree greatly appreciated for its ornamental value in the south of Chile." (*Finger.*)

"The *Mahin* of southern Chile and Patagonia. A medium-sized tree with fine-grained, yellowish timber." (*F. v. Mueller.*)

19115. GUEVINA AVELLANA. **Chilean nut.**

"Spanish name *Avellana*. This is a tree of great beauty and worth cultivating for its splendid dark green foliage and red, edible fruits. I consider this one of the two prettiest Chilean forest trees. It blossoms and bears through the whole year. It should be planted in shady places and requires continual rains." (*Finger.*)

"The evergreen hazel tree of Chile, extending to the Chonos Archipelago (45° lat. south). One of the most beautiful trees in existence, attaining a height of 30 feet. The snowy white flower spikes are produced simultaneously with the ripening of the coral-red fruit. In the colder southern regions the tree attains considerable dimensions. The wood is tough and elastic and used partly for boat building." (*F. v. Mueller.*)

19116. GOSSYPIUM HIRSUTUM. **Cotton.**

From Deesa, Rajputana, India. Received through Mr. Frank Benton, apicultural investigator, U. S. Department of Agriculture, July 20, 1906.

"(No. 84.) Tree cotton seed. The tree reaches, under favorable conditions, 4 to 5½ feet six months after planting seed; yields the first year 400 to 800 pounds of cotton per acre and four times this after the second year, or 5 to 10 pounds per tree of clean cotton during twenty years or over. Said to have been ranked in Liverpool markets by experts as superfine; white staple, $1\frac{3}{16}$ to $1\frac{1}{4}$ inches in length; value $\frac{7}{8}$ penny per pound above American middling." (*Benton.*)

19117 and 19118. MANGIFERA INDICA. **Mango.**

From West Palm Beach, Fla. Received through Mr. John B. Beach, August 23, 1906.

19117. *Fernandez.* **19118.** *Goa Alfoos.*

19119. ARISAEMA MACROSPATHUM.

From Cuernavaca, Mexico. Presented by Mr. C. G. Pringle, August 27, 1906.

"Corms collected in the 'Pedregal,' near Cuernavaca." (*Pringle.*)

19120. BETA MARITIMA.

From Sicily. Presented by Dr. Carl Sprenger, Hortus Botanicus Vomerensis, Naples-Vomero, through Mr. David Fairchild. Received August 27, 1906.

"*Beta cicla* seeds from Sicily, collected in a wild state and never before cultivated. It is said to be true *Beta cicla*, but I believe it is the true *Beta maritima* really in a wild state, whilst the cicla is more escaped." (*Sprenger.*)

19142 and 19143. XANTHOSOMA spp. Yautia.

From Northern Colombia. Presented by Prof. H. Pittier, of the Division of Botany. Received August 31, 1906.

"Rhizomes of two undetermined varieties of yautias which were collected in the Sierra Nevada de Sta. Marta, Colombia, near the Köggaba village of San Andrès, at about 1,200 m. above sea level. The plant is cultivated by the Indians, although not extensively, under the name of *mundí*, or *mi-índi*. The Spanish people call it *malanga*. In the Cauca Valley that same Xanthosoma, or one very like it, is called *rascadera*, a very striking coincidence with the Nahautl word *quequeque*, applied to the same plant in some parts of Central America, the meaning of which is 'that which causes itching,' while *rascadera* signifies 'that which causes one to scratch.'

"The Köggaba Indians cultivate Xanthosoma in the garden-like fields around their houses in isolated plots, mixed in with corn, cane, cotton, coffee, coca, yuca (Manihot). They do not seem to use it to any extent." (*Pittier.*)

19145. CASTALIA MEXICANA.

From City of Mexico, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, September 4, 1906.

"(No. 06/1044.) Roots of a beautiful plant with rose-colored sepals and pale-yellow flowers, opening in the afternoon." (*Rose.*)

19146 and 19147. PERSEA GRATISSIMA. Avocado.

From Querétaro, Mexico. Presented by Sr. M. M. Urquiza. Received September 4, 1906.

Cuttings of two unnamed varieties.

19148 to 19150.

From Georgetown, British Guiana. Presented by Mr. Donald Mitchell, U. S. vice and deputy consul, through Mr. O. W. Barrett. Received September 4, 1906.

19148. CALADIUM sp.

Native name *Bush hog beena.*

19149 and 19150. XANTHOSOMA spp. Yautia.

19149. A variety having yellow tubers.

19150. A variety having white tubers.

19151. PERSEA GRATISSIMA. Avocado.

From Campeche, Mexico. Presented by Mr. F. Foex. Received September 4, 1906.

"Though coming from a hot country, it was fine and delicate, very big, and of good shape." (*Foex.*)

19152 to 19166.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received June 6, 1906.

19152. MELINIS MINUTIFLORA. Molasses grass.

"(No. 1.) Purchased from a grower under the name of *Catengueiro roxa* (red), but appears to be nearly all *Catengueiro blanca* (white), which is not as valuable as the former. Our principal winter grazing grass." (*Hart.*)

19153. PASPALUM DENSIFLORUM.

(Hart's No. 2.)

19152 to 19166—Continued.

19154. PANICUM MAXIMUM. **Guinea grass.**

"(No. 3.) Local name *Capim Guinæ da Bahia.*" (*Hart.*)

19155. CHAETOCHLOA sp.

"(No. 4.) Probably of little or no value." (*Hart.*)

19156. LEPTOCHLOA GRACILIS.

"(No. 5.) Eaten by animals with relish." (*Hart.*)

19157. PANICUM MAXIMUM. **Guinea grass.**

"(No. 6.) Local name *Grama colonia.* Much esteemed for hay and pasture. Grows 2 meters high on good land." (*Hart.*)

19158. TRICHOLAENA ROSEA.

"(No. 7.) Local name *Favorita.* A splendid variety for hay." (*Hart.*)

19159. CASSIA sp.

"(No. 26.) A legume found growing on uncultivated land; shrub about 0.75 meter high; doubtless owing to the renovating effect of this and related species the high fertility of the soil here is partly due." (*Hart.*)

19160. CASSIA sp.

"(No. 27.) Shrub about 0.6 meter high. Similar to preceding number." (*Hart.*)

19161. CASSIA sp.

"(No. 28.) A leguminous annual shrub, about 60 centimeters high, bearing an enormous crop of seed. Found on borders of cultivated fields and in pastures. Not eaten by stock." (*Hart.*)

19162. ANDROPOGON HALEPENSIS. **Johnson grass.**

"(No. 29.) An indigenous grass similar to Amber sorghum cane when growing." (*Hart.*)

19163.

"(No. 30.) A leguminous vine growing wild in abandoned fields." (*Hart.*)

19164. CHAETOCHLOA sp.

"(No. 31.) A large, coarse grass growing in open places in forests; eaten by horses. Its robust habit and strikingly veined blades would suggest its trial as an ornamental grass." (*Hart.*)

19165. PANICUM sp.

"(No. 33.) A grass found growing sparingly in the shade; not cultivated." (*Hart.*)

19166. PANICUM sp.

"(No. 34.) A grass found on the margin of the forest on somewhat moist soil; probably of no agricultural value." (*Hart.*)

19167. PERSEA GRATISSIMA. **Avocado.**

From Querétaro, Mexico. Presented by Sr. M. M. Urquiza. Received September 7, 1906.

Seed.

19168. ORYZA PUNCTATA. **Rice.**

From Ujiji, German East Africa. Presented by Dr. G. Schweinfurth, Berlin, Germany, through Mr. David Fairchild. Received August 27, 1906.

Wild rice to be used in breeding experiments for the production of more disease-resistant varieties.

19169 to 19172.

From Dominica, British West Indies. Presented by Mr. A. Hyatt Verrill. Received September 8, 1906.

19169. TRIMEZIA LURIDA.

19170. ZEPHYRANTHES TUBISPATHA.

19171. XANTHOSOMA sp. **Yautia.**

A yellow variety.

19172. XANTHOSOMA sp. **Yautia.**

A white variety.

19173. CASTALIA GRACILIS.

From Mexico City, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, September 6, 1906.

"(No. 06/1,076.) Nearly spherical roots from ½ to 1 inch in diameter and of a black color." (*Rose.*)

19174. PARTHENIUM ARGENTATUM. **Guayule.**

From Saltillo, Mexico. Presented by Mr. Victor L. Duhaime, American consul, through Mr. David Fairchild. Received August 28, 1906.

Seed for use in germination experiments with a view to finding out whether this plant will adapt itself to irrigated or alluvial lands.

19175. NEPHELIUM LONGANA. **Longan.**

From Oneco, Fla. Presented by Mr. E. N. Reasoner. Received September 1, 1906.

Seeds for experiments in raising stock upon which to graft the litchi.

19178 to 19182.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received September 1, 1906.

19178. HYMENAEA STIGNOCARPA.

This tree probably resembles *H. courbaril* of tropical South America, famous for its valuable, hard, close-grained, heavy timber and its fragrant amber-like resin, known as West Indian copal. In this species the beans are also lodged in a mealy pulp of honey-like taste, which can be used for food.

19179. LUEHEA SPECIOSA.

One of a genus of Tiliaceous trees and shrubs with handsome white or rosy flowers borne in terminal panicles or in the axils of the leaves.

19180. BAUHINIA FORFICATA.

19181. MUCUNA NIVEA.

"Similar to the Florida velvet bean but later and more robust; produces an enormous growth of vines. The beans grow in long clusters, one to five in a pod; the clusters sometimes reach a length of 1 meter and contain as high as seventy pods. I have been told that this vine lives for three or four years." (*Hart.*)

19182. NICOTIANA TABACUM. **Tobacco.**

Havana.

19183 to 19192.

From Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, August 28, 1906.

A collection of seeds, as follows:

19183. GLYCINE HISPIDA. **Soy bean.**

From Newchwang. "(No. 255a.) A small variety of the black soy bean. Used to make bean oil from, the remaining expressed material, known as bean cake, being exported to Japan and southern China as a very valuable fertilizer." (*Meyer.*)

19184. GLYCINE HISPIDA. **Soy bean.**

From Newchwang. "(No. 256a.) A large variety of the black soy bean. This is a very rare variety and is used for food; also for making a superior oil." (*Meyer.*)

19185. PHASEOLUS ANGULARIS. **Adzuki bean.**

From Newchwang. "(No. 257a.) A small, ovoid, yellowish bean; sold in Newchwang as a food for the Chinese. Seems to be unknown in other parts of China." (*Meyer.*)

19186. GLYCINE HISPIDA. **Soy bean.**

From Newchwang. "(No. 258a.) A medium-sized, greenish soy bean. This variety is the one most commonly used to extract bean oil from, the remaining yellow material, in the form of large, flat cheeses, being exported to different parts of Japan and especially to southern China as a very valuable fertilizer." (*Meyer.*)

19187. ANDROPOGON SORGHUM. **Sorghum.**

From Newchwang. "(No. 259a.) Chinese name *Kauliang.* A brown-colored variety of sorghum said to be grown on the rather alkaline lands around Newchwang." (*Meyer.*)

19188. ORYZA SATIVA. **Rice.**

From Newchwang. "(No. 260a.) A reddish variety of dry-land rice obtained from the magistrate of Hai-tcheng, Mr. Kuan Fing Ho, through the efforts of the American consul-general, Mr. M. T. Simmons, at Newchwang. As the city of Hai-tcheng is situated close to latitude 41°, this rice may be expected to succeed in the New England States, but it certainly will grow in the Middle Western States." (*Meyer.*)

19189. PHASEOLUS VULGARIS. **Bean.**

From Shan-hai-kwan, China. "(No. 261a.) A rosy colored variety of a bush haricot bean which is eaten green as a vegetable." (*Meyer.*)

19190. PHASEOLUS VULGARIS. **Bean.**

From Shan-hai-kwan. "(No. 262a.) A light brown colored variety of a bush haricot bean; used as a vegetable in the green state." (*Meyer.*)

19191. PHASEOLUS VULGARIS. **Bean.**

From Shan-hai-kwan. "(No. 263a.) A red-brown colored variety of a climbing haricot bean; used as a vegetable when green." (*Meyer.*)

19192. PHASEOLUS VULGARIS. **Bean.**

From Kau pan-tze. "(No. 264a.) A dark, red-brown colored variety of a climbing haricot bean; used as a vegetable when green." (*Meyer.*)

19193 to 19195. ORYZA PUNCTATA.

From West Africa. Received from Dr. Christian von Liszewski, Marseille, France, through Mr. David Fairchild, September 1, 1906.

19193.

"*Konkoi.* Marsh rice. Plant rough; vigorous; stem stout; little subject to lodging; heavy bearer. Period of growth from five to six months;

19193 to 19195—Continued.

relatively early; very robust; little subject to attacks of fungous diseases; very much valued by the natives for food. This variety requires very little cultivation. It must be sown a month and a half or two months before the end of the rainy season. The submerged fields are very prolific for this kind of rice." (*Liszewski.*)

19194.

"*Talifori.* Mountain rice. Plants strong, of medium height; early. Period of growth from three to four months, which allows the natives to harvest two crops of this rice in one season. Sown in May or June, a month and a half before the end of the rainy season; last sowing in August and September. It is a good yielder. The rice is valued by the natives for food and is considered the most nutritious of the mountain rices. According to tradition this rice is the most ancient of all the rices of Africa and is very characteristic of the region west of French West Africa." (*Liszewski.*)

19195.

"*Kontondi.* Valley rice. Plants tall, vigorous, slightly rough; straw slightly hollowed; requires a dry seed bed; absorbs much of the nitrogenous matter of the soil; is a prolific bearer and must not be sown two years in succession in the same place. As a food this variety of rice is not valued by the natives, so that it would be difficult to procure, since it grows very far from the routes of travel." (*Liszewski.*)

19196. PERSEA GRATISSIMA. **Avocado.**

From Parras de la Fuente, Coahuila, Mexico. Presented by Dr. A. Walther, through Mr. O. W. Barrett, September 17, 1906.

Cuttings of a hardy avocado.

19197 to 19199. NICOTIANA TABACUM. **Tobacco.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture. Received September 17, 1906.

19197.

"*Daluzon.* A variety with large, wide leaves." (*Lyon.*)

19198.

"*Espada.* A variety with narrow, thick leaves." (*Lyon.*)

19199.

"*Marugui.* A variety with large, broad, thin leaves." (*Lyon.*)

19203. IPOMOEA HORSFALLIAE BRIGGSAE.

Plants propagated in the Department greenhouse. Numbered, for convenience in recording distribution, September 19, 1906.

19204. CRYPTOSTEGIA GRANDIFLORA.

From Bahama Islands, British West Indies. Received through Mr. G. N. Collins, of the Bureau of Plant Industry. Numbered, for convenience in recording distribution, September 19, 1906.

Seedlings grown from seeds obtained from fruits which were sent to Mr. Collins for determination.

19205. CENTROLOBIUM ROBUSTUM.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received September 20, 1906.

19206. PERSEA GRATISSIMA. **Avocado.**

From Parras de la Fuente, Coahuila, Mexico. Presented by Dr. A. Walther, through Mr. O. W. Barrett, September 20, 1906.

"Seeds of a green-fruited variety; probably identical with budwood sent under No. 19196." (*Barrett.*)

19213 to 19216.

From Manila, P. I. Received through Mr. W. S. Lyon, of the Bureau of Agriculture, September 24, 1906.

19213. ANDROPOGON SORGHUM. **Sorghum.**

Variety *negroscnse.*

19214. ANDROPOGON SORGHUM. **Sorghum.**

Variety *negrosense erythrinium.*

19215. AFZELIA RHOMBOIDEA. **"Tindalo."**

"One of our choicest hardwood timbers." (*Lyon.*)

19216. DIOSPYROS DISCOLOR.

"This is a beautiful tree and has the most attractive and luscious looking fruit I know of, comparable only to a large, velvety, Indian, blood peach. As for taste—well, there is a time-worn French proverb that most people apply—'I like it, but then I am not a competent judge.'" (*Lyon.*)

19217 to 19225.

From Paramaribo, Dutch Guiana. Presented by Dr. J. J. Van Hall, Director of Agriculture, through Mr. O. W. Barrett, September 25, 1906.

19217 to 19219. XANTHOSOMA spp. **Yautia.**

19217. *Surinam.*

19218. (Not labeled.)

19219. (Not labeled.)

19220. COLOCASIA sp. **Taro.**

Wittie.

19221 to 19225. XANTHOSOMA spp. **Yautia.**

19221. *Koso.*

12222. *Abo.*

19223. *Redic.*

19224. *Sinesic.*

19225. *Finga.*

19226. DIOSPYROS TEXANA.

From Falfurrias, Tex. Collected by Mr. David Fairchild, August 8, 1906.

Seeds for hybridizing experiments. "Tree reaches a height of 30 feet; fruit globose, black, and luscious." (*Gray.*)

19228. ARTOCARPUS INCISA. **Breadfruit.**

From Ancon, Canal Zone, Panama. Received through Mr. H. F. Schultz, September 27, 1906.

19240. MEDICAGO SATIVA. **Alfalfa.**

From Callao, Peru. Presented by Mr. Joseph C. Cree, U. S. consul. Numbered October 2, 1906.

19241. TACCA PINNATIFIDA. **Fiji arrowroot.**

From Honolulu, Hawaii. Received through Mr. Jared G. Smith, Agricultural Experiment Station, October 4, 1906.

Hawaiian name, *Pia.*

19242. PASPALUM DILATATUM. **Large water-grass.**

From Central Bucca, New South Wales. Received through Mr. W. Seccombe, September 10, 1906.

19245 to 19257.

From Waroona, West Australia. Presented by Mr. Geo. F. Berthoud, State Farm, Hamel. Received September 6, 1906.

19245. DANTHONIA sp. **Wallaby grass.**

19246. ANTHISTIRIA CILIATA. **Kangaroo grass.**

19247. PANICUM DECOMPOSITUM.

19248. DANTHONIA sp. **Wallaby grass.**

A tall, slender variety.

19249. PANICUM FLAVIDUM.

19250. DANTHONIA sp. **Wallaby grass.**

A dwarf variety.

19251. DANTHONIA sp.

A variety from Collie River.

19252. ANDROPOGON BOMBYCINUS.

19253. DANTHONIA sp. **Wallaby grass.**

19254. ANDROPOGON ERINTHOIDES. **Satin top grass.**

19255. PANICUM PROLUTUM.

19256. DANTHONIA sp. **Wallaby grass.**

19257. ERAGROSTIS PILOSA.

19258 and 19259.

From Mexico City, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, October 8, 1906.

19258. CASTALIA PRINGLEI. **Water lily.**

"Rhizomes of a white-flowering variety." (*Rose.*)

19259. BESCHORNERIA YUCCOIDES.

"(No. 06/1,218.) A very rare ornamental plant; also contains a good fiber. A very near relative of *Furcræa*, which furnishes the best Mexican fiber. Grows at an altitude of 10,000 feet or more, along with the firs, spruces, pines, and oaks." (*Rose.*)

19260. NYMPHAEA ELEGANS. **Water lily.**

From Harligen, Tex. Presented by Mr. Chester B. Davis, through Mr. David Fairchild, October 24, 1906.

"Roots and seed vessels collected from plants growing in a pond 1½ miles east from Lonsboro, north of the railroad." (*Davis.*)

19261 to 19263. JUGLANS NIGRA × REGIA. **Walnut.**

From Tettington, Va. Secured by Mr. Walter Fischer, scientific assistant, October 9, 1906.

"This tree is growing on what was known as the Rowe farm, the property of Mr. Benjamin H. Harrison, opposite lower Brandon, near Tettington, on the James River. It is a magnificent specimen of its kind; a broad, spreading tree about 100 feet in height with a circumference of 33 feet 3 feet from the ground and of 25 feet 6 feet from the ground. At a height of 12 feet it divides into four large branches, three of which are larger than any forest trees in the vicinity. A short distance from this giant tree is another of the same kind.

19261 to 19263—Continued.

It is of the same height and general habit and about 2½ feet in diameter. This is said to have grown from a seed of the larger tree planted at the time of the civil war. Neither of these trees are very prolific bearers; the larger one is said to have borne about a peck of nuts while in its prime, but at the present time the crop does not amount to more than 2 dozen nuts; the other tree bore about half this quantity.

"The trees seem to have characteristics between those of our native black walnut, butternut, and the Persian walnut. The twigs, buds, and leaves resemble the last named; the outer rind of the fruit resembles that of our native black walnut and the nut itself inclines slightly toward that of the butternut. Both the outer and the inner husks of the nut are very thick shelled, and the kernel is very small in proportion. It has poor germinating powers, which probably indicates a hybrid weakness.

"No history of the large tree is available. It was described by Prof. J. T. Rothrock in Forest Leaves, vol. 2, p. 133, who suggests that it is a hybrid between *J. nigra* and *J. regia*. In spite of the strong resemblance of this tree to those parents, the fruit does not at all agree with hybrids which are known to have been bred from those two species (S. P. I. Nos. 21612 and 21710). This, however, may be a variation due to its hybrid origin. The abnormal length of the fruit of the James River hybrid suggests slightly the butternut (*J. cinerea*), but the younger of the two trees shows quite a tendency in its twigs to revert to *J. nigra*, although the nuts can not be distinguished from those of its parent.

"The size of these trees proves them to be of extraordinarily rapid growth, for allowing for them the natural rate of growth of our native walnuts it would be impossible to account for the origin of the larger tree as a hybrid between American and European species, as its size would indicate that it was planted perhaps before the settlement at Jamestown. It is in all probability, however, not more than 150 or 200 years old. Scions have been secured for grafting upon the native walnut as a possible rapid-growing timber tree to furnish the highly prized walnut lumber. Experiments by Mr. Luther Burbank in California in grafting hybrids upon the slower-growing native trees have shown that the scions stimulate the stock to even faster growth than themselves. Their rapid growth, hence, would present no obstacle to their propagation by grafting." (*Fischer.*)

19261. Nuts of both trees, mixed by accident.

19262. Scions of the parent tree.

19263. Scions of the second generation.

19264 to 19268.

From London, England. Received through James Veitch & Sons, October 13, 1906.

19264 to 19267. CRAMBE MARITIMA. **Sea kale.**

19264 and 19265. *Beddard's Improved.*

19266 and 19267. *Lily White.*

19268. CYNARA SCOLYMUS. **Artichoke.**

Globe.

19269. BAMBUSA TULDA. **Bamboo.**

From Sibpur, Calcutta, India. Presented by Mr. A. Gage, curator, Royal Botanic Garden. Received October 12, 1906.

(See also S. P. I. No. 21002.)

19270. COLOCASIA sp. **Dasheen.**

From Paramaribo, Surinam. Presented by Mr. H. Polak, at the request of Dr. J. J. Van Hall, Director of Agriculture for the Dutch West Indies. Received October 13, 1906.

"Tubers of a new variety of tayer, called *Eksi-taja*, which means egg-tayer." (*Polak.*)

19271. XANTHOSOMA sp. **Yautia.**

From Kingsville, Tex. Presented by Mr. John D. Harvey, October 13, 1906.

19272. CYNARA SCOLYMUS. **Artichoke.**

From Paris, France. Received through Vilmorin-Andrieux & Co., October 16, 1906.

Flat Brittany.

19273. DOLICHANDRONE RHEEDII.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, October 12, 1906.

19274 and 19275. ASPARAGUS spp.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, of the Transvaal Department of Agriculture. Received October 15, 1906. Imported for work in asparagus-breeding experiments.

19274. (Davy's No. 2968/1151/06.)

19275. (Davy's No. 1049/06.)

"Collected in the Ermelo District, on the high veld between 4,000 and 5,000 feet altitude, subject to a summer rainfall of 26 inches, with considerable heat, but a completely dry, cold winter of about five months' duration." (*Davy.*)

19276. PINUS LONGIFOLIA. **Pine.**

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received September 1, 1906.

"This is an Indian species and not the same as *P. roxburghi*, which is the same as *P. excelsa*." (*Sargent.*)

19277. APIUM GRAVEOLENS (?).

From Port Stanley, Falkland Islands. Secured by Mr. John E. Rowan, U. S. consul. Received October 18, 1906.

A wild celery introduced for breeding purposes with the cultivated forms.

19279. SCIRPUS TUBEROSUS.

From China. Received through Mr. John Tull, special agent, October 16, 1907.

Japanese nut *Kuro-kuwai.* "(No. 1.) Roots of a bulbous plant of Cyperaceæ, growing wild in marshy places; also cultivated in paddy land for tubers. In winter they are dug and eaten either raw or boiled, resembling a chestnut in taste. In China starch is made from them and called *Batei-fun.* This is the Chinese variety which is largely imported into Japan to eat raw. These roots were purchased on the market in Yokohama, Japan." (*Tull.*)

19282. LATHYRUS TINGITANUS. **Tangier scarlet pea.**

From Algiers, Algeria. Received through Dr. L. Trabut, October 19, 1906.

19284 to 19287.

From Tehuacan, Puebla, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, October 22, 1906.

19284. BEAUCARNEA OEDIPUS, Rose.

"(No. 11220.) One of my new species and is one of the most remarkable desert plants I have ever seen." (*Rose.*)

19284 to 19287—Continued.

19285. PISTACIA MEXICANA.

(Rose's No. 11234.) "A small Mexican tree with pinnate leaves and dioecious flowers with no petals and five stamens; the small, somewhat compressed nut is edible. This species grows in the valley of the Rio Grande and Lower Pecos. It is of no economic value in its present state, but may prove to be very useful as a drought-resistant stock upon which to graft the finer varieties of pistache." (*Charles J. Brand.*)

19286. SPHAERALCEA UMBELLATA.

"(No. 11244.) Has a rather large pinkish flower and forms a bush 10 to 12 feet high. It is often planted as an ornamental shrub in gardens at an altitude of from 4,000 to 5,000 feet in south Mexico." (*Rose.*)

19287. PRUNUS CAPOLLIN. **Wild cherry.**

"(No. 11525.) Purchased in a Mexican market, where the dried fruits are sold. This Prunus often forms a very large tree." (*Rose.*)

19292. CITRUS DECUMANA. **Pomelo.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, October 23, 1906.

"Native name *Lukban;* a pomelo of good quality and large size." (*Lyon.*)

19293. XANTHOSOMA SAGITTIFOLIUM. **Yautia.**

From McKinley, Isle of Pines, Cuba. Presented by Mr. George F. Young, through Mr. O. W. Barrett. Received October 27, 1907.

White Malanga.

19294. MANGIFERA INDICA. **Mango.**

From Oneco, Fla. Received through Mr. E. N. Reasoner, October 29, 1906.

Enuria.

19297. PERSEA GRATISSIMA. **Avocado.**

From Cocoanut Grove, Fla. Propagated at the Subtropical Laboratory and Garden, Miami, Fla., and numbered for convenience in recording distribution, November 3, 1906.

Wester. "(Lab. No. 551.) The seed was planted thirty-five years ago (1871) by John Thomas Peacock, but he can not recollect from where it came—probably, however, from Key West. The tree is now (November, 1906) 25 feet tall, with a spread of 28 or 30 feet and a diameter of 15 inches 1 foot above the ground, and is vigorous and thrifty. According to Mr. Peacock, the tree has been a heavy bearer every year since it began to bear." (*Wester.*)

19300 to 19366. MUSA spp.

From Mayaguez, P. R. Received from Mr. H. C. Henricksen, of the Agricultural Experiment Station, through Mr. O. W. Barrett, October 17, 1906.

19300 to 19313. MUSA SAPIENTUM. **Banana.**

19300. *Canarias* (from No. 10965).

19301. *Canarias.*

19302. *Ingles.*

19303. *Chamaluco.*

19304. *Cenizo.*

19305. *Prieto.*

19306. *Chinese* (from No. 10965).

19300 to 19366—Continued.

19307. *Canarias* (from No. 9575), "*Datile.*"
19308. (Not labeled.)
19309. *Chamaluco Pato.*
19310. *Guaran.*
19311. *Hart's Choice.*
19312. *Golden.*
19313. *Johnson* (Cuba).

19314 to 19318. MUSA CAVENDISHII. **Banana.**

19314. *Enano* (Porto Rico).
19315. *Enano Doble* (?).
19316. *Enano* (Cuba).
19317. *China* (Jamaica).
19318. *Cavendishii.*

19319 to 19332. MUSA SAPIENTUM. **Banana.**

19319. *Dominico.*
19320. *Rosa.*
19321. *Dátyl.*
19322. *Niño.*
19323. *Red Jamaica.*
19324. *Morado Colorado* (Cuba).
19325. *Morado.*
19326. *Morado blanco.*
19327. *Rubra.*
19328. *Apple* (Hawaii).
19329. Apple (2d) (Hawaii).
19330. *Manzano* (Cuba).
19331. *Apple* (Jamaica).
19332. *Manzano.*

19333 to 19342. MUSA SAPIENTUM. **Plantain.**

19333. *Congo Colorado.*
19334. *Congo Blanco.*
19335. *Congo Morado.*
19336. *Congo Manila.*
19337. *Maricongo.*
19338. *Plátano Morado.*
19339. *Plátano "tres cientos."*
19340. *Chuc Chumpa.*
19341. *Plátano Negro.*
19342. *Plátano Hartón.*

19343 to 19365. MUSA spp. **Banana.**

19343. *Kapua* (Hawaii).
19344. *Brazilian* (Hawaii).
19345. *Hau Moa* (Hawaii).
19346. *Lelc* (Hawaii).
19347. *Maolc* (Hawaii).
19348. *Hai* (Hawaii).
19349. *Kudjo Hudang.*
19350. *Martaban* (Calcutta).
19351. *Palembang.*
19352. *Rajah.*
19353. *Ambon.*
19354. *Kelat.*
19355. *Guindy.*
19356. *Cinerea.*
19357. *Discolor* (Kew).
19358. *Maas.*
19359. *Almeido.*
19360. *Dacca.*
19361. *Soosoo.*
19362. *Martabanica.*
19363. *Lady-Finger* (Pashongar).
19364. *Lady-Finger* (Jamaica).
19365. *Tirabuzón.*

19366. MUSA TEXTILIS. **Manila hemp.**

Abacá (Philippine Islands).

19367. AEGLE MARMELOS. **Bengal quince.**

From Honolulu, Hawaii. Received through Mr. J. G. Smith, of the Agricultural Experiment Station, November 5, 1906.

Sometimes called *Elephant Apple, Marcdoo,* or *Bhel Fruit.*

19368. HICORIA LACINIOSA. **Big shagbark hickory.**

From Columbia, Mo. Presented by Mr. C. C. Bateman, October 17. 1906.

19369. NYMPHAEA sp. **Pond lily.**

From Harligen, Tex. Presented by Mr. Chester B. Davis, November 6, 1906.

"These lilies are said to bear most beautiful flowers and very large ones. The leaves are larger than those of No. 19260. The two lots were not from the same locality." (*Davis.*)

19370. SECHIUM EDULE. **Chayote.**

From Saltillo, Mexico. Received through Mr. J. R. Silliman, October 30, 1906.

"A spiny variety of the Mexican chayote, secured for distribution among vegetable growers in the South as a possible new paying vegetable." (*Fairchild.*)

19371. PERSEA INDICA.

From Canary Islands. Presented by Dr. A. Robertson-Proschowsky, Nice, France. Received November 5, 1906.

(See notes to S. P. I. Nos. 14498 and 16133.)

19373. PANICUM CURVATUM. **Ukoka grass.**

From Zanzibar, British East Africa. Presented by Mr. R. N. Lyne, director, Department of Agriculture. Received November 5, 1906.

"Native name *Ukoka.* The grass is a creeper; grows wild and luxuriantly on the plantations, all classes of stock being very fond of it. It is the only forage grass on this island gathered and supplied to stock. It enjoys a light loamy soil and requires abundant rain. I believe that in humid localities you would find it most valuable forage." (*Lyne.*)

19376. MUSA SAPIENTUM. **Banana.**

From Oneco, Fla. Received through Mr. E. N. Reasoner November 12, 1906.

Large Figue.

19377 to 19380. PERSEA GRATISSIMA. **Avocado.**

From Hawaii. Seedling avocados grown from seeds taken from fruits shipped to the Office of Pomological Investigations of the Bureau of Plant Industry in 1904; turned over to the Office of Seed and Plant Introduction and Distribution on November 7, 1906.

"The fruits from which these seeds were taken were of excellent quality, those of Nos. 19379 and 19380 being exceptionally fine. The quality of No. 19380 was, I think, the finest of any avocado I have tasted, notwithstanding its long journey in cold storage to San Francisco, express from there to Lodi, iced car from there to New York, and express from New York to Washington. which variable temperature and surroundings are, of course, likely to injure the flavor and quality of any such fruit." (*Taylor.*)

19382. VITIS VINIFERA. **Grape.**

From Quetta, Baluchistan. Received through Mr. Frank Benton April 6, 1906.

"(No. 43.) Cuttings of a variety of grape described by the natives as large and white." (*Benton.*)

19383. CYNARA SCOLYMUS. **Artichoke.**

From Algiers, Algeria. Received through Dr. L. Trabut November 14, 1906.

Violet Provence, "race precoce" (early strain).

19384. CHRYSOPHYLLUM MAGALIS-MONTANA.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, of the Department of Agriculture. Received November 14, 1906.

"This is an ornamental evergreen shrub or small tree of the family Sapotaceae, common on stony outcrops, particularly in the 'Middle Veld' (below 4,000 feet altitude); and also on frostless ridges at about 6,000 feet near Johannesburg. It would appear to be sensitive to frost. The fruit is agreeably acidulous and most refreshing in hot weather. It is much used by the natives for making a 'Kaffir beer' and by the white people for preserves, jelly, and a kind of brandy. The 'pit' is too large, but perhaps this defect can be improved away. In any case, the tree is worth growing for ornament.

"In the 'Taal' it is called *Stem-vrugte*, because the fruit is borne nearly sessile on the stem and main branches.

"The tree tolerates great heat and light rainfall, say, 14 inches falling only in summer, with cold nights during winter and little or no rain for about six months." (*Davy.*)

19385. CITRUS DECUMANA. **Pomelo.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, November 13, 1906.

"Native *Lukban*, or pomelo, similar to that last sent (S. P. I. No. 19292); selected from a tree of more than ordinary prolificacy and superior fruit." (*Lyon.*)

19386. CASUARINA EQUISETIFOLIA. **Beefwood.**

From Manila, P. I. Received through Mr. W. S. Lyon, of the Bureau of Agriculture, November 13, 1906.

"*Agoho.* Hardwood timber of rapid growth; endures, with us, remarkable extremes of drought and moisture." (*Lyon.*)

19387 and 19388. CYNARA SCOLYMUS. **Artichoke.**

From Paris, France. Received through Vilmorin-Andrieux & Co., November 13, 1906.

19387. *Large Globe* or *Paris.* **19388.** *Large Flat Brittany.*

19390 to 19419.

From China. Received through Mr. F. N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., in the spring of 1906.

A collection of seeds, as follows:

19390. GINKGO BILOBA. **Ginkgo.**

From Western Hills, near Peking. "(No. 54a, Nov., 1905.) A fine, spreading tree with leaves less strongly lobed than generally met with. Collected in an old temple garden." (*Meyer.*)

19390 to 19419—Continued.

19391. PISTACIA CHINENSIS.

From Wei-tsan Mountains, near Peking. "(No. 63a, Nov., 1905.) A very ornamental tree, growing to quite large dimensions; graceful outlines; large pinnate leaves; small leaflets. The carpellate trees apparently do not grow so large as the staminate trees; fruits very small. May be a good stock for the large-fruited pistaches." (*Meyer.*)

19392. QUERCUS sp.

From Chang-li. "(No. 64a, Oct. 13, 1905.) An ornamental oak with broad, glossy leaves; very much used for building purposes. Grows wild in the mountains." (*Meyer.*)

19393. QUERCUS sp. **Oak.**

From Chang-li. "(No. 65a, Oct. 11, 1905.) A slender growing oak with rather long, serrated leaves looking somewhat like chestnut leaves. Used for poles and building material. Grows wild in the mountains near Chang-li." (*Meyer.*)

19394. ZIZYPHUS SATIVA. **Jujube.**

From Peking. "(No. 91a, Oct., 1905.) Seeds of a very large variety of 'date' sold in the market. These fruits are well worth growing, tasting very sweet when dried, and are also nice to eat when fresh." (*Meyer.*)

19395. DIOSPYROS LOTUS. **Persimmon.**

From Wei-tsan Mountains, near Peking. "(No. 94a, Nov., 1905.) A large variety of the wild persimmon; otherwise the same description applies to it as that given for No. 57a, S. P. I. No. 17906." (*Meyer.*)

19396. LAGENARIA VULGARIS. **Gourd.**

From Hwai jou. "(No. 97a, Nov. 6, 1905.) A pear-shaped gourd used for covering trellises." (*Meyer.*)

19397. ZIZYPHUS SATIVA. **Jujube.**

From Pee-san. "(No. 98a, Oct. 26, 1905.) Seeds of an elongated fruited variety of the 'date;' very sweet and a heavy bearer." (*Meyer.*)

19398. LAGERSTROEMIA INDICA. **Crape myrtle.**

From Western Hills. "(No. 102a, Nov., 1905.) Seeds of dark purple crape myrtles growing in old temple gardens." (*Meyer.*)

19399. KOELREUTERIA PANICULATA. **Varnish tree.**

From Wei-tsan Mountains, near Peking. (No. 103a, Nov., 1905.)

19400. EUONYMUS sp.

From Tang-san. "(No. 110a, Oct. 25, 1905.) A very ornamental shrub loaded in the fall with white capsules and scarlet berries." (*Meyer.*)

19401. AMPELOPSIS TRICUSPIDATA. **Boston ivy.**

From Wei-tsan Mountains, near Peking. "(No. 112a, Nov., 1905.) Should not be planted in a southern exposure unless shaded; where found wild they seem to prefer the northeast and also, although in a less marked degree, the northwest." (*Meyer.*)

19402. QUERCUS sp. **Oak.**

From Shan-hai-kwan. "(No. 114a, Oct. 17, 1905.) A slender oak with very narrow leaves; produces good poles." (*Meyer.*)

19403. DIOSPYROS KAKI. **Persimmon.**

From Peking. "(No. 121a, Oct. 2, 1905.) Seeds of a medium-sized persimmon, not much seen for sale here." (*Meyer.*)

19390 to 19419—Continued.

19404. ALBIZZIA JULIBRISSIN.

From Tang-san. "(No. 131a, Oct. 25, 1905.) A small-sized ornamental tree with very finely divided pinnate leaves; bears pinkish blossoms." (*Meyer.*)

19405. CRATAEGUS PINNATIFIDA. **Hawthorn.**

From Tientsin. "(No. 147a, Nov. 22, 1905.) A large-fruited variety used for making very fine preserves. The trees are decidedly ornamental and highly deserve to be planted in parks in groups or as solitary specimens. See also No. 52a (S. P. I. No. 17882)." (*Meyer.*)

19406. PROSOPIS sp. ? **Mesquite bean.**

From Honolulu, Hawaii. "(No. 150a, Sept. 9, 1905.) A shrub which supplies in its pods an excellent cattle food. Its wood is fine firewood, and when used for fence posts will last a long time. Grows on sandy or on dry wastes where nothing else will grow." (*Meyer.*)

19407. RHAMNUS sp. **Buckthorn.**

From Shan-hai-kwan. "(No. 175a, Dec. 1, 1905.) A small Rhamnus growing from 3 to 5 feet high; has small leaves which turn to bronze hues in the fall. Might be of use as a small hedge plant, as the stems grow close together and are well furnished with spines." (*Meyer.*)

19408. CINNAMOMUM CAMPHORA. **Camphor tree.**

From Tang-hsi, near Hanchau, Chehkiang. "(No. 220a, Feb. 28, 1906.) Seeds of some fine old camphor trees growing wild and also cultivated." (*Meyer.*)

19409. QUERCUS sp. **Oak.**

From Hanchau. "(No. 222a, Mar. 3, 1906.) A few acorns of a tall, deciduous oak used for building purposes." (*Meyer.*)

19410. RHUS sp. **Sumac.**

From Hanchau. "(No. 223a, Mar. 4, 1906.) Seeds of a sumac growing wild in the woods. Grows to a medium-sized tree when left alone, but on account of being chopped off is usually found as a bush." (*Meyer.*)

19411. ACER sp.

From near Hanchau. "(No. 225a, Mar. 6, 1906.) A very tall growing maple well adapted for use as an avenue tree." (*Meyer.*)

19412. (Undetermined.)

From Tang-hu. "(No. 226a, Mar. 1, 1906.) A vine growing along a hedge; may be an ornamental." (*Meyer.*)

19413. LONICERA JAPONICA. **Honeysuckle.**

From Tang-hsi. "(No. 227a, Feb. 28, 1906.) A large-leaved variety." (*Meyer.*)

19414. CAESALPINIA sp. (?).

From Tang-hsi, near Hanchau. "(No. 229a, Mar. 1, 1906.) A very tough timber-producing tree used for making ax and spade handles. Seems to be a Caesalpinia or something closely related." (*Meyer.*)

19415. (Undetermined.)

From Tang-hsi. "(No. 230a, Mar. 1, 1906.) A bush which may prove to be ornamental; often becomes a small tree. Cuttings sent under No. 147 (S. P. I. No. 18471)." (*Meyer.*)

19390 to 19419—Continued.

19416. (Undetermined.)

From Tang-hsi. "(No. 231a, Mar. 1, 1906.) An ornamental, very densely headed, evergreen tree, not growing to large dimensions; leaves are rather small, but glistening green; bears black berries in the spring. The trunk of the tree is exceedingly spiny. It may do as a hedge plant in the mild-wintered regions of the United States." (*Meyer.*)

19417. SOLANUM DULCAMARA. **Nightshade.**

From Wei-tsan Mountains, near Peking. "(No. 233a, Nov., 1905.) A climbing, hardy, perennial Solanum, sometimes used as an ornamental vine." (*Meyer.*)

19418. CLERODENDRON BUNGEI.

From Chang-li. "(No. 234a, Nov., 1905.) Black seeds given to me as being of an ornamental shrub." (*Meyer.*)

19419. GLEDITSIA sp.

From near Hanchau. "(No. 235a, Mar. 6, 1906.) A tall-growing tree with wide-spreading branches. May prove to be an ornamental tree." (*Meyer.*)

19420. CITRUS DECUMANA. **Pomelo.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, November 19, 1906.

"*Pomelo de China Lukban*, a pomelo of superior quality, though slightly seedy." (*Lyon.*) (See also S. P. I. Nos. 19292 and 19385.)

19421 to 19423.

From Bangkok, Siam. Presented by His Excellency, Phya Akharaj Varadhara, minister of Siam to the United States. Received November 19, 1906.

19421 and 19422. DIOSCOREA sp. **Yam.**

Man Sow.

19423. IPOMOEA BATATAS. **Sweet potato.**

Man-thes.

"These yams are used by the people of Siam in much the same manner that ordinary potatoes are used in the West, i. e., they are boiled, fried, and roasted. The sprouts are cut off with a little of the body of the yam and planted. From this the new plant develops." (*Edward Loftus, private secretary, Siamese Legation.*)

19425 to 19428.

From northern Korea and Siberia. Received through Mr. F. N. Meyer, agricultural explorer, November 13, 1906.

19425. ZOYSIA PUNGENS. **Korean lawn-grass.**

From near Ai-djou, north Korea. "(No. 470a, July 15, 1906.) A perennial grass growing but a few inches high, well adapted for lawn purposes. Needs mowing, in all probability, but once or twice a year and requires very little water. This grass was found in a very dry, exposed situation. Probably a very valuable grass." (*Meyer.*)

19426. ZOYSIA PUNGENS. **Korean lawn-grass.**

From the banks of the Yalu, northern Korea. "(No. 471a, July 27, 1906.) The same grass as No. 470a (S. P. I. No. 19425), but from a moister locality. There were donkeys continually browsing upon this grass and considerable walking over it, but it was one green velvet turf, and as such will be excellent for golf links, lawns, etc." (*Meyer.*)

19425 to 19428—Continued.

19427. JUNCUS sp. **Rush.**

From near Vladivostok, Siberia. "(No. 513a, Oct. 5, 1906.) A rush found growing in low, wet places in heavy, clayey soil. Has long, straight leaves from 3 to 4 feet long. Will probably be very valuable for matting manufacturing purposes. Can be grown far north. Sow the seeds on sterilized peaty soil. Keep the seed pot in a saucer of water and cover with glass." (*Meyer.*)

19428. JUNCUS sp. **Rush.**

From near Vladivostok, Siberia. "(No. 514a, Oct. 6, 1906.) A rush found growing on rather dry soil; in all probability adapted for matting manufacture. Can probably be grown without standing water. Plants sent under Nos. 557 and 558 (S. P. I. No. 19480)." (*Meyer.*)

19429. PANICUM CRUS-GALLI. Barnyard grass.

From Tegucigalpa, Honduras. Received through Dr. R. Fritzgartner, November 14, 1906.

"Locally called *Camalote*. This grass, or cane, grows very rapidly up to 7 or 8 feet in damp places. We have it here at a height of 6,000 feet, as well as on the coast, where it grows wild. The plant is one of the best nourishing grasses and is preferred by cattle and horses to any other plant we have here. The animals become very fat on it, and the plant is eaten up whether dry or fully grown. It is different from Honduras teosinte." (*Fritzgartner.*)

19430. JOANNESIA PRINCEPS.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director, Agricultural College. Received June 7, 1906.

"(No. 19.) A large tree furnishing fine timber." (*Hart.*)

19457 to 19465.

From Moyabamba, Peru. Presented by Mr. Serafin Filomeno. Received November 12, 1906.

Seeds as follows, with notes by Filomeno:

19457. (Undetermined.) **Rubber.**
Mazaranduba, cultivated rubber.

19458. (Undetermined.) **Rubber.**
Monisoba, cultivated rubber.

19459. (Undetermined.) **Rubber.**
Yebe de Caballo Cocha, from Loreto.

19460. (Undetermined.) **Rubber.**
Yebe de Balsapuerto.

19461. (Undetermined.) **Rubber.**
Leche Caspi. Wild rubber discovered by Mr. Filomeno.

19462. (Undetermined.) **Rubber.**
Guta Moyobombi; not very abundant in resin; discovered by Mr. Filomeno.

19463. GOSSYPIUM sp. **Cotton.**
Brown-fibered cotton.

19464. GOSSYPIUM sp. **Cotton.**
White-fibered cotton.

19465. ZEA MAYS. **Corn.**
A red variety.

19467 and 19468.

From Hoijo, near Kobe, Japan. Received through Mr. John Tull, special agent, November 13, 1906.

19467. RAPHANUS SATIVUS. **Radish.**

"(No. 2.) This is the large white radish that is used so extensively by the Japanese. It is grated and served raw, as horseradish is, with meats, and is also cut up into small blocks about 1 inch square and pickled. I did not see it eaten raw in any large quantity, as we do the radish." (*Tull.*)

19468. PHASEOLUS ANGULARIS. **Adzuki bean.**

"(No. 3.) A small red bean, supposed to mature three months after planting. The Japanese make a candy or cake, called *azuki*, *shiyozu*, and *yowkau*, from these beans, which, when served with tea, is very refreshing, palatable, and satisfying. They boil the beans thoroughly; then by mixing them with water the preparation is strained through a fine cloth, separating the hulls. The bean part settles and leaves the water on top. The water is then poured off and the bottom, being mixed with sugar to the proper proportion, is boiled again and when cool hardens. It is then cut into small pieces 1 inch square and served." (*Tull.*)

19469 to 19480.

From eastern Siberia. Received through Mr. F. N. Meyer, agricultural explorer, November 24, 1906.

A collection of cuttings of trees and shrubs and roots of rushes, as follows:

19469. SALIX sp. **Willow.**

From near Vladivostok. "(No. 537, Oct. 6, 1906.) A very tall growing willow with small, narrow leaves. Similar to No. 529 (S. P. I. No. 19527)." (*Meyer.*)

19470. SALIX sp. **Willow.**

From near Vladivostok. "(No. 538, Oct. 6, 1906.) A bushy willow having long, slender branches and long, narrow leaves. Seems to be sand binding and forms dense thickets here and there along the Yalu." (*Meyer.*)

19471. SALIX sp. **Willow.**

From near Vladivostok. "(Nos. 539 and 540, Oct. 6, 1906.) A low, somewhat crawling willow with broad, short leaves, found in a dry creek bed. Is very tough and can probably be utilized as a sand binder and also for basket making." (*Meyer.*)

19472. SALIX sp. **Willow.**

From Okyansky. "(Nos. 541 and 542, Oct. 8, 1906.) A very tall growing willow with large, broad leaves. This is probably a variety of No. 537 (S. P. I. No. 19469)." (*Meyer.*)

19473. SALIX sp. **Willow.**

From Okyansky. "(No. 543, Oct. 9, 1906.) A tall-growing, bushy willow, making straight shoots 8 feet long. May be of use in basket making. Grows on rather dry land and is in all probability a hybrid." (*Meyer.*)

19474. SALIX sp. **Willow.**

From near Sedansk. "(Nos. 544 and 545, Oct. 7, 1906.) A low, bushy willow with very slender, tough branches having red-colored bark. An excellent tying material for use in the garden. Seems to prefer somewhat wet situations." (*Meyer.*)

19469 to 19480—Continued.

19475. SALIX sp. **Willow.**

From near Sedansk. "(No. 546, Oct. 7, 1906.) A broad-leaved willow, growing mostly as a shrub, but seen here and there as a small tree; is found in very dry situations and usually between other shrubbery." (*Meyer.*)

19476. ACANTHOPANAX SESSILIFLORUM.

From near Sedansk. "(Nos. 547, 548, 549, and 550, Oct. 7, 1906.) An ornamental, hardy shrub, having palmately divided leaves and bearing on its somewhat spiny branches many short, dense umbels of brownish colored flowers, followed by blackish berries. Throws out many shoots from the roots, which do not fall in all directions, as many of our garden shrubs do." (*Meyer.*)

19477. VITIS AMURENSIS. **Grape.**

From near Sedansk. "(Nos. 551 and 552.) Wild grapes, bearing small bunches of edible berries, found in dry and exposed places between shrubbery. They will probably prove to be a good stock in regions where climatic conditions are not favorable for grape culture." (*Meyer.*)

19478. FRAXINUS sp. **Ash.**

From Okyansky. "(Nos. 553 and 554, Oct. 9, 1906.) A large-leaved ash, of use as an ornamental tree in parks and large gardens." (*Meyer.*)

19479. ACTINIDIA KOLOMIKTA (?).

From the mountains near Okyansky. "(Nos. 555 and 556, Oct. 8, 1906.) A tall, climbing actinidia, producing silver-tinted leaves among its masses of foliage." (*Meyer.*)

19480. JUNCUS sp. **Rush.**

From near Vladivostok. "(Nos. 557 and 558, Oct. 6, 1906.) A rush growing on rather dry ground. Seems to be a very good one for matting manufacture. If so, could probably be grown in ordinary fields for this purpose and would, as such, do away with all the difficulties connected with the culture of wet-land rushes." (*Meyer.*)

19482. TRITICUM VULGARE. **Wheat.**

From Histon, Cambridge, England. Presented by Prof. R. H. Biffen, of the Cambridge University Agricultural Experiment Station, through Prof. N. E. Hansen. Received November 1, 1906.

19484. CELTIS RHAMNIFOLIA. **Cambedoo stinkwood.**

From Cape Town, South Africa. Presented by Mr. E. Hutchins, Conservator of Forests at Cape Town, through Prof. A. V. Stubenrauch, Berkeley, Cal. Received at the Plant Introduction Garden, Chico, Cal., December 2, 1905.

19485. ANDROPOGON RUFUS.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received November 20, 1906.

19486. CANNABIS SATIVA. **Hemp.**

From Lexington, Ky. Received through Prof. H. Garman, of the Agricultural Experiment Station, November 30, 1906.

This seed is the first generation from Manchurian hemp seed produced in the district of Shinmintong, some 200 miles southwest of Kirin Province, and was grown from S. P. I. No. 18632 at the Agricultural Experiment Station, Lexington, Ky., during the season of 1906. The original seed from which this seed was grown was received May 29, 1906, from the Yokohama Nursery Company, Yokohama, Japan.

19488. CANANGA ODORATA. **Ilang Ilang.**

From Hacienda Malunu, near Ilagan, Isabela, P. I. Presented by Mr. George P. Ahern, Director of Forestry, through Mr. David Fairchild. Received December 1, 1906.

(See S. P. I. No. 20908 for remarks.)

19489. PRUNUS ARMENIACA. **Apricot.**

From Kwang-ning, Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, October 24, 1906.

"(No. 265a.) Seed of the common wild apricot, which grows all over the mountains near Kwang-ning. The natives use the seeds in giving some flavor to the water in which they boil certain cakes, but they say the seeds are quite poisonous." (*Meyer.*)

19493 to 19495. GLADIOLUS spp. **Gladiolus.**

From Kew, England. Presented by Dr. David Prain, director, Royal Botanic Gardens. Received November 27, 1906.

Bulbs of wild species for use in hybridization experiments being conducted by Mr. T. H. Kearney.

19493. GLADIOLUS DRACOCEPHALUS.

19494. GLADIOLUS PURPUREO AURATUS.

19495. GLADIOLUS SEGETUM.

19496. INDIGOFERA ARRECTA.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, of the Department of Agriculture. Received November 19, 1906.

19497. DIOSPYROS VIRGINIANA. **Persimmon.**

From Blairstown, Md. Presented by Mr. W. S. Swart. Received November 27, 1906.

Cuttings of a seedless variety.

19498. CLERODENDRON FOETIDUM.

From Wönsan, Korea. Presented by Mr. C. F. S. Bilbrough. Received October 22, 1906.

"Seeds of a shrub from which the Koreans make their far-famed paper. This is a very hardy, handsome shrub and will grow from cuttings, seeds, or root sets up to about 20 feet. The Koreans macerate the bark in hot water to a pulp and from the proceeds make a very strong paper." (*Bilbrough.*)

(Probably the same as S. P. I. No. 12768.)

19499. LEUCADENDRON ARGENTEUM. **Silver tree.**

From Cape Town, South Africa. Presented by Mr. J. Wm. Lister, Acting Chief Conservator of Forests, Department of Agriculture. Received December 1, 1906.

(See S. P. I. Nos. 7556, 8317, and 9633.)

19500 and 19501.

From Ispahan, Persia. Received through Mr. John Tyler, U. S. vice consul general, Teheran, November 13, 1906.

19500. GLYCYRRHIZA GLABRA.

"The licorice grows wild and is largely exported to America, chiefly, I believe, for sweetening tobacco and possibly for mixing with porter." (*Tyler.*)

19500 and 19501—Continued.

19501. RUBIA TINCTORUM. **Madder.**

"The madder, as you know, produces the red color used in Persia for dyeing the wool of which the red of the carpets is woven. I have a little rug in my house, upward of a hundred years old, of this dye, which is as bright now as when it was first woven. The Turkey reds were originally dyed from this root." (*Tyler.*)

19502. ASPARAGUS SCHOBERIOIDES.

From Yokohama, Japan. Received through the Yokohama Nursery Company December 1, 1906.

Imported for experiments in the breeding of disease-resistant asparagus.

19503. AVENA FATUA.

From Ispahan, Persia. Received through Mr. John Tyler, U. S. vice consul general, Teheran, November 13, 1906.

"Seed found growing wild in the province of Ispahan, about 270 miles from Teheran, Persia." (*Tyler.*)

19504. CITRUS DECUMANA. **Pomelo.**

From Shanghai, China. Presented by Mr. J. R. Huffaker, Brookfield, Mo. Received December 10, 1906.

"Seeds collected by Prof. W. A. Estes, 18 Quinsan road, Shanghai, China." (*Huffaker.*)

19505. CELTIS AUSTRALIS. **Hackberry.**

From Tunis, Tunis. Presented by Mr. L. Guillochon, Director of Agriculture. Received December 4, 1906.

"One of the best avenue and shade trees in use in North Africa and Portugal." (*Fairchild.*)

19506 and 19507. TRIFOLIUM SUAVEOLENS. **Clover.**

From northwestern India. Presented by Mr. Philip Parker, of the Indian Irrigation Service, through Mr. C. J. Brand, December 10, 1906.

19506.

Daur Shaftal. "This variety comes from the Tochi Valley, where it is commonly sown during the month of September and gives three cuttings of hay after December. This is probably one of the upright forms of *Trifolium repens*, similar to the one grown in the Po Valley, of northern Italy." (*Scofield.*)

19507.

Farsi Shaftal (Persian clover.) "This seed was obtained from Pannu (or Edwardesabad). No cultural notes accompanied this sample, but it is believed to be similar to the *Daur Shaftal.*" (*Scofield.*)

"This species has been somewhat sparingly cultivated in European gardens on account of its fragrant pale-rose flowers. The seed sometimes occurs as an impurity in alfalfa, and when thus sown with alfalfa in the fall has been found to withstand the winters at Washington, D. C., perfectly. It is possible that this clover will be found useful for sowing in the late summer or early fall, after the manner of crimson clover. It shows, however, a great tendency to lodge badly on account of the weak, hollow stems." (*C. V. Piper.*)

19509 to 19511. MUSA spp.

From Santa Barbara, Cal. Presented by Dr. F. Franceschi, through Mr. O. W. Barrett. Received December 11, 1906.

19509. MUSA MARTINI.

19510. MUSA RHODOCLAMYS.

19511. MUSA ENSETE.

19512. HORDEUM HEXASTICHUM. Six-row barley.

From Guelph, Ontario, Canada. Received from Prof. J. Buchanan, through Prof. C. A. Zavitz, November 27, 1906.

"A pedigreed barley of the Manchurian type; said to be an excellent producer." (*Zavitz.*)

19513 and 19514. CAPSICUM ANNUUM. Red pepper.

From Tientsin, China. Received through Mr. F. N. Meyer, agricultural explorer, April 23, 1906.

19513.

A large, short-podded variety.

19514.

A long, narrow-podded variety.

19516. ASPARAGUS ACUTIFOLIUS.

From Nice, France. Presented by Dr. A. Robertson Proschowsky. Received December 12, 1906.

"I have continually been on the lookout for seedlings of *Asparagus acutifolius* L., the native species here, the tender shoots of which are eagerly gathered as a delicacy, but the plant is rather scarce in the little wood belonging to me, and it is, I believe, impossible to transplant it, at least when it, as here, grows in the rocks, sending its fleshy roots deep in the fissures. Young plants are exceedingly scarce, as are the seeds, and then it seems even the few seeds produced are destroyed by insect enemies.

"I nearly gave up the hope of finding young plants, and then going through the pot cultures I came on a plant which was growing in a pot. I have always given orders to save seedlings of this species when found working in the ground, and it must be such a plant. Thus it has come that at last I have had the great pleasure of being able to send you plants undoubtedly true to name. Perhaps you are right that even all the young seedlings I sent are also *A. acutifolius*, though I thought they were not." (*Proschowsky.*)

19517 to 19521.

From Alexandria, Egypt. Presented by Mr. V. F. Naggiar, through Mr. David Fairchild, November 6, 1906.

19517. ANDROPOGON SORGHUM. Sorghum.

19518. ANDROPOGON SORGHUM. Sorghum.

19519. CICER ARIETINUM. Chick-pea.

19520. VICIA FABA. Horse bean.

19521. TRIGONELLA FOENUM-GRAECUM. Fenugreek.

19523 to 19531.

From Manchuria, Korea, and eastern Siberia. Received through Mr. F. N. Meyer, agricultural explorer, December 1, 1906.

A collection of seeds, cuttings, and plants, the latter distinguishable from the seeds by the absence of the letter "a" following Meyer's number.

19523 to 19531—Continued.

19523. JUNCUS sp. **Rush.**

From northern Korea. "(No. 472a, Sept. 2, 1906.) Seed of a Juncus found growing in a wet ditch; looks like *J. effusus*, but has longer, more slender leaves. Probably very valuable in matting manufacture. Will grow very far north, as the climate here is pretty cold in winter. Sow under glass on wet, peaty soil." (*Meyer.*)

19524. JUNCUS sp. **Rush.**

From near Novo Kiowsk, Siberia. "(No. 473a, Sept. 10, 1906.) A Juncus with slender leaves growing to be a yard long; found on salty, marshy land. May be valuable for matting manufacture. Sow the same as No. 472a (S. P. I. No. 19523)." (*Meyer.*)

19525. SCIRPUS sp.

From near Hunchun, Manchuria. "(No. 474a, Sept. 9, 1906.) A very tall Scirpus with leaves 4 to 5 feet long; found on marshy, peaty land. Sow the same as No. 472a." (*Meyer.*)

19526. JUNCUS sp. (?). **Rush.**

From northern Korea. "(No. 475a, Sept. 6, 1906.) A Juncus-like plant found growing in muddy, submerged places. Probably too short for matting manufacture, as it grows only about a foot tall. Sow the same as No. 472a." (*Meyer.*)

19527. SALIX sp. **Willow.**

From the mountains of northern Korea. "(No. 529, Sept. 1, 1906.) A very fine, valuable willow, being an ornamental tree as well as a lumber producer. Attains a height of from 80 to 100 feet. When young the bark is white coated like *Eucalyptus globulus;* when old it becomes shaggy and can be torn off in strips. Seed sent under No. 403a (S. P. I. No. 20128)." (*Meyer.*)

19528. ACTINIDIA KOLOMIKTA (?).

From the mountains of northern Korea. "(No. 530, Aug. 24, 1906.) Cuttings of an Actinidia having red and rosy colored leaves. This is a very ornamental climber, some of the leaves remaining light green, while others are wholly or partly colored." (*Meyer.*)

19529. PINUS KORAIENSIS. **Pine.**

Young trees. From the forest of Bo-tau-shan, northern Korea. "(No. 533, Aug. 24, 1906.) A pine having bluish green foliage and bearing heavy cones, which contain edible seeds. This pine attains a height of over 150 feet; produces excellent lumber, making clean stems of 100 feet. May be of use for forestry or park purposes in the colder, moister regions of the United States. Cones sent under No. 333a (S. P. I. No. 20089)." (*Meyer.*)

19530. LARIX sp. **Larch.**

Young trees. From the forest of Bo-tau-shan, northern Korea. "(No. 534, Aug. 24, 1906.) A larch growing to enormous dimensions, the trunk of some specimens being 4 feet in diameter 5 feet above the ground and over 150 feet tall. Produces excellent lumber. May be of use for forestry purposes and in parks in the colder regions of the United States." (*Meyer.*)

19531. POPULUS sp. **Poplar.**

Young tree. From the forest of Bo-tau-shan, northern Korea. "(No. 536, Aug. 25, 1906.) A poplar with large, elliptical leaves, of which the upper side is somewhat silvery. Grows to be a stately tree over 100 feet tall. Is used by the Koreans, when hollowed out, for making canoes and barrels. Of use as a forest and park tree in the cooler parts of the United States; likes a moist soil and thrives on sandy flats better than in a rocky situation." (*Meyer.*)

19532 to 19543.

From Valuiki, Samara Government, Russia. Presented by Mr. Vasili S. Bogdan, director, Kostichev Agricultural Experiment Station, through Prof. M. Golenkin, director, Moscow Botanical Gardens, Moscow, Russia. Received December 12, 1906.

19532. GLYCERIA DISTANS.
19533. FESTUCA OVINA.
19534. MEDICAGO FALCATA.
19535. POA BULBOSA VIVIPARA.
19536. AGROPYRON CRISTATUM.
19537. AGROPYRON DESERTORUM. (No. 1.)
19538. AGROPYRON DESERTORUM. (No. 2.)
19539. AGROPYRON DESERTORUM. (No. 3.)
19540. AGROPYRON DESERTORUM. (No. 4.)
19541. AGROPYRON DESERTORUM. (No. 5.)
19542. AGROPYRON TRITICEUM.
19543. AGROPYRON REPENS.

19544 to 19547. PHOENIX DACTYLIFERA. Date.

From Muscat, Arabia. Presented by the Hills Brothers Company, New York, N. Y. Received December 1, 1906.

Date seeds for propagating seedling date orchards in the Southwest.

19544. *Burdi.*
19545. *Burni.*
19546. *Khanaizi.*
19547. *Naghal.*

19548 and 19549. HORDEUM DISTICHUM. Barley.

From Wordsley, Stourbridge, England. Received through Edward Webb & Sons, November 14, 1906.

19458. *Webb's Kinver Chevalier.*
19549. *Webb's New Burton Malting.*

19550 to 19553. LILIUM spp. Lily.

From Shanghai, China. Presented by Rev. J. M. W. Farnham, D. D. Received December 18, 1906.

19550. (Bulbs.)
19551. (Seed.)

"This lily grows 6 or 7 feet high and bears a beautiful cream-colored flower resembling what I have heard called the Japan lily; ten or more flowers in one head." (*Farnham.*)

19552. (Bulb.)
19553. (Seed.)

"This lily came up in the spring, looking somewhat like a very large bean plant, with two leaves. It grew to be 3½ feet tall. The leaves, thick and large, were not opposite. Long before it bloomed a bud appeared, which gradually developed and finally opened, revealing 4 buds. From being erect, they began to turn down after the manner of the Japan lily (?), and when horizontal they bloomed. Each flower had 5 petals 6 inches long; 5 stamens. The stalk was one-half inch in diameter. The petals white, with a patch through the middle 2 inches long and three-fourths inch wide, reddish brown or claret color. Some of the leaves, including stem, were 10 inches long and 5 inches wide. The flowers were fragrant and had this peculiarity—the 4 lower petals were like a tube or box, the upper one resembling a cover or lid." (*Farnham.*)

19554 to 19557.

From Grensholmen, Norsholm, Sweden. Received from Baron J. Mannerheim, December 14, 1906.

Seed obtained for the purpose of testing at the Agricultural Experiment Station, Sitka, Alaska.

19554 to 19557—Continued.

19554. BRASSICA RAPA. **Turnip.**

Petrowski Russian. "Is proving resistant in Alaska to the turnip root maggot." (*Fairchild.*)

19555. BRASSICA RAPA. **Turnip.**

Gratscheffs Russian.

19556. SECALE CEREALE. **Rye.**

From northern Sweden.

19557. HORDEUM VULGARE. **Barley.**

From northern Sweden.

19561 and 19562. CRAMBE MARITIMA. Sea kale.

From Reading, England. Received through Sutton & Sons, December 20, 1906.

19561.

Ivory White. Plants.

19562.

Plants of ordinary sea kale.

For general distribution in an endeavor to popularize this delicious vegetable.

19563 to 19565. RHEUM spp.

From Cornhill, Liverpool, England. Received through The Cooperative Bees, Ltd., December 20, 1906.

19563. RHEUM COLLINIANUM.

19564. RHEUM EMODI.

19565. RHEUM UNDULATUM.

Imported for cooperative hybridizing experiments.

19567. RHEUM hyb. Rhubarb.

From Paris, France. Received through Vilmorin-Andrieux & Co., December 22, 1906.

Hybride Florentin. (See note to preceding number.)

19568 to 19571. ZEA MAYS. Corn.

From Budapest, Hungary. Received through Mr. Edmund Mauthner, May 1, 1906.

Four varieties of Indian corn, as follows:

19568. *Pignoletto.* (No. 176.)

19569. *Cinquantino.* (No. 177.)

"Promising for southern California and Arizona." (*Fairchild.*)

19570. *Sze'kely.* (No. 178.)

19571. *Alcsuth.* (No. 179.)

19576 to 19579. MUSA SAPIENTUM. Banana.

From Mayaguez, Porto Rico. Received from the Agricultural Experiment Station, through Mr. O. W. Barrett, December 26, 1906.

19576.

Platano Macho.

19577.

Hamakua.

19578.

Cuatro-racimos.

19579.

Congo Punzera.

19581. RHEUM PALMATUM TANGHUTICUM. **Rhubarb.**

From Chester, England. Received through Dicksons' Nurseries, December 26, 1906.

Imported for cooperative work in hybridizing experiments.

19582 to 19585. SOLANUM TUBEROSUM. **Potato.**

From Moscow, Russia. Received from E. Immer & Son, through Prof. N. E. Hansen, December 27, 1906.

Four varieties of the coarse alcohol potatoes imported for experiments in alcohol-distillation work:

19582.
Woltmann.

19583.
Phoebus.

19584.
Charter.

19585.
Viol.

19586. IRIS OBTUSIFOLIA. **Iris.**

From Kew, England. Presented by Dr. David Prain, director, Royal Botanic Gardens. Received December 29, 1906.

Plants imported for cooperative experiments.

19594 to 19596. RICINUS COMMUNIS. **Castor-oil plant.**

From Moyobamba, Peru. Presented by Mr. Serafin Filomeno, November 12, 1906.

Three types of seed distinguishable as to color and size.

19597 to 19605.

From eastern Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, January 3, 1907.

A collection of plants and cuttings, as follows:

19597. JUNCUS sp. **Rush.**

From near Czernigowka, Siberia. "(Nos. 559 and 560, Oct. 22, 1906.) A rush growing in moist situations on black peaty soil. Can be grown in moisture-retaining soil without having to be flooded like the matting rushes in southern China. Seems to be well adapted for matting manufacture." (*Meyer.*)

19598. SALIX sp. **Willow.**

From near Iman, Siberia. "(Nos. 561 and 562, Nov. 1, 1906.) A broad-leaved willow growing to be a tall bush or small-sized tree; leaves somewhat hirsute. The branches of old trees assume a somewhat drooping habit. Is probably *Salix caprea.* Of use as a park shrub or tree, especially on dry, poor soils." (*Meyer.*)

19599. SALIX sp. **Willow.**

From Lake Hanka, Siberia. "(No. 563, Oct. 29, 1906.) A small-leaved willow growing in water 15 feet deep and having its main roots near the shore but sending out long shoots toward the deep water. The shoots stool out again and form floating bushes between the lotus leaves or the smaller bodies of water connected with the lake." (*Meyer.*)

19600. VITIS AMURENSIS. **Wild grape.**

From the mountains near Czernigowka, Siberia. "(Nos. 564 and 565, Oct. 23, 1906.) A variety bearing very large leaves; of use as a stock plant in cold climates for large-fruited varieties, and is possibly capable of sufficient improvement to give the world a perfectly hardy grape of the Vinifera type. An inferior wine is made from the berries." (*Meyer.*)

19597 to 19605—Continued.

19601. SALIX sp. **Willow.**

From Knorrink, Siberia. "(No. 566, Oct. 29, 1906.) A bushy willow making long, straight shoots. Grows on moist, peaty soil and is well fitted for basket making; has been planted by the Russians along some of the river banks, but is apparently not the best kind of willow for bank-binding purposes." (*Meyer.*)

19602. SCHIZANDRA CHINENSIS.

From Merkoechofka, Siberia. Cuttings and seed. "(Nos. 360a. 567, and 568, Oct. 25, 1906.) A climber bearing long racemes of scarlet berries which are edible, though not very good. The plant can be used as a graceful vine for trellis work and for porches." (*Meyer.*)

19603. MALUS MALUS. **Apple.**

From Khabarovsk, Siberia. "(No. 569.) A small, red-colored apple; withstands the cold and droughts in Khabarovsk very well. Called in Russian *Reinetka* apple, but it is of Chinese origin. Obtained from the garden of Gen. M. Vedensky." (*Meyer.*)

19604. PYRUS SINENSIS. **Pear.**

From Khabarovsk, Siberia. "(No. 570, Nov. 6, 1906.) Scions of an improved form of *P. ussuriensis*, the wild pear here; obtained from the garden of Gen. M. Vedensky." (*Meyer.*)

19605. PRUNUS sp. **Plum.**

From Khabarovsk, Siberia. "(No. 571, Nov. 6, 1906.) A yellow plum, said to be of good flavor, growing vigorously in the rather unfavorable climate. Obtained from the garden of Gen. M. Vedensky." (*Meyer.*)

19606 and 19607. CUMINUM CYMINUM. **Cumin.**

From Malta. Presented by Dr. J. Borg, curator, San Antonio Gardens. Received December 27, 1906.

"Samples of the best variety of cumin, *Kemmun bla sufa*, i. e., cumin without wool. Cumin has been grown in Malta since time immemorial. In Geoffroy's Materia Medica, published in Venice in 1742, it is stated that cumin *in Melita insula copiose seritur;* indeed, until recently it was not grown anywhere else in the Mediterranean. A peculiarity well worth mentioning is that cumin, although very largely grown in Malta, is never used by us in any way whatever, although we almost daily make use of anise seed, wild fennel, and caraway seed as condiments and for sweetmeats. Cumin is grown only to be exported to the continent, mostly to Hamburg, Germany. The price of cumin in ordinary years varies from £2 to £3 per kantar (Maltese hundredweight of 100 rotolo = 175 pounds). But this year, 1906, the price has gone up to £7 per kantar, said to be owing to the failure of the crop in Morocco. Cumin is used in Germany and Holland for the manufacture of some kinds of liquors and for flavoring dishes and pastry.

"Cumin is sown toward the end of March or beginning of April and the crop is ready toward the 15th of June. When it is about 1 inch high gangs of women are employed with small hoes who squat on the cumin and proceed to scratch the soil around it and to remove the weeds. They trample and bruise the cumin so much that it is a sorry sight to see a field of cumin just tilled, but the cumin seems to enjoy this treatment, and in a fortnight the bruised plants form into bushy balls of the deepest green, thickly set together and covered all over with umbels of small purplish flowers.

"We have two varieties of cumin, or rather the type and its variety. The typical cumin has the fruit or seed covered with longish downy hairs; the variety *bla sufa* is without hairs and is much less subject to mildew than the type. This is probably explained by the fact that the dew is retained by the hairs of the fruit and the growth of the fungus is favored. Both varieties are always found more or less mixed, as the beardless variety has a tendency to revert to the type, but to check the mildew our agriculturists are careful to

19606 and 19607—Continued.

discard as much as possible the bearded fruit. The presence of bearded seed does not affect the price of the crop. Cumin is little subject to diseases, much less so than anise, which is also much grown, but in moist springs is very liable to fail." (*Borg.*)

19608 to 19610. CITRUS spp.

From Glen Saint Mary, Fla. Propagated by Mr. G. L. Taber for distribution by the Office of Seed and Plant Introduction and Distribution. Numbered January 5, 1907.

Hybrid citrus fruits developed by Dr. H. J. Webber, in charge of the Department Plant Breeding Laboratory.

19608. CITRUS TRIFOLIATA × AURANTIUM. **Citrange.**

Rustic. (P. B. No. 783.) Budded on Trifoliata stock.

19609. CITRUS TRIFOLIATA × AURANTIUM. **Citrange.**

Colman. (P. B. No. 772.) Budded on Trifoliata stock.

19610. CITURS NOBILIS × AURANTIUM. **Orange.**

Thornton. (P. B. Thornton No. 5.) Budded on rough lemon stock.

19611. GARCINIA MANGOSTANA. Mangosteen.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received January 5, 1907.

Seed.

19612. IMPATIENS OLIVERI.

From Kew, England. Presented by Dr. David Prain, director, Royal Botanical Gardens. Received January 5, 1907.

Seeds imported for breeding experiments.

19616. LAGENARIA VULGARIS. Gourd.

From Cape Town, South Africa. Presented by Hon. Horace Lee Washington, consul-general. Received December 20, 1906.

"Within the past five years there has come into very general use in South Africa a pipe made from the calabash. Pipe smokers who have used this calabash pipe, practically without exception, say that it gives a special softness of flavor that pipes of no other material offer. I believe this to be so and that the demand for such a pipe in the American market would be very large, for as soon as the pipe becomes known it will be appreciated. To be of benefit to the fullest extent the calabash should be grown at home.

"Great difficulty is experienced in securing the seed here. The farmers are sometimes suspicious and boil the seed, and in any event it is not readily obtained. The calabash pipe industry is proving a very remunerative one here in Cape Colony, both to the growers of the calabash and those engaged in making it into pipes, and also to the retail sellers. It grows in certain sections of Cape Colony with little difficulty, but seems to demand a very hot and dry climate with rain at the right season of the year to reach perfection. The curved stem end of the vegetable forms a light and appropriate shape for pipes. It colors like meerschaum and can be highly polished. The life of one of these pipes is about that of a French briar wood pipe. The usual lining is plaster of paris, called by the trade "meerschaum." A cheap grade is lined with tin. These pipes sell for from $1 to $62, according to the type of finish. Pipe mounting and fitting being cheaper in England than here, large shipments are made to England for mounting and returned here for sale.

"The industry is being crippled here by the growers refusing to sell the seeds of the calabash. It is extremely difficult, as stated above, to obtain them from any source. The crop last year was estimated at 60,000 and this year at about 150,000, but next season's prospects are not so good." (*Washington.*)

"This can be grown successfully in the Southwest, and gourds have been matured in Maryland from which beautiful pipes were made." (*Fairchild.*)

19617. CANAVALIA OBTUSIFOLIA.

From San Ramon, Mindanao, P. I. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

"(No. 97.) Beans growing on the beach in sand wet with salt water from time to time. A creeping plant with ascending stems 18 inches to 2 feet tall; blossoms pinkish purple. Cattle eat the leaves readily. The plant binds well shifting sands close to sea water." (*Benton.*)

19618. LUFFA sp. **Gourd.**

From San Ramon, Mindanao, P. I. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

(Benton's No. 98.)

19619. ANTIGONON LEPTOPUS. **Mountain rose.**

From Poona, Bombay Presidency, India. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

"(No. 100.) Seed of a very ornamental climbing plant. Produces a profusion of beautiful delicate pink blossoms in branching racemes; commonly cultivated in parts of India; also common in Manila and other parts of the Philippines as a porch cover. Spanish name, *Cadena de Amor.*" (*Benton.*)

19620. HEDYCHIUM COCCINEUM (?).

From Lumding, Assam, India. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

"(No. 101.) Seed of a herbaceous plant, 12 to 15 feet tall, found growing on the edge of a marsh. Leaves alternate, about 15 inches long, lanceolate-linear, pointed; blossoms in terminal racemes, each blossom resembling a small pink lily; quite ornamental; seed pods size of hazelnut, black when ripe; seeds numerous, small, black." (*Benton.*)

19621. OPUNTIA sp. **Tuna.**

From Alonzo, Mexico. Received through Dr. David Griffiths, January 7, 1907.

Seedling plants grown from seed collected by Dr. Griffiths June 10, 1904 (Nos. 6529 and 6530), at Alonzo, Mexico, and propagated in the Department greenhouse.

19622. PHYLLOSTACHYS MITIS. **Bamboo.**

From Nagasaki, Japan. Received through Mr. John H. Tull, special agent, January, 1907.

"Young plants of the *Moso* variety, which is the largest variety growing near Nagasaki. These plants were purchased from a farmer, Mr. Gaichiro Komori, 1313 Tagami village, and I know them to be genuine, as I saw them dug, and the roots were connected with the large plants. The true largest form is hard to dig, and unless some one is there when they are dug smaller forms will be substituted, for all look alike when young. Tagami village is only a few miles out and very fine bamboos grow there. One or two thousand more plants, grown one year in nursery rows, can be arranged for at 40 sen (20 cents) each, if desired." (*Tull.*)

19630 to 19691. MALUS spp.

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received January 7, 1907.

A collection of cuttings secured from trees growing in the Arnold Arboretum for cooperative work with the Mississippi Valley Apple Breeders' Association.

The notes are those of Professor Sargent.

19630 to 19691—Continued.

19630. M. SARGENTI.

"*M. sargenti* was discovered by me in a salt marsh near Mororan, Japan, in 1892. It is a rather small shrub, but very ornamental in flower."

19631. M. SYLVESTRIS.

"*M. sylvestris* is sometimes called *M. acerba*, and by the older botanists was considered a form, at least, of the common apple."

19632. M. CRATAEGIFOLIA.

"*M. crataegifolia*, sometimes called Cornus, is a rare Italian tree."

19633. M. SPECTABILIS var. (1615).

"*M. spectabilis* var. is the double-flowered form of *M. spectabilis*, unknown in cultivation and supposed to be a native of China."

19634. M. ZUMI.

"*M. zumi* is a native of the mountains of Japan, where I found it in 1892 and introduced it into cultivation."

19635. M. BACCATA (?).

"*M. baccata* is the small-fruited crab of eastern Siberia."

19636. M. ATROSANGUINEA.

"*M. atrosanguinea* is probably a hybrid between *M. toringo* and *M. floribunda*."

19637. M. BACCATA × MALUS (3549).

19638. M. PRUNIFOLIA FRUTICO COCCINEA.

19639. M. DENTICULATA (4627–1).

19640. M. CASHMERICA (8833/1).

"*M. cashmerica* is a Himalayan species. It is growing well here and is interesting as one of the few Himalayan trees that flourish in this climate."

19641. M. CORONARIA.

"*M. coronaria* is our common species of the Eastern States."

19642. M. BACCATA SANGUINEA.

19643. M. SIBIRICA FRUTICO COCCINEA.

19644. M. MICROCARPA.

19645. M. MALUS, extra fruiting var.

19646. M. SCHEIDECKERI.

"*M. scheideckeri* is a very fine seminal form of the double *M. spectabilis*."

19647. M. SIBIRICA (?).

"Progress, Ottawa. Probably a baccata."

19648. M. BACCATA PRUNIFOLIA (2553).

19649. M. RIVULARIS var.

"*M. rivularis* var. is a very interesting plant, indeed, raised here from seed many years ago collected in Oregon. It is quite distinct from *M. rivularis* and gives some evidence of being a hybrid. It has not yet been described or named."

19650. M. PRUNIFOLIA.

Extra-red fruit. "*M. prunifolia* is a Siberian species."

19630 to 19691—Continued.

19651. M. ARNOLDIANA.

"*M. arnoldiana* is a seedling of *M. floribunda* that originated in the Arboretum and shows the influence of the blood of *M. prunifolia* by its larger flowers."

19652. M. TORINGO.

(Mountains, Peking; 1708.) "*M. toringo* is the common north China species, with both red and yellow fruits. Your No. 19664 is a dwarf form of this raised at the Arboretum from Chinese seeds."

19653. M. BACCATA OBLONGA (1785).

19654. M. TORINGO.

Yellow fruit (3703 F).

19655. M. PRUNIFOLIA XANTHOCARPA.

19656. M. FLORIBUNDA.

"*M. floribunda* is probably a Chinese plant, although it was introduced into Europe and the United States from Japan. It does not appear to be known in a wild state."

19657. M. SPECTABILIS var. (459–1).

19658. M. RINGO (4644).

"*M. ringo* is probably Japanese."

19659. M. SPECTABILIS.

19660. M. BACCATA var.

19661. M. BACCATA × FLORIBUNDA.

19662. M. RINGO.

19663. M. BACCATA AURANTIACO.

19664. M. TORINGO.

Dwarf variety; mountains near Peking.

19665. M. SOULARDI.

"*M. soulardi* is the well-known species, or hybrid, as some authors believe, of the Central West."

19666. M. BACCATA.

Var. Hillend; bright red fruits.

19667. M. MALUS.

Bright red fruit.

19668. M. RIVULARIS.

"*M. rivularis* is the common wild crab of the Northwest."

19669. M. MALUS (444–1).

19670. M. ASTRACANICA.

19671. M. MALUS. (441–2).

19672. M. PRUNIFOLIA RUBIA CERASIFORMIS.

19673. MALUS (?) var.

Rones crab (Ottawa).

19674. M. IOENSIS.

"*M. iocnsis* is the common crab of the Central West."

19675. M. PRUNIFOLIA FLAVA.

19630 to 19691—Continued.

19676. M. ANGUSTIFOLIA.

"*M. angustifolia* is the crab apple of the Southern States, getting north into Missouri and Pennsylvania."

19677. M. BACCATA MAXIMA.

19678. M. MALUS × BACCATA.

19679. M. MALUS fl. pl.

19680. M. MALUS FASTIGIATA BIFERS (538–2).

19681. M. HALLIANA.

"*M. halliana*, of which *M. parkmani* is a synonym, is also Chinese, although it was probably first introduced from Japan. It is unknown in a wild state."

19682. M. BACCATA var.

19683. M. NIEDWETZSKYANA.

"*M. niedwetzskyana* is a Turkestan tree and probably a form of the common apple."

19684. M. SPECTABILIS var. (766–1).

19685. M. BACCATA × TORINGO.

19686. M. RINGO INCISA (3636–1).

19687. M. KAIDO.

19688. M. MALUS PENDULA.

"*M. pendula* is the weeping form of the common apple."

19689. M. RINGO SUBLOBATA (4645).

19690. M. PRUNIFOLIA MACROCARPA.

19691. MALUS sp. (5004 No. 5).

19692. ARALIA CORDATA. Udo.

From Japan. Received from Furuya & Co., Seattle, Wash., January 10, 1907.

Moyashi. Plants of an especially vigorous strain.

19693 and 19694. SOLANUM COMMERSONI. Aquatic potato.

From Burlington, Vt. Received through Prof. Wm. Stuart, of the Agricultural Experiment Station, January 7, 1907.

19693.

"Field-grown tubers from stock of Rev. J. E. Lawrence, Middleboro, Mass., whose original stock came from Dr. Haeckel." (*Stuart.*)

19694.

"Greenhouse-grown tubers from stock secured direct from Dr. Haeckel in 1904." (*Stuart.*)

19695 and 19696. ANDROPOGON SORGHUM.

From Bloemfontein, Orange River Colony, South Africa. Presented by Mr. M. Stewart Galbraith, government agronomist, through Prof. C. V. Piper. Received January 14, 1907.

19695. Kafir corn.

"Common *Boer* Kafir corn; a white variety quite productive under our local conditions; being somewhat late, it is very drought resisting." (*Galbraith.*)

19695 and 19696—Continued.

19696. **Sweet sorghum.**

"*Sorghum saccharatum* supposed to have been brought to this country by the exile Boers who had been transported to Ceylon during the South African war. Unfortunately I can not speak definitely on this variety, as it has not had time to develop; however, the farmer from whom I obtained the seed speaks very highly of it as a bird-proof Kafir corn; that is to say, that this variety when grown beside the common *Boer* Kafir corn was immune to the ravages of birds, while the local variety was almost destroyed." (*Galbraith.*)

19714. PENNISETUM CENCHROIDES

From Ootacamund, India. Presented by Mr. R. L. Proudlock, curator, Government Botanic Gardens. Received January 8, 1907.

"Tamil name *Kolei-Kattei.* This grass is largely cultivated in the Conicbatore district for the purpose of pasturing cattle on. It is considered to be a valuable fodder and stands drought well." (*Proudlock.*)

19715. XANTHOSOMA SAGITTIFOLIUM. **Yautia.**

From Ancon, Canal Zone. Received through Mr. Henry F. Schultz, January 22, 1907.

19716. VANILLA sp. **Vanilla.**

From Las Animas, Mexico. Received from Don Ernesto Guterrez, through Mr. G. N. Collins, January 21, 1907.

"Cutting of a variety said to yield very good vanilla." (*Collins.*)

19717. OLIVERANTHUS ELEGANS.

From Central Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, January 21, 1907.

Discovered in Mexico in 1901 by Doctor Rose and first described by him in the North American Flora, vol. 22, pt. 27, 1905. "The plant is a succulent, 1½ to 2 feet in height, with large, bright red flowers produced singly or in pairs at the end of the slender branches. It is easily grown and starts readily from cuttings and when planted in mass when in flower it makes a brilliant and striking display." (*Rose.*)

19718. PASSIFLORA EDULIS. **Passion fruit.**

From Australia. Presented by Mr. H. W. Heath, of Chico, Cal.

Plants grown at the Plant Introduction Garden, at Chico, from seed secured by Mr. Heath in Australia. Mr Heath says it is the prevailing edible Passiflora of Australia.

19719. CALOPHYLLUM INOPHYLLUM.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, January 21, 1907.

"*Palo Maria.* A large and exceedingly ornamental tree; flowers fragrant and very showy. The seeds bear 70 to 72 per cent of a heavy, resinous, freely saponifying oil." (*Lyon.*)

19720. CANAVALIA ENSIFORMIS. **Knife bean.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, January 21, 1907.

"*Camcampilan.* A very prolific, climbing bean. The large pods are boiled and eaten when very young and tender." (*Lyon.*)

19721. PYRUS POLLVERIA.

From Christiania, Norway. Presented by Dr. N. Wille, director, Botanic Gardens, through Mr. David Fairchild. Received January 25, 1907.

Cuttings secured for hybridizing experiments.

(See S. P. I. No. 21547 for description.)

19729. NYMPHAEA AMPLA.

From Rio Piedras, P. R. Presented by Mr. F. M. Pennock, of the University of Porto Rico, through Mr. O. W. Barrett. Received January 29, 1907.

19733 and 19734. MALUS spp.

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received January 24, 1907.

Seeds, as follows:

19733. MALUS SARGENTI. **19734.** MALUS TORINGO.

Secured for distribution in cooperative hybridizing experiments.

19735 and 19736.

From Kobe, Japan. Received through Mr. John H. Tull, December 15, 1906.

19735. BRASSICA CHINENSIS. **Rape.**

"(No. 13.) The seed cake is used extensively in Japan and China as a fertilizer for matting grass." (*Tull.*)

19736. JUNCUS EFFUSUS. **Rush.**

"(No. 14.) Old seeds presented by Dr. A. G. Boyer, of Kobe. This is some of the lot he sent several years ago." (*Tull.*) (See S. P. I. No. 9873.)

19737 to 19775. ANDROPOGON SORGHUM.

From Cedra, Natal. Presented by the Director of Experiment Stations, through Prof. C. V. Piper. Received January 22, 1907.

A collection of sorghums grown at the Central Experiment Farm or thereabouts. Native names received with seeds, which were described on arrival by Mr. C. R. Ball.

19737.

Variety No. 1, Black-hulled white kafir; hulls very dark; head rather long and slender, like Red kafir.

19738.

Same as preceding, with a large percentage of the hulls very light in color.

19739.

Unomputshana. Black-hulled white kafir type, with dark to red colored hulls; slightly longer than the average kafir hulls.

19740.

Utuyana climhlopo. Black-hulled kafir type with head rather longer than the average; hulls reddish to white in color, slightly longer than the average kafir hulls; head 11 inches long.

19741.

Same as the preceding, except that the hulls are lighter and the head more slender; length 10 inches.

19737 to 19775—Continued.

19742.

Variety No. 3, apparently a red × black-hulled kafir cross; head about 13 inches long; grains tinged with red.

19743.

Same as No. 19742, but with grains somewhat redder in color; hulls less dark; length 11 inches.

19744.

Bhampi. Apparently red × black-hulled kafir; seeds rather large, tinged with red; hulls light to dark; head rather club shaped; length 11 inches.

19745.

Variety No. 4; similar to No. 19744, except that the seeds are slightly less red; hulls perhaps a little shorter; length about 11 inches.

19746.

Usutuazana. Black-hulled kafir type; the character of the hulls and seeds indicates a probable cross with orange on red or white kafir; length about 11 inches.

19747.

Gabane. Resembles a cross of orange with either red or black hulled kafir; seeds tinged with red, with red to dark colored hulls; length 11 inches.

19748.

Same as No. 19747, but with more of a kafir-like appearance; seeds rather large, partially inclosed by hulls longer than kafir hulls; head 11 inches long.

19749.

Jara. A good type of red kafir; seeds rather large; length about 13 inches.

19750.

Unkloblonde (long headed). Red kafir type, with light colored hulls; seeds rather large; length 10 inches.

19751.

Same as No. 19750, but with rather large, dark hulls; length 10 inches.

19752.

Ugabana. Red kafir type, with rather large red-colored seeds, partially inclosed with very dark red colored hulls; length about 10 inches.

19753.

Same as No. 19752, but with lighter colored seeds inclosed by dark, shiny hulls; head somewhat club shaped; length about 10 inches.

19754.

Gabana. Red kafir type, with red hulls ranging to light color; seeds reddish; head very slender; length 9 inches.

19755.

Mbedhlana. Red kafir type, with large, dark red colored seeds, partially inclosed by large, dark, shiny hulls; head slender; length 9 inches.

19737 to 19775—Continued.

19756.

Same as No. 19755, differing only in that the hulls are from dark red to reddish in color; head long and very slender; length 9 inches.

19757.

Mbedhlana (white). Similar to No. 19755, but with white-colored seeds; dark to reddish hulls; length 9 inches.

19758.

Uhlangazana. Red kaffir type, with reddish colored seeds, partially inclosed by rather larger, reddish to dark colored hulls; head 10 inches long and very slender.

19759.

Same as No. 19758, but with dark, shiny hulls; head somewhat shorter and broader; length 9 inches.

19760.

Uhlangazana (white). Similar to No. 19758, but with lighter colored seeds, partially inclosed by reddish to brown colored hulls; length of head 10 inches.

19761.

Same as No. 19760, but with much darker colored hulls; head slightly shorter and broader; length 9 inches.

19762.

Umchlocnkuku (fowl's eye). White kafir type of head, with large seeds tinged with red and partially inclosed by large, dark, shiny hulls; length 9 inches.

19763.

Hlakuva (so called because thought to look like castor-oil seeds). A very small headed, short variety. Smoky brown colored seeds, with dark colored, shiny hulls; head rather small, slender; length 8 inches.

19764.

Variety No. 2; white durra, India type, with very white seeds and light straw colored hulls; head rather broad; length 8 inches.

19765.

Variety No. 5; a loose, open-headed type, very heavily seeded; seeds light colored, slightly tinged with red; hulls light straw colored; head about 10 inches long.

19766.

Unukana. A large, open-headed type, with medium small, reddish seeds, inclosed partially by rather large, dark straw colored hulls; seems related to some of the red types of Indias; head about 12 inches long.

19767.

Itiva. A Collier type of head, with Collier seeds; long, light to darker colored hulls, showing not a trace of white margin; head lightly seeded.

19768.

Undendebula. Similar to No. 19767, but more heavily seeded and showing a trace of margin on the dark colored hulls.

19769.

Igenga Igenga ntombi. A Collier type, but with lighter colored seeds, two-thirds inclosed by black, shiny hulls; head rather heavily seeded.

19737 to 19775—Continued.

19770.

Itshobalchansi (goose-tail). A very long branched, drooping type of head, with light colored seeds nearly inclosed by dark to light colored hulls; head fairly well seeded.

19771.

Umgungobotire. Long-branched, drooping head; a Collier type, with Collier seeds; head lightly seeded.

19772.

Uoigabela. A close type of head, with small, brown-colored seeds, nearly inclosed by dark colored hulls; rachis extending through the head; length 8 inches.

19773.

Ibodhla. A rather close amber type of head, with small, light colored seeds and dark hulls; head fairly well seeded.

19774.

Ihlosa (the higher). Minnesota amber type with long-pointed, smooth, black glumes; head fairly well seeded; length about 9 inches.

19775.

Umnyamana (dark). A small, semicompact head with seeds no larger than sumac seeds and nearly inclosed by dark, shiny hulls; rachis extending through the head; head well filled; length 9 inches.

19776. ALLIUM FISTULOSUM.

From Waseda, Tokyo, Japan. Presented by J. Ikeda & Co., February 19, 1906.

Shimonita. "This is quite a distinct vegetable, intermediate in character between the leek and onion. On first sight the stem would unhesitatingly be pronounced Musselburgh leek, and it could be sold as such, but it is readily distinguished by its round hollow leaf. The central leaf forms a very peculiarly pointed cylinder, which is solid and of good flavor, but rather peppery." (*Tracy.*)

19778. XANTHOSOMA sp. Yautia.

From Tuxtla Gutierrez, Chiapas, Mexico. Presented by Don Pompilio Moguel, through Mr. G. N. Collins. Received January 31, 1907.

"Roots of a variety locally known as *Tekixcamote*." (*Collins.*)

19779 to 19784. HORDEUM spp. Barley.

From Svalöf, Sweden. Received through the General Swedish Seed Company February 1, 1907.

A collection of pedigreed brewing barleys, as follows:

19779. HORDEUM DISTICHUM ERECTUM.

Primus.

19780. HORDEUM DISTICHUM NUTANS.

Princess.

19781. HORDEUM DISTICHUM NUTANS.

Chevalier II.

19782. HORDEUM DISTICHUM ERECTUM.

Svanhals.

19779 to 19784—Continued.

19783. HORDEUM VULGARE.

Gutekorn.

19784. HORDEUM VULGARE.

Sexradigt.

19789. VANGUERIA INFAUSTA. Wild medlar.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, botanist, Transvaal Department of Agriculture. Received February 4, 1907.

"Seed of an edible fruit with flavor of a medlar. Grows mostly in frostless parts of the Transvaal on stony hillsides." (*Davy.*)

19790 to 19792. KENNEDYA spp.

From Sydney, New South Wales. Presented by Hon. Walter S. Campbell, director, Department of Agriculture. Received January 19, 1907.

19790. KENNEDYA MONOPHYLLA.

19791. KENNEDYA PROSTRATA.

19792. KENNEDYA RUBICUNDA.

19795 and 19796.

From Reykjavik, Iceland. Presented by Prof. Thorhallur Bjarnarson, president, Icelandic Agricultural Society. Received February 2, 1907.

Seeds for introduction into Alaska.

19795. BRASSICA RAPA. Turnip.

"The turnip is cultivated in Iceland a good deal for human food, and it is about the only plant which produces seed there. This seed, originally from Norway, is of a good sort and has been cultivated for about twenty years in Iceland." (*Bjarnarson.*)

19796. FESTUCA RUBRA. Red fescue.

19797. XANTHOSOMA sp. Yautia.

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz February 9, 1907.

Mr. Schultz calls this species *X. atrovirens.*

19798. MUSA SAPIENTUM. Banana.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, February 11, 1907.

Bungulan.

19799. CHAETOCHLOA SULCATA.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, botanist, Transvaal department of agriculture. Received February 6, 1907.

"A most useful pasture and hay grass for partially shaded woodland. It is sensitive to frost. It is variously called *Natal Buffel* and *Bush Buffel* grass. It is also an ornamental grass worth cultivating in gardens in forestless regions." (*Davy.*)

19800. TRIFOLIUM REPENS. **White clover.**

From Milan, Italy. Received from Mr. Fratelli Ingegnoli, through Mr. Edgar Brown, February 7, 1907.

Lodino.

19806. OROXYLON INDICUM.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, February 11, 1907.

"Seed of a medium to large tree, the timber of which is in special demand for the manufacture of matches." (*Lyon.*)

19807. DIOSCOREA SATIVA. **Yam.**

From Mayaguez, Porto Rico. Received through the Porto Rico Agricultural Experiment Station, February 12, 1907.

"*Guinca.* The cylindrical shape, the medium thick skin, the tendency to produce only one or two large roots to the hill, and its resistance to drought render the variety the favorite among the natives of Porto Rico." (*Barrett.*)

19810 to 19821. IPOMOEA BATATAS. **Sweet potato.**

From Santiago de las Vegas, Cuba. Presented by Prof. C. F. Austin, chief, Department of Horticulture, Estacion Central Agronomica, through Mr. O. W. Barrett. Received February 15, 1907.

A collection of Cuban varieties collected by the Estacion Central Agronomica. The numbers in parentheses are those under which they were received.

19810.
Barbacoa. (No. 6076.)

19811.
Morado. (No. 6079.)

19812.
Yema de huevo. (No. 6082.)

19813.
No. 10. (No. 6085.)

19814.
Mulato. (No. 6077.)

19815.
Cinco dedos. (No. 6080.)

19816.
Papa. (No. 6083.)

19817.
Cuban. (No. 5221.)

19818.
Matojo. (No. 6078.)

19819.
No. 6. (No. 6081.)

19820.
No. 9. (No. 6084.)

19821.
Mono Negro. (No. 5369.)

19822 and 19823.

From Marsovan, Turkey. Presented by Mr. H. Caramanian, Monastery Farm, through Prof. C. V. Piper. Received February 18, 1907.

19822. MEDICAGO SATIVA. **Alfalfa.**

19823. VICIA SATIVA. **Common vetch.**

19824 to 19827.

From Sapporo, Japan. Presented by Prof. K. Oshima, director, Hokkaido Agricultural Experiment Station. Received February 18, 1907.

19824. LOTUS CORNICULATUS JAPONICUS. **Yellow trefoil.**

19825. POLYGONUM SACHALINENSE.

19826. BRACHYPODIUM JAPONICUM. **Japanese wheat-grass.**

19827. MISCANTHUS SINENSIS. **Eulalia.**

19836 to 19841. IPOMOEA BATATAS. Sweet potato.

From Sibpur, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Gardens. Received February 20, 1907.

19836.

Japan Brown Selected.

19837.

Dhamakia White.

19838.

Thegania Red Selected.

19839.

Poona Local.

19840.

Thegania White Selected.

19841.

Cawnpore White Selected.

19842 and 19843.

From Parras, Coahuila, Mexico. Received through Mr. W. E. Safford, February 20, 1907.

19842. AMYGDALUS PERSICA. Peach.

"Fruit of fine quality, yellow, freestone; drought resisting; from altitude of 5,000 feet above sea level. Comes true to seed." (*Safford.*)

Trees.

19843. CYDONIA VULGARIS. Quince.

"Fruit of fine quality; drought resisting; from altitude of 5,000 feet above sea level." (*Safford.*)

Trees.

19853 to 19857.

From Funchal, Madeira. Received through Mr. David Fairchild, February 23, 1907.

A collection of cuttings, as follows:

19853. ANONA CHERIMOLIA. Cherimoyer.

"(No. 01, Jan. 31, 1907.) This fruit tree thrives in all the quintas of Funchal, and there are probably different varieties of it, though no distinctive names are given to the various sorts. Two forms were pointed out to me by the gardener of Mr. Reid's quinta, a long-fruited form and a heart-shaped one. These scions are from the long-fruited form. The fruits vary greatly in size, but the one I saw of this sort was 5 inches long. Seeds vary in number.

"There is a great variation in the character of the prominence of the stigmatic protuberances, or 'spines.' This variety has few such and is comparatively smooth. The natives say the 'spiny' forms have many seeds, the spineless have few. No seedless form has been encountered. This sort is considered of good flavor, but not equal to the heart-shaped form." (*Fairchild.*)

19854. ANONA CHERIMOLIA. Cherimoyer.

"(No. 02.) Scions of the heart-shaped form of cherimoyer from Mr. Reid's quinta. The fruit of this (i. e., the single good one I saw) is about 4½ inches wide and 4½ inches from stem to tip. Mr. Reid's gardener declares this has a superior flavor to the long form and has fewer seeds. Mr. Blandy believes that abundant use of manure about the trees makes them produce fruit with few seeds." (*Fairchild.*)

19855. ANONA CHERIMOLIA. Cherimoyer.

"(No. 04, Feb. 2, 1907.) Scions from trees in the quinta of Mr. J. B. Blandy. A variety which Mr. Blandy assures me is of unusually good quality, with few seeds compared with the ordinary fruit of the island. Mr. Blandy grows his trees on a high trellis, so that the fruits hang in the shade. They are all grafted on seedlings about 3 feet above the ground." (*Fairchild.*)

19853 to 19857—Continued.

19856. SALIX VIMINALIS. **Osier willow.**

"(No. 03, Feb. 2, 1903.) One of the principal plant industries of Madeira is the manufacture of baskets and chairs from the native willow, or osier. This willow is grown in the mountains and pollarded to make it produce long, branchless shoots. There seem to be no large areas covered with the trees, but many small areas all over the mountain sides. The baskets, chairs, etc., made from it are remarkable for their lightness and durability." (*Fairchild.*)

19857. SALIX BABYLONICA. **Weeping willow.**

"(No. 05, Feb. 2, 1907.) The parent of this willow came as a cutting from a tree growing in St. Helena over the grave of Napoleon I. This is the second generation, and is growing in quinta St. Luzia, belonging to J. B. Blandy, esq." (*Fairchild.*)

19858. BLIGHIA SAPIDA. **Akee.**

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz, February 25, 1907.

19862. SECHIUM EDULE. **Chayote.**

From Parras, Coahuila, Mexico. Received through Mr. W. E. Safford, of the Bureau of Plant Industry, February 21, 1907.

"Fruits of a chayote, said to be of fine quality; drought resisting; from altitude of 5,000 feet above sea level, where there are occasional frosts." (*Safford.*)

19863. PISUM ARVENSE. **Field pea.**

From Guelph, Ontario, Canada. Received through the Ontario Agricultural College, February 23, 1907.

Early Britain.

19885 to 19895.

From Osaka, Japan. Presented by Prof. K. Okada, director of Kinai Branch Station, Kashiwara Kawachi. Received February 12, 1907.

19885 to 19887. GOSSYPIUM sp. **Cotton.**

19885.

Akaki. A red-stalked variety.

19886.

Aoki. A green-stalked variety.

19887.

Chia wata.

19888 to 19891. ORYZA SATIVA. **Rice.**

19888.

Bungo.

19889.

Shin Shiu Kaneko.

19890.

Shijunichi Washe.

19891.

Yamata Jikara.

"These rices are all early-maturing varieties." (*Okada.*)

19892 to 19895. HORDEUM VULGARE. **Barley.**

A collection of naked barleys.

19892.

Kamamugi.

19893.

Tanbashiro.

19894.

Wakamatsu.

19895.

Yone Hadaka.

19897 to 19905.

From Funchal, Madeira. Received through Mr. David Fairchild, March 4, 1907.

19897. DOMBEYA SPECTABILIS (?).

"(No. 014, Feb. 16, 1907.) Cuttings of a most beautiful ornamental tree with pendent flower clusters of pink flowers. These clusters are as large as those of a Viburnum and more delicate. The large-leaved, rapidly growing tree is an ornamental of value aside from its flowers. Known in Portugal as a stove plant, but here is grown in the quintas everywhere. Propagates easily from cuttings." (*Fairchild.*)

19898. ANONA CHERIMOLIA (?). **Cherimoyer.**

"(No. 015, Feb. 15, 1907.) Grafting wood of a tree in the quinta of Mr. C. L. Power, of Funchal. I am assured by him that it bears fruit of excellent quality, heart shaped in form, and with comparatively few seeds. It is not known by any varietal name, though it is a grafted tree. Presented by Mr. Power, who will send more if wanted." (*Fairchild.*)

19900. PHYSALIS PERUVIANA. **Cape gooseberry.**

"(No. 016, Feb. 17, 1907.) Fruit grown in the mountains of this island for the production of jam. This jam is one of the most delicious things of the kind I have ever tasted. It is made by boiling 1 pound of sugar to 1 pound of berries, first boiling sugar in 1 cup of water until quite dissolved. Boil for one hour, stirring all the time." (*Fairchild.*)

19901. ANONA CHERIMOLIA (?). **Cherimoyer.**

"(No. 07, Feb. 12, 1907.) Seed from good fruit served on the hotel table here. For the breeders of Anona. The fruits here are extremely variable. Many are grafted, but there are no recognized varieties." (*Fairchild.*)

19902. JUNCUS sp. **Rush.**

"(No. 08, Feb. 12, 1907.) From the village of Llogar do Baishe (Ponto do Sol). Specimen and seeds of a species of Juncus said to have been used in the manufacture of rush mattings. The stems are not over 27 inches long and the plant, I judge, grows to a good old age. Along margins of wet places near seashore probably saline. Now in bloom. For more information write to Mr. A. G. Jardine, of Funchal." (*Fairchild.*)

19903. CAPSICUM ANNUUM. **Red pepper.**

"(No. 012.) Two interesting red peppers from the market of Funchal. I can not find that any red pepper is made from them but they are eaten cooked." (*Fairchild.*)

19904. ANONA CHERIMOLIA. **Cherimoyer.**

"Seed of an anona from Mr. Reid's villa. Long variety; acid flavor." (*Fairchild.*)

(No number assigned by Mr. Fairchild, but no doubt these seeds came from a fruit from same stock as S. P. I. No. 19853.)

19905. ANONA CHERIMOLIA. **Cherimoyer.**

"Heart-shaped form; very sweet; from Mr. Reid's quinta, Funchal." (*Fairchild.*) Seed.

(Probably from the same tree as cuttings S. P. I. No. 19854.)

19909. CITRUS LIMONUM. Lemon.

From San Juan, Porto Rico. Presented by Mr. A. B. Mitchell, through Mr. O. W. Barrett. Received March 4, 1907.

Rough. Seed.

19910. PASPALUM DILATATUM. **Large water-grass.**

From Coff's Harbor, New South Wales. Received through Mr. W. Seccombe, March 4, 1907.

19911. TRIFOLIUM PRATENSE. **Red clover.**

From Kuhlewyl, Switzerland. Received through Mr. H. R. Pulfer, March 2, 1907.

Perennial.

19912. SESBANIA MACROCARPA.

From Yuma, Ariz. Received through Mr. E. L. Crane, March 2, 1907.

"This plant grows to a height of 15 feet or more and covers hundreds, perhaps thousands, of acres of the rich alluvial soil along the banks of the Colorado River, south of Yuma. It is perhaps one of the largest annual leguminous plants in America and is remarkable as covering completely such large areas of land. The roots are loaded with nodules and it is probable that this plant has for hundreds of years added materially to the fertility of the delta region of the Colorado River. The attention of Prof. R. H. Forbes, of the Arizona Agricultural Experiment Station, at Tucson, Ariz., and the attention of the writer were attracted at about the same time to the possibility of this plant being a valuable species for increasing the nitrogen content of soils in the Southwest. Seeds were collected for the purpose of making this test, and the preliminary trials have shown it to have considerable value for this purpose. It should be sown in late spring, as it requires a great deal of warmth for germination." (*Fairchild.*) (See Bulletin 1903, Arizona Agricultural Experiment Station.)

19924 to 19931.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, botanist, Transvaal Department of Agriculture. Received March 4, 1907.

Descriptive notes furnished by Obe resident magistrate, Potgietersrust, Obe neighborhood, from which Obe samples were obtained. Numbers in parentheses are those assigned by Professor Davy.

19924 to 19930. ANDROPOGON SORGHUM. **Kafir corn.**

19924.

Phikhulo. A good, strong variety; prolific. (No. 3016/06–7.)

19925.

Mothlokathlong, meaning "without shame"; so called on account of its rapid growth. Requires lots of room between plants. (No. 3017/06–7.)

19926.

Mogathla ou Kubu. Not a favorite. (No. 3020/06–7.)

19927.

Segope. Long, thin stalks; requires protection from wind. (No. 3018/06–7.)

19928.

Phalo. Makes excellent meal and beer; long stalks, and requires to be protected from wind. (No. 3013/06–7.)

19929.

Mosadi Teighufa, meaning "jealous woman." Vigorous and prolific; a great favorite with the natives for beer making. (No. 3014/06–7.)

19930.

Mothlerane. Strong growth and short stalks. (No. 3015/06–7.)

19924 to 19931—Continued.

19931. PENNISETUM SPICATUM. **Pearl millet.**

A kind of hemp not unlike the head of a bulrush when in bearing; very rapid growth and good drought resister. Used by the Maxalanga a great deal.

19942 to 19950. IPOMOEA BATATAS. Sweet potato.

From Port of Spain, Trinidad, British West Indies. Presented by Dr. E. André, through Mr. O. W. Barrett. Received March 7, 1907.

Sweet potatoes from Barbados, with notes by Doctor André.

19942.

White Nut. A very dry potato; takes five months to mature.

19943.

Bourbon. Very mellow; will keep in land nine months.

19944.

White Scaly. An early potato; bears well.

19945.

Huffs. A good potato; keeps well and is an excellent shipping variety.

19946.

Minnie Wits. An early potato; bears well.

19947.

Stafford. A nice edible potato; red skin.

19948.

Hen and Chickens. A very prolific variety.

19949.

Fire Brass (red). A very prolific variety; does not cook well.

19950.

Caroline Sea.

19952 and 19953. COLOCASIA spp. Taro.

From Hilo, Hawaii. Presented by Mr. L. C. Lyman, principal, Hilo Boarding School, March 7, 1907.

19952. *Lehua.*

19953. *Kuoho.*

"Two of the best varieties of upland taro, named by the natives as above. The first named, the royal taro of the old Hawaiian kings, is of a pink color when cooked, and matures in about eight months.

"The other variety is most commonly raised; is white when cooked, and requires about a year to mature." (*Lyman.*)

19954 to 19956.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received October 26, 1906.

19954. PIPTADENIA COMMUNIS.

19955. CINCHONA CARABAYENSIS.

19956. TECOMA CHRYSANTHA. *Ipe Amarello.*

19957. ROSA HUGONIS.

From Paris, France. Received from Vilmorin-Andrieux & Co., March 11, 1907.

Cuttings.

19958. CHLORIS GAYANA. **Rhodes-grass.**

From Auckland, New Zealand. Received through E. C. Pilkington & Co., March 12, 1907.

19959. CHLORIS GAYANA. **Rhodes-grass.**

From Sydney, New South Wales. Received through Anderson & Co., March 12, 1907.

19960 to 19967.

From Aburi, Gold Coast. Presented by Prof. A. E. Evans, Acting Director of Agriculture, through Mr. O. W. Barrett. Received March 16, 1907.

19960. EUPHORBIA sp.

19961. KIGELIA AFRICANA.

19962. GARCINIA HANBURYI.

19963. CARDIOSPERMUM BARBICAULE.

19964. SIDEROXYLON DULCIFICUM.

19965. MONODORA MYRISTICA.

19966. TELFAIRIA OCCIDENTALIS.

19967. BUTYROSPERMUM PARKII.

19970. TRIFOLIUM PRATENSE. **Red clover.**

From Chile. Presented by the Courteen Seed Company, Milwaukee, Wis., through Prof. C. V. Piper. Received March 2, 1907.

Chilean.

19972 to 19977. MEDICAGO SATIVA. **Alfalfa.**

From Rocky Ford, Colo. Received through Mr. P. K. Blinn, March 15, 1907.

Seed from individual plants selected by Mr. Blinn.

19972.

Turkestan. Yield, 66 grams. Fine stems; thick leaf system, but seeds ripened very irregularly; lot of green heads. (No. 1.)

19973.

Turkestan. Yield, 40 grams. Very uniform in ripening seed; no after-growth. (No. 9.)

19974.

Turkestan. Yield, 30 grams. No rust; seed uniformly ripe. (No. 11.)

19975.

Turkestan. Yield, 54 grams. Large heads; uniform set of seed; fairly uniform in ripening. (No. 12.)

19976.

Turkestan. Yield, 55 grams. Stems fine; leaves well retained; no rust; seed ripened up well, while stem and leaves remained green. (No. 16.)

19977.

Native. Plant found on railroad right of way under perfect "dry-farming conditions"; no irrigation within 75 to 100 feet; soil water at level 16 feet deep; sand-clay loam; yield of this plant, 49 grams; other plants near it failed entirely to seed; this plant had a fine large flower and head of rather light blue color.

19978. PSIDIUM sp. **Guayabilla.**

From Colombia. Presented by Mr. Alfonso Delgada, Colombian consul, New Orleans, La., through Mr. O. W. Barrett. Received March 14, 1907.

"Seed of a guayabilla said to be native to the mountains of central Colombia and to resemble guava in many points." (*Delgada.*)

19979. MUCUNA LYONI.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, February 13, 1907.

"This species was grown in a number of places in the South in comparison with the ordinary velvet bean, and our belief, based on one season's work, is that lyoni is a distinct advance over utilis. It is especially characterized by its more rapid growth and much greater prolificness, which ought to make it possible to grow seed considerably cheaper than the seed of the Florida velvet bean." (*C. V. Piper.*)

19980 to 19993.

From Yokohama, Japan. Received through L. Boehmer & Co., March 19, 1907.

19980. PHASEOLUS VULGARIS. **Bean.**

Received under the name of "*Fuiri Mame*, speckled soja bean."

19981. GLYCINE HISPIDA. **Soy bean.**

Received under the name of "*Shiro Mame*, the white soja bean."

19982. GLYCINE HISPIDA. **Soy bean.**

Received under the name of "*Kuro Mame*, the black soja bean."

19983. GLYCINE HISPIDA. **Soy bean.**

Received under the name of "*Daizu* or *O-mame*, *Dolichos soja.*"

19984. GLYCINE HISPIDA. **Soy bean.**

Received under the name of "*Wase* or *Natsu Mame*, early summer bean."

19985. GLYCINE HISPIDA. **Soy bean.**

Received under the name of "*Nagate Mame*, middle late bean."

19986. GLYCINE HISPIDA. **Soy bean.**

Received under the name of "*Okute Mame*, late bean."

19987. GLYCINE HISPIDA. **Soy bean.**

Received under the name of "*Kuro-Teppo Mame*, round, middle-late bean."

19988. PHASEOLUS ANGULARIS. **Adzuki bean.**

Received under the name of "*Oku Adzuki*, late *P. typicus.*"

19989. PHASEOLUS ANGULARIS. **Adzuki bean.**

Received under the name of "*Azuki*, *P. radiatus.*"

19990. CANAVALIA ENSIFORMIS. **Knife bean.**

Received under the name of "*Nata Mame*, white sword bean; *Dolichos incurvus.*"

19991. CANAVALIA ENSIFORMIS. **Knife bean.**

Received under the name of "*Akai Nata Mame*, red sword bean; *Dolichos incurvus.*"

19992. PUERARIA THUNBERGIANA. **Kudzu vine.**

19993. LESPEDEZA CYRTOBOTRYA.

19994 to 19995.

From Yokohama, Japan. Received through the Yokohama Nursery Company, March 14, 1907.

Plants imported for use in matting-plant experiments.

19994. CYPERUS TEGETIFORMIS. **Matting sedge.**

19995. JUNCUS EFFUSUS. **Matting rush.**

19996. COLOCASIA ANTIQUORUM ESCULENTA. Taro.

From Funchal, Madeira. Received through Mr. David Fairchild, March 19, 1907.

"(No. 017, Feb. 22, 1907.) Sets of the so-called *Ignamc* of Madeira. Probably, but not certainly, the white, or *Branca*, variety. According to one of the green grocers here, John de Pontes, Rua dos Tanoeiros 40–42, these *Ignames* sell for 3 cents to 4 cents a pound, while sweet potatoes sell for only 2 cents. Crop comes in in February and ends in April. Keep well; yield about one-third that of sweet potatoes; plantations continually watered; planting at all times of the year; side rootstocks or tubers removed and the central stock left to form a perpetual plantation. The growers in the country boil the tubers before bringing them to market. Then they are brought down from the hills in great baskets and sold in this boiled condition for 5 pence (10 cents) a pound. They are very palatable and nourishing, I believe, and rank here as more of a delicacy than the sweet potato. Only two kinds are known here so far as I have ascertained." (*Fairchild.*)

19997. COLOCASIA ANTIQUORUM ESCULENTA. Taro.

From Funchal, Madeira. Received through Mr. David Fairchild, March 19, 1907.

"(No. 018, Feb. 22, 1907.) Sets of the so-called *Vermelho*, or red variety. There seems to be little preference given to either of these sorts (this one and S. P. I. No. 19996). These are just now coming into market as a crop. They are peeled or scraped, then boiled three to four hours in salt water." (*Fairchild.*)

19998. JUNCUS sp. Rush.

From Caldas da Rainha, Portugal. Received through Mr. David Fairchild, March 19, 1907.

"(No. 018a, Feb. 28, 1907.) Roots and seeds of a very slender rush growing in very sandy soil near the waterways of this place. It is used for tying vines to their supports all over this part of Portugal and is sold in the market place. I measured some of the stems and found them 5½ feet long. They are unusually tough and slender. Mats are made from them also." (*Fairchild.*)

19999. JUNCUS sp. Rush.

From Maorga, near Alcobasso, Portugal. Received through Mr. David Fairchild, March 19, 1907.

"(No. 019, Feb. 28, 1907.) Roots of a species of Juncus similar to, if not identical with, No. 018a, S. P. I. No. 19998, but from a field of Juncus which is cut over every year. The soil is a light, sandy one, just like that on Cat Island, S. C.; in fact, turpentine pines are growing all over the land. The rush grows in swampy places which are dry during a period of the year. Cutting is done in May. Used for matting and for tying vines." (*Fairchild.*)

20001 to 20229.

From Manchuria, northern Korea, and eastern Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, February 20, 1907.

20001 to 20229—Continued.

A collection of seeds, as follows:

20001. PHASEOLUS VULGARIS. **Bean.**

From Tok-sil-tong, northern Korea. "(No. 309a, Aug. 12, 1906. A dwarf bean growing at an altitude from 2,000 to 4,000 feet above sea level. This is a very prolific variety and apparently requires far less heat than other varieties. Used boiled when either green or dry with rice, oats, barley, and millet." (*Meyer.*)

20002. PHASEOLUS VULGARIS. **Bean.**

From Tok-sil-tong, northern Korea. "(No. 315a, Aug. 12, 1906.) A very nutritious climbing bean of which the seeds are used either green or dry in boiled rice, millet, oats, or barley." (*Meyer.*)

20003. PHASEOLUS VULGARIS. **Bean.**

From Liaoyang, Manchuria. (No. 316a, June 8, 1906.)

20004. PHASEOLUS VULGARIS. **Bean.**

From Tok-sil-tong, northern Korea. "(No. 317a, Aug. 12, 1906.) A very long, climbing, string bean; used as a vegetable when fresh." (*Meyer.*)

20005. VIGNA SESQUIPEDALIS.

From Antung, Manchuria. "(No. 310a, July 12, 1906.) A climbing string bean used as a summer vegetable when green; when dry is eaten boiled with rice." (*Meyer.*)

20006. VIGNA UNGUICULATA. **Cowpea.**

From Antung, Manchuria. "(No. 311a, July 12, 1906.) A few black seeds found in No. 310a (S. P. I. No. 20005), and as such the same description applies to them." (*Meyer.*)

20007. PHASEOLUS ANGULARIS. **Adzuki bean.**

From Shi-wa-nanan, northern Korea. "(No. 308a, July 20, 1906.) A variety of small beans growing at high altitudes on very poor soils. Are used as food, being boiled with rice and millet." (*Meyer.*)

20008. PHASEOLUS ANGULARIS. **Adzuki bean.**

From near Musan, northern Korea. "(No. 312a, Sept. 1, 1906). A dwarf bean growing at high altitudes. These beans are never eaten when fresh; when dry they are boiled with rice and millet." (*Meyer.*)

20009. PHASEOLUS ANGULARIS. **Adzuki bean.**

From near Musan, northern Korea. "(No. 313a, Sept. 1, 1906.) Probably a whitish variety of No. 312a (S. P. I. No. 20008). This variety is little seen here." (*Meyer.*)

20010. PHASEOLUS ANGULARIS. **Adzuki bean.**

From Shi-wa-nanan, northern Korea. "(No. 314a, July 20, 1906.) A few seeds found in No. 308a (S. P. I. No. 20007); apparently a different variety." (*Meyer.*)

20011. GLYCINE HISPIDA. **Soy bean.**

From Ko-bau, northern Korea. "(No. 318a, Aug. 12, 1906.) A green variety of soy bean growing at high elevations. This variety is eaten as a food and is mostly grown in broad strips between buckwheat; a very late ripener. Seems to be the most northerly variety of soy bean seen yet and will do well in cool climes." (*Meyer.*)

20012. PHASEOLUS ACONITIFOLIUS.

From Musan, northern Korea. (No. 319a, Aug. 29, 1906.)

20001 to 20229—Continued.

20013. VICIA sp. **Vetch.**

From near Tok-sil-tong, northern Korea. "(No. 320a, Aug. 12, 1906.) A vetch found growing in rocky, dry soils, sometimes covering a large expanse; may be a fodder plant." (*Meyer.*)

20014. VICIA sp. **Vetch.**

From northern Korea. "(No. 321a, Sept. 6, 1906.) A broad-leaved vetch growing in hedges and making a growth of more than 10 feet. May be a fodder plant. Grow it on trellises." (*Meyer.*)

20015. VICIA sp. **Vetch.**

From the mountains of northern Korea. "(No. 322a, Aug. 21, 1906.) A vetch with many flowers of a purplish blue color found growing along ditches. Attains a height of from 4 to 5 feet. May be a fodder plant." (*Meyer.*)

20016. VICIA sp. **Vetch.**

From the mountains of northern Korea. "(No. 323a, Aug. 20, 1906.) A vetch found growing between shrubbery on peaty soil; makes big masses of foliage. May be a fodder plant." (*Meyer.*)

20017. VICIA sp. **Vetch.**

From northern Korea. "(No. 324a, Sept. 6, 1906.) A narrow-leaved vetch growing 8 to 10 feet tall; found in hedges. May be a fodder plant. Grow it on trellises." (*Meyer.*)

20018. VICIA sp. **Vetch.**

From northern Korea. "(No. 325a, Aug. 27, 1906.) A variety having few flowers, but many stems. May be a fodder plant." (*Meyer.*)

20019. VICIA sp. **Vetch.**

From Lum-shi-dong, northern Korea. (No. 326a, Aug. 27, 1906.)

20020. LATHYRUS sp.

From northern Korea. (No. 327a, Aug. 20, 1906.)

20021. TRIFOLIUM sp. **Clover.**

From northern Korea. "(No. 328a, Aug. 15, 1906.) A perennial clover found growing in rocky, strong soil. May be of use as a forage plant in dry, sterile regions." (*Meyer.*)

20022. TRIFOLIUM sp. **Clover.**

From the mountains of northern Korea. "(No. 329a, Sept. 5, 1906.) A perennial clover found growing in sandy soil along a creek. For description see No. 328a (S. P. I. No. 20021)." (*Meyer.*)

20023. MEDICAGO sp. **Alfalfa.**

From near Hoi-ryong, northern Korea. "(No. 330a, Sept. 5, 1906.) A small-leaved alfalfa of crawling habit; only one plant on a sandy waste. May be a very valuable forage and pasturing plant." (*Meyer.*)

20024. ASTRAGALUS sp.

From northern Korea. "(No. 331a, Sept. 6, 1906.) An annual growing in rocky river beds and on sandy wastes. See if it is a fodder plant for desert regions." (*Meyer.*)

20025. ERODIUM sp.

From near Musan, northern Korea. "(No. 332a, Sept. 1, 1906.) A species which grows on very sandy soils and may be of use as a fodder plant like the Erodiums in California." (*Meyer.*)

20001 to 20229—Continued.

20026. SPINACIA OLERACEA. **Spinach.**

From Liaoyang, Manchuria. "(No. 267a, June 20, 1906.) A good, large-leaved spinach grown in sheltered places all through the winter and producing greens until early summer." (*Meyer.*)

20027. SPINACIA OLERACEA. **Spinach.**

From Antung, Manchuria. "(No. 268a, July 12, 1906.) A large-leaved spinach grown in sheltered places during the whole winter and producing greens until early summer." (*Meyer.*)

20028. RAPHANUS SATIVUS. **Radish.**

From Liaoyang, Manchuria. "(No. 269a, June 20, 1906.) A long, white, winter variety. Chinese name *Pai-loba.* The seeds are sown in the summer and the radishes are harvested before the frost sets in and are kept in rat-proof cellars." (*Meyer.*)

20029. RAPHANUS SATIVUS. **Radish.**

From Liaoyang, Manchuria. "(No. 270a, June 20, 1906.) A long, white, summer variety. A rather good variety, of which the seeds are sown very early in the spring on somewhat sheltered places and which produces good roots in about ten weeks." (*Meyer.*)

20030. RAPHANUS SATIVUS. **Radish.**

From Liaoyang, Manchuria. "(No. 271a, June 20, 1906.) A long, red, summer variety; eaten either boiled or stewed. A very good vegetable, which is even served in the foreign hotels in northern China. Sow early on well-prepared soil in sheltered places." (*Meyer.*)

20031. RAPHANUS SATIVUS. **Radish.**

From Shan-hai-kwan, China. "(No. 272a, Apr. 28, 1906.) A white winter radish. Chinese name *Pa loba.*" (*Meyer.*)

20032. RAPHANUS SATIVUS. **Radish.**

From Shan-hai-kwan, China. "(No. 273a, Apr. 28, 1906.) A red winter radish. Chinese name *Hong loba.* Said to be a large variety. Plant 1 foot apart in each direction in porous soil." (*Meyer.*)

20033. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Liaoyang, Manchuria. "(No. 274a, June 20, 1906.) A summer cabbage; Chinese name *Pai tsay.* A loose-headed form of the Chinese cabbage. This variety is sown early in the spring and eaten all through the summer." (*Meyer.*)

20034. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Liaoyang, Manchuria. "(No. 275a, June 20, 1906.) For description see No. 274a (S. P. I. No. 20033); but this is said to be a somewhat inferior variety." (*Meyer.*)

20035. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Liaoyang, Manchuria. "(No. 276a, June 20, 1906.) Chinese name *Pai tsay.* A variety of cabbage which is used for salt pickling and is also dried in the sun. The pickled cabbage is considered a necessary relish at a Chinese meal." (*Meyer.*)

20036. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Liaoyang, Manchuria. "(No. 277a, June 7, 1906.) A superior variety of summer cabbage. Chinese name *Pai tsay.*" (*Meyer.*)

20001 to 20229—Continued.

20037. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Antung, Manchuria. "(No. 278a, June 12, 1906.) A variety of the Chinese summer cabbage, said to grow very large on moist, rich soils; does not stand great drought or heat. Can be bleached by tying the leaves together." (*Meyer.*)

20038. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Antung, Manchuria. "(No. 279a, July 12, 1906.) Chinese name *Pai tsay.* These seeds came from a different grower, but in all probability are the same as No. 278a (S. P. I. No. 20037)." (*Meyer.*)

20039. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Shan-hai-kwan, China. "(No. 280a, Apr. 28, 1906.) Chinese name *Pai tsay.* A good winter cabbage, said to grow on dry ground." (*Meyer.*)

20040. CUCUMIS MELO. **Muskmelon.**

From Antung, Manchuria. "(No. 290a, July 10, 1906.) A small, green melon. These fruits are eaten like apples by the Chinese and Koreans and are not bad. They may be of use to us as preserves or, when somewhat improved, as a table fruit. Require apparently less heat to ripen than ordinary muskmelons do." (*Meyer.*)

20041. CUCUMIS MELO. **Muskmelon.**

From Antung, Manchuria. "(No. 291a, July 10, 1906.) A small, white melon. For description see No. 290a (S. P. I. No. 20040)." (*Meyer.*)

20042. CUCUMIS MELO. **Muskmelon.**

From Tcho-san, northern Korea. "(No. 292a, Aug. 4, 1906.) A small, green melon. For description see No. 290a (S. P. I. No. 20040)." (*Meyer.*)

20043. CUCUMIS MELO. **Muskmelon.**

From Pyok-tong, northern Korea. "(No. 293a, July 24, 1906.) A small, green melon. For description see No. 290a (S. P. I. No. 20040)." (*Meyer.*)

20044. CUCUMIS MELO. **Muskmelon.**

From Kang-ko, northern Korea. "(No. 294a, Aug. 8, 1906.) A somewhat larger variety than No. 290a (S. P. I. No. 20040); otherwise the same description applies to it." (*Meyer.*)

20045. CUCUMIS MELO. **Muskmelon.**

From Newchwang, Manchuria. "(No. 295a, May 19, 1906.) Melon seeds obtained from Rev. J. Carson, of Newchwang, who procured them from a party from Australia. Said to be good for jam." (*Meyer.*)

20046. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Liaoyang, Manchuria. (No. 298a, June 4, 1906.)

20047. BRASSICA JUNCEA. **Chinese mustard.**

From Liaoyang, Manchuria. "(No. 299a, June 4, 1906.) Chinese name *Tjc chwa.* The leaves and lower stalks are eaten either fresh or pickled." (*Meyer.*)

20048. LACTUCA SATIVA. **Lettuce.**

From Liaoyang, Manchuria. "(No. 300a, June 4, 1906.) Chinese name *Sun tsay.* Probably not to be compared with our lettuce, but may be useful in breeding." (*Meyer.*)

20001 to 20229—Continued.

20049. LACTUCA SATIVA. **Lettuce.**

From Shan-hai-kwan, China. "(No. 301a, Apr. 23, 1906.) Chinese name *Chin tsi.* For description see No. 300a (S. P. I. No. 20048)." (*Meyer.*)

20050. BETA VULGARIS. **Beet.**

From Liaoyang, Manchuria. "(No. 302a, June 4, 1906.) Chinese name *Kun to tsay.* The leaves are used as a vegetable." (*Meyer.*)

20051. CUCUMIS SATIVUS. **Cucumber.**

From Liaoyang, Manchuria. "(No. 303a, June 20, 1906.) Chinese name *Gwan kwa.* A long, green cucumber used as an early vegetable. Grows on trellises made from sorghum stalks and in warm sheltered situations." (*Meyer.*)

20052. LAGENARIA VULGARIS. **Gourd.**

From Liaoyang, Manchuria. "(No. 304a, June 4, 1906.) Chinese name *Gu tsa.* A gourd eaten boiled as a vegetable; when young it is also pickled in brine." (*Meyer.*)

20053. ALLIUM SATIVUM. **Garlic.**

From Liaoyang, Manchuria. (No. 305a, June 4, 1906.)

20054. ALLIUM CEPA. **Onion.**

From Liaoyang, Manchuria. "(No. 306a, June 4, 1906.) An inferior Chinese onion; used sparingly as a vegetable, not being strong enough to suit the Celestial palate." (*Meyer.*)

20055. SONCHUS sp.

From Musan, northern Korea. "(No. 307a, Aug. 29, 1906.) A wild vegetable, the young leaves of which are usually served raw as a salad, but they are also sometimes boiled. It tastes like the dandelion and is well worth trying. Can probably be easily forced. However, on sandy loam it is sometimes a bad weed, so I would recommend to be quite careful with it in testing." (*Meyer.*)

20056. CANNABIS SATIVA. **Hemp.**

From Yentai, Manchuria. "(No. 281a, June 1, 1906.) Chinese name *Shem ma.* These seeds come from the rich plain between Mukden and Liaoyang, where the soil is a heavy yellow loam. The seeds are thickly sown broadcast and the stems are harvested when they begin to set seeds." (*Meyer.*)

20057. CANNABIS SATIVA. **Hemp.**

From Liaoyang, Manchuria. "(No. 282a, June 2, 1906.) Chinese name *Shem ma.* Probably the same as No. 281a (S. P. I. No. 20056)." (*Meyer.*)

20058. CANNABIS SATIVA. **Hemp.**

From Newchwang, Manchuria. "(No. 283a, May 22, 1906.) Seed obtained from Mr. T. Sammons, American consul-general, Newchwang, who obtained the seeds from Hai-tcheng, Manchuria. This is a fine variety of hemp." (*Meyer.*)

(See S. P. I. No. 17528.)

20059. ABUTILON AVICENNAE. **China jute.**

From Newchwang, Manchuria. "(No. 284a, May 22, 1906.) Seed obtained from Mr. T. Sammons, American consul-general, Newchwang, who obtained the seed from Hai-tcheng, Manchuria. This is a coarse variety of hemp used for rope making." (*Meyer.*)

(See S. P. I. No. 17529.)

20001 to 20229—Continued.

20060. ABUTILON AVICENNAE. **China jute.**

From Hun-chun, Manchuria. "(No. 287a, Sept. 9, 1906.) Chinese name *Pai ma.* Seed of a red-stemmed variety of Abutilon; apparently a sport from the white variety. The fiber is used for rope making." (*Meyer.*)

20061. PAPAVER SOMNIFERUM. **Opium poppy.**

From Antung, Manchuria. "(No. 285a, July 12, 1906.) Plants grow in a rather light, black soil, and the seed is sown in rows as soon as the frost leaves the soil." (*Meyer.*)

20062. PAPAVER SOMNIFERUM. **Opium poppy.**

From near Antung, Manchuria. "(No. 286a, July 2, 1906.) This poppy is cultivated in large fields near Antung. A field in full bloom presents a color spectacle well worth seeing, the colors of the petals ranging from pure white to almost black purple. The individual colors may show marked differences in opium production. The soil is a rather poor blackish one, with much stony matter thrown in." (*Meyer.*)

20063. NICOTIANA CHINENSIS. **Tobacco.**

From Tan-ti-ku-li, northern Korea. "(No. 288a, Aug. 6, 1906.) A large-leaved tobacco seen here and there, and is a far superior variety to the ordinary kinds." (*Meyer.*)

20064. (Undetermined.)

From Hoi-ryong, northern Korea. "(No. 289a, Sept. 4, 1906.) Seed of a plant said to come from southern Korea. The berries are used in dyeing ribbons a deep orange color; they are, however, said to be quite poisonous. Probably a Solanaceae." (*Meyer.*)

20065. CAPSICUM ANNUUM. **Red pepper.**

From Liaoyang, Manchuria. "(No. 296a, June 20, 1906.) Chinese name *La djo.* A large variety of Chili pepper grown in the market gardens around Liaoyang." (*Meyer.*)

20066. CAPSICUM ANNUUM. **Red pepper.**

From Liaoyang, Manchuria. "(No. 297a, June 5, 1906.) A small-fruited variety of Chili pepper grown more or less for ornament and also for a condiment." (*Meyer.*)

20067. PRUNUS ARMENIACA. **Apricot.**

From Antung, Manchuria. "(No. 335a, July 10, 1906.) A large, reddish apricot with solid flesh; said to come from Chefoo, China." (*Meyer.*)

20068. PRUNUS ARMENIACA. **Apricot.**

From Musan, northern Korea. "(No. 336a, July 16, 1906.) Apricots growing in semiwild state in the mountains. The trees grow to large sizes, but the fruits are of inferior flavor and size." (*Meyer.*)

20069. PRUNUS ARMENIACA. **Apricot.**

From the mountains near Musan, northern Korea. "(No. 337a, July 20, 1906.) A wild apricot growing to a medium-sized tree and having very corky bark and large, heavily serrated leaves. Fruits small and inedible. May be a good stock plant for the colder regions, or can be used as a park tree in the Atlantic Coast States." (*Meyer.*)

20070. PRUNUS ARMENIACA. **Apricot.**

From Ai-djou, northern Korea. "(No. 338a, July 16, 1906.) A wild, bushy apricot growing in the dry, rocky mountains; produces small, scarcely edible fruits." (*Meyer.*)

20001 to 20229—Continued.

20071. PRUNUS ARMENIACA. **Apricot.**

From near Tchang-song, northern Korea. "(No. 339a, July 21, 1906.) Wild apricot seeds from a very tall tree, which was about 40 feet high and of which the trunk measured 10 feet in circumference a few feet above the soil. Can be used as a shade tree in parks. Fruits small and worthless." (*Meyer.*)

20072. PRUNUS ARMENIACA. **Apricot.**

From Liaoyang, Manchuria. "(No. 340a, June 21, 1906.) A red apricot grown in the gardens of Liaoyang, all the trees being seedlings; fruit medium sized and of very sweet flavor." (*Meyer.*)

20073. PRUNUS sp. **Plum.**

From the mountains of northern Korea. "(No. 341a, Aug., 1906.) A very bushy wild plum growing along creeks and moist places. The fruits are medium sized and very sour. May be used as a stock plant or for hybridization." (*Meyer.*)

20074. PRUNUS sp. **Plum.**

From Antung, Manchuria. "(No. 342a, July 10, 1906.) A very large yellow plum obtained in Antung, but said to come from Chefoo." (*Meyer.*)

20075. PRUNUS sp. **Cherry.**

From Fong-whan-cheng, Manchuria. "(No. 343a, July 1, 1906.) This edible bush cherry is a very ornamental shrub when in full fruit. The fruits make fine preserves." (*Meyer.*)

20076. PRUNUS sp.

From Sha-ho, Manchuria. "(No. 344a, June 26, 1906.) A shrubby Prunus growing in a rocky ravine; perhaps an ornamental hardy bush." (*Meyer.*)

20077. PRUNUS sp. **Chokecherry.**

From the mountains of northern Korea. "(No. 345a, Aug. 11, 1906.) A large-leaved chokecherry bearing large racemes of cherries in profusion. Grows to be a small tree or a large shrub. In the fall the leaves assume very brilliant hues. May be of use as an ornamental park plant." (*Meyer.*)

20078. PRUNUS sp. **Chokecherry.**

From the mountains of northern Korea. "(No. 346a, Aug., 1906.) Seed collected in different places. In all probability different strains will appear from this seed, for some bushes showed marked small differences in comparison with others." (*Meyer.*)

20079. PRUNUS sp. **Chokecherry.**

From the mountains of northern Korea. "(No. 347a, Aug. 6, 1906.) A very ornamental chokecherry with large, ovate, lanceolate leaves. Can be used as a small ornamental tree in parks." (*Meyer.*)

20080. PRUNUS GLANDULIFOLIA. **Chokecherry.**

From the mountains of northern Korea. "(No. 348a, Aug. 9, 1906.) A small-leaved, ornamental chokecherry. May be useful in parks and in gardens. The straight young stems may be useful for making smoking-pipe stems, and the heavier pieces of the trunk produce fine wood for small furniture." (*Meyer.*)

20081. PRUNUS sp. **Chokecherry.**

From the mountains of northern Korea. "(No. 349a, Aug. 21, 1906.) A small-leaved chokecherry with slender, drooping branches. An ornamental small tree for parks and gardens." (*Meyer.*)

20001 to 20229—Continued.

20082. PRUNUS sp. **Chokecherry.**

From the mountains of northern Korea. "(No. 350a, Aug. 11, 1906.) A broad-leaved, bushy chokecherry growing in rocky places. May be of use as an ornamental shrub for parks; seems to be very hardy." (*Meyer.*)

20083. PRUNUS sp. **Chokecherry.**

From the mountains of northern Korea. "(No. 351a, Aug. 9, 1906.) A species of chokecherry with large leaves which are quite hirsute, especially underneath. Well adapted as an ornamental tall shrub for parks and gardens." (*Meyer.*)

20084. PRUNUS sp. **Cherry.**

From the mountains of northern Korea. "(No. 352a, Aug. 21, 1906.) A small wild cherry; fruits black and inedible. The shrub or small tree is quite handsome in appearance and can be used in gardens and parks. Only two or three trees seen during the whole trip through northern Korea and only two had a few seeds." (*Meyer.*)

20085. PRUNUS PUMILA. **Sand cherry.**

From the mountains of northern Korea. "(No. 353a, Aug. 20, 1906.) A large-fruited form; fruits very sour and inedible." (*Meyer.*)

20086. PRUNUS PUMILA. **Sand cherry.**

From Musan, northern Korea. "(No. 354a, Aug. 29, 1906.) A sand cherry with large fruits produced in great abundance; fruits not sour, though not of good quality. May be improved or used in parks, gardens, or rockeries; as a bush in full bearing is decidedly beautiful. Height of bushes, 2 to 3 feet." (*Meyer.*)

20087. PRUNUS PUMILA. **Sand cherry.**

From Shako-san, northern Korea. "(No. 355a, Aug. 1, 1906.) A sand cherry growing on the banks of the Yalu River. For description, see No. 354a (S. P. I. No. 20086)." (*Meyer.*)

20088. PRUNUS PUMILA. **Sand cherry.**

From the mountains of northern Korea. "(No. 356a, July 22, 1906.) A heavy-bearing, though very small-fruited, sand cherry; not edible. For description see No. 354a (S. P. I. No. 20086)." (*Meyer.*)

20089. PINUS KORAIENSIS. **Pine.**

From Ai-djou, northern Korea. "(No. 333a, July 14, 1906.) An edible pine nut obtained in Ai-djou; is produced by a tall, bluish pine which I afterwards saw in the forests near Pek-to-san. It is an excellent timber tree, growing to be 150 feet tall and making a straight, clean stem." (*Meyer.*)

20090. PINUS KORAIENSIS. **Pine.**

From Vladivostok, Siberia. "(No. 334a, Sept. 20, 1906.) Edible pine seeds bought at a Chinese fruit stand in Vladivostok. Probably the same as No. 333a (S. P. I. No. 20089)." (*Meyer.*)

20091. PINUS THUNBERGII. **Japanese black pine.**

From the mountains of northern Korea. "(No. 504a, Sept. 1, 1906.) A beautiful pine with light green foliage and making dense, round heads; also a good lumber tree. Grows in the driest of situations and on very poor soil; does not grow, though, at great altitudes, so will probably not bear any severe cold. Of use as an ornamental park tree." (*Meyer.*)

20092. ZIZYPHUS SATIVA. **Jujube.**

From Vladivostok, Siberia. "(No. 505a, Sept. 26, 1906.) A large-fruited 'date' obtained at Vladivostok, where the Chinese import them from Chefoo, China." (*Meyer.*)

20001 to 20229—Continued.

20093. SOPHORA JAPONICA. **Japanese pagoda tree.**

From Liaoyang, Manchuria. "(No. 368a, June 4, 1906.) A much smaller variety of Sophora than is generally seen, growing as a shrub or a small tree with smaller leaves, branches, pods, etc.; quite ornamental and well worth growing. Only a few trees seen in a yard near Liaoyang." (*Meyer.*)

20094. COLUTEA sp.

From Port Arthur, Manchuria. "(No. 369a, May 14, 1906.) Probably *Colutea fruticosa*. Used in the parks in Port Arthur as an ornamental shrub. As the climate there is very dry, the shrubs and trees from there will thrive in semiarid regions." (*Meyer.*)

20095. AMORPHA sp.

From Port Arthur, Manchuria. (No. 370a, May 14, 1906.)

20096. (Undetermined.)

From Port Arthur, Manchuria. "(No. 371a, May 14, 1906.) A shrub of bushy habit, with slender branches and lanceolate leaves, growing in the parks of Port Arthur along the sidewalks; well adapted for this purpose." (*Meyer.*)

20097. XANTHOXYLUM AILANTHOIDES.

From Port Arthur, Manchuria. "(No. 372a, May 14, 1906.) A small ornamental tree growing in the parks in Port Arthur." (*Meyer.*)

20098. ELAEAGNUS sp.

From Port Arthur, Manchuria. "(No. 373a, May 15, 1906.) An Elaeagnus with silvery leaves and bearing white berries; grows to be a tall shrub with long branches. Quite beautiful when seen in clumps." (*Meyer.*)

20099. ELAEAGNUS sp.

From Port Arthur, Manchuria. "(No. 374a, May 15, 1906.) A variety with black seeds; grows to be somewhat larger than the preceding one; otherwise the same remarks apply to it." (*Meyer.*)

20100. TILIA MANDSHURICA. **Linden.**

From near Mukden, Manchuria. "(No. 375a, May 29, 1906.) A very large leaved linden from the forest around the Imperial East Tomb, near Mukden. A handsome tree, of which the leaves sometimes reach the size of 1 foot across in each direction." (*Meyer.*)

20101. ARALIA sp.

From A-teuk-ryong, northern Korea. "(No. 376a, Aug. 10, 1906.) A low ornamental shrub, with handsome, large, light green leaves and bearing large clusters of scarlet berries. Grows in shady places in the primeval forests; seems to prefer leaf mold." (*Meyer.*)

20102. ARALIA sp.

From Tchong-ping, northern Korea. "(No. 377a, Aug. 19, 1906.) A shrubby Aralia growing from 5 to 10 feet tall, with palmately divided leaves and bearing an abundance of black berries in umbels." (*Meyer.*)

20103. ARALIA MANDSHURICA.

From Possiet, Siberia. "(No. 378a, Sept. 10, 1906.) A very large leaved Aralia, the leaves sometimes becoming 3 to 4 feet long. Seems to be very hardy and drought resistant." (*Meyer.*)

20001 to 20229—Continued.

20104. ACANTHOPANAX SESSILIFLORUM.

From Liaoyang, Manchuria. "(No. 379a, June 1, 1906.) An Aralia-like shrub growing in the Scottish mission garden in Liaoyang. May be utilized in parks and large gardens; not as ornamental, perhaps, as could be wished for, but apparently very hardy and drought resistant." (*Meyer.*)

20105. CRATAEGUS SANGUINEA. **Hawthorn.**

From the mountains of northern Korea. "(No. 380a, Aug., 1906.) A very hardy, ornamental Crataegus growing as a tall shrub or small tree. Has light green, somewhat tomentose foliage, and is covered in the fall with orange-scarlet berries. The berries are edible, but are rather flat and mealy to our taste. Well adapted for planting in parks." (*Meyer.*)

20106. CRATAEGUS SANGUINEA. **Hawthorn.**

From the mountains near the source of the Tumen River, northern Korea. "(No. 381a, Aug. 27, 1906.) Seeds from trees growing at high altitudes, over 3,000 feet, and apparently the limit zone of this Crataegus. Ought to be hardier than No. 380a (S. P. I. No. 20105); otherwise the same description applies to it." (*Meyer.*)

20107. CRATAEGUS SANGUINEA. **Hawthorn.**

From the mountains of northern Korea. "(No. 382a, Aug. 5, 1906.) A variety bearing yellow berries; not as handsome as the usual type." (*Meyer.*)

20108. CRATAEGUS PINNATIFIDA. **Hawthorn.**

From the mountains of northern Korea. "(No. 383a, Aug. 28, 1906.) A variety having very finely pinnate leaves. The fruits are much smaller and ripen later than those of the usual type. This may be a distinct variety or strain." (*Meyer.*)

20109. CRATAEGUS PINNATIFIDA. **Hawthorn.**

From the mountains of northern Korea. "(No. 384a, Aug. 28, 1906.) A variety quite handsome in appearance, having large, glossy, dark green leaves; bears very few fruits, however." (*Meyer.*)

20110. SORBUS sp.

From the mountains of northern Korea. "(No. 385a, Aug. 27, 1906.) A Sorbus seen usually as a shrub, but in the forests it grows to be a tall, slender tree; apparently a very scant bearer, as I saw only two shrubs in fruit, but the large clusters of yellow berries contrast beautifully with the tender, pinnate foliage." (*Meyer.*)

20111. BERBERIS sp. **Barberry.**

From the mountains of northern Korea. "(No. 386a, Aug. 28, 1906.) A large-leaved Berberis growing 6 to 10 feet tall and bearing many racemes of red berries." (*Meyer.*)

20112. BERBERIS sp. **Barberry.**

From the mountains of northern Korea. "(No. 387a, Sept. 2, 1906.) A large-leaved Berberis from a different locality than the preceding one; otherwise the same remarks apply to it." (*Meyer.*)

20113. ROSA sp. **Rose.**

From northern Korea. "(No. 388a, Aug., 1906.) Fruits collected from rose bushes in different parts of northern Korea; probably several distinct species." (*Meyer.*)

20001 to 20229—Continued.

20114. SAMBUCUS RACEMOSA. **Elder.**

From the mountains of northern Korea. "(No. 389a, Aug., 1906.) Seed collected from bushes growing at an altitude of from 4,000 to 5,000 feet. The bushes at these altitudes do not grow higher than 4 or 5 feet, but are extremely beautiful, being loaded with large clusters of scarlet berries, which contrast vividly with the bright green, glossy foliage. This is a very hardy shrub, growing on the poorest of soils and really looking better in colder climes than in the warmer altitudes. Perhaps a good shrub for the Northwestern States." (*Meyer.*)

20115. VIBURNUM sp.

From the mountains of northern Korea. "(No. 390a, Aug. 20, 1906.) A Viburnum with rather small, light green leaves and bearing small umbels of white flowers, followed by berries which turn from green to red, and when ripe to jet black. Grows from 4 to 10 feet high. Seems to prefer calcareous rocky soil." (*Meyer.*)

20116. VIBURNUM sp.

From the mountains of northern Korea. "(No. 391a, Aug. 28, 1906.) Collected in a different locality and from taller shrubs than No. 390a; otherwise the same remarks apply to it." (*Meyer.*)

20117. BETULA sp. **Birch.**

From the mountains of northern Korea. "(No. 392a, Aug. 11, 1906.) A beautiful white birch, the bark of which is used as roofing material in the mountain regions, also for illuminating purposes, taking the place of our lamps and candles. In the forests this tree grows to be over 100 feet tall, but solitary specimens never reach that size." (*Meyer.*)

20118. BETULA sp. **Birch.**

From Tchong-ping, northern Korea. "(No. 393a, Aug. 20, 1906.) A very low, bushy, dwarf birch, with blackish bark, growing 3 to 4 feet high, on a cold plain, high in the mountains, where the soil consisted of black peat. Used locally for making brooms." (*Meyer.*)

20119. BETULA sp. **Birch.**

From the mountains of northern Korea. "(No. 394a, Aug. 15, 1906.) A bush birch, 6 to 10 feet tall, growing in a high mountain valley, only two or three specimens together." (*Meyer.*)

20120. CORNUS sp. **Dogwood.**

From near Tchang-song, northern Korea. "(No. 395a, July 20, 1906.) A tall-growing tree, with beautiful, large leaves; quite rare in southern Manchuria and northern Korea." (*Meyer.*)

20121. CORNUS sp. **Dogwood.**

From the mountains of northern Korea. "(No. 396a, Aug. 11, 1906.) A medium-sized shrub, growing mostly in rocky soil along water courses. Has large, light green leaves and reddish colored twigs, and is sometimes loaded with clusters of white berries." (*Meyer.*)

20122. SPIRAEA sp. **Spirea.**

From the mountains of northern Korea. "(No. 397a, Aug. 11, 1906.) A very shrubby Spiraea 4 to 5 feet tall, found growing along rocky ravines." (*Meyer.*)

20123. SPIRAEA sp. **Spirea.**

From Tchien-shan Mountains, Manchuria. "(No. 398a, June 9, 1906.) A Spiraea found growing on rocky, exposed places in the mountains." (*Meyer.*)

20001 to 20229—Continued.

20124. (Undetermined.)

From near Tchang-song, northern Korea. "(No. 399a, July 20, 1906.) A shrub with rather large leaves, growing in shady ravines." (*Meyer.*)

20125. CARAGANA sp.

From the mountains at the source of the Tumen River, northern Korea. (No. 400a, Aug. 27, 1906.)

20126. JUNIPERUS CHINENSIS.

From Liaoyang, Manchuria. "(No. 401a, June 4, 1906.) This tree thrives but poorly at Liaoyang, it being too cold for it." (*Meyer.*)

20127. LESPEDEZA sp.

From Tchien-shan Mountains, Manchuria. "(No. 402a, June 8, 1906.) A small, ornamental shrub, bearing many racemes of rosy colored flowers; thrives on high, dry land. Of use in gardens and along embankments as a low, ornamental shrub." (*Meyer.*)

20128. SALIX sp. **Willow.**

From the mountains of northern Korea. "(No. 403a, Aug. 15, 1906.) For description see No. 529 (S. P. I. No. 19527)." (*Meyer.*)

20129. (Undetermined.)

From the mountains of northern Korea. "(No. 404a, Aug. 20, 1906.) A woody climber, with large, light green leaves and bearing panicles of small, whitish green flowers, followed by large quantities of three-winged seeds. Apparently can stand low temperatures, as it is even found on high mountain tops." (*Meyer.*)

20130. (Undetermined.)

From northern Korea. "(No. 405a, Aug. 11, 1906.) Seed of a low bush growing on wet, peaty soil and having glossy green, ovate, lanceolate leaves and bearing scarlet berries." (*Meyer.*)

20131. AZALEA sp. **Azalea.**

From the mountains near Musan, northern Korea. "(No. 406a, July 16, 1906.) A shrubby Azalea bearing pale purplish flowers, found growing in the mountains." (*Meyer.*)

20132. (Undetermined.)

From the mountains of northern Korea. "(No. 407a, July 20, 1906.) A low, ornamental shrub looking like a Spiraea, but with raspberry-like leaves, found growing in profusion along a shady road." (*Meyer.*)

20133. RHAMNUS sp. **Buckthorn.**

From the mountains of northern Korea. "(No. 408a, Aug. 28, 1906.) An ornamental Rhamnus, with broad, light green leaves, growing usually as a large shrub, but seen occasionally as a small tree." (*Meyer.*)

20134. RHAMNUS sp. **Buckthorn.**

From the mountains of northern Korea. "(No. 409a, Aug. 15, 1906.) A small-leaved Rhamnus of very dense growth. Well adapted for use as a hedge and for dwarfing and clipping purposes." (*Meyer.*)

20135. RHAMNUS sp. **Buckthorn.**

From the mountains of northern Korea. "(No. 410a, Aug. 20, 1906.) A small-leaved Rhamnus of not as dense growth as the preceding; otherwise the same remarks apply to it." (*Meyer.*)

20001 to 20229—Continued.

20136. AMELANCHIER sp (?).

From the mountains of northern Korea. "(No. 411a, Aug., 1906.) A shrub bearing small, inedible fruits like crab apples and with leaves like a small *Viburnum opulus*. Seems to prefer shady spots in the higher altitudes." (*Meyer.*)

20137. MALUS sp. **Crab apple.**

From the mountains of northern Korea. "(No. 412a, Aug. 20, 1906.) A few seeds of a wild crab apple bearing very small, hard fruits. Grows usually as a shrub, but in sheltered places becomes a tree." (*Meyer.*)

20138. EUONYMUS sp.

From the mountains of northern Korea. "(No. 413a, Aug. 28, 1906.) A small-leaved, hardy Euonymus, growing very compactly." (*Meyer.*)

20139. EUONYMUS sp.

From the mountains of northern Korea. "(No. 414a, Aug. 28, 1906.) A dense-growing, small-leaved bush, with corky wings along its branches." (*Meyer.*)

20140. EUONYMUS sp.

From the mountains of northern Korea. "(No. 415a, Aug. 9, 1906.) A large-leaved Euonymus growing in dense shade in the forest and bearing four-winged fruits." (*Meyer.*)

20141. LONICERA sp. **Honeysuckle.**

From the mountains of northern Korea. "(No. 416a, Aug. 12, 1906.) A large-leaved Lonicera, with large, scarlet berries." (*Meyer.*)

20142. LONICERA sp. **Honeysuckle.**

From the mountains of northern Korea. "(No. 417a, Aug. 12, 1906.) A medium-sized, bushy honeysuckle growing in large masses and bearing scarlet berries." (*Meyer.*)

20143. LONICERA sp. **Honeysuckle.**

From the mountains of northern Korea. "(No. 418a, Aug. 12, 1906.) A low, bush honeysuckle with bright green, medium-sized leaves and scarlet berries." (*Meyer.*)

20144. LONICERA sp. **Honeysuckle.**

From the mountains of northern Korea. "(No. 419a, Aug. 21, 1906.) A bushy honeysuckle growing 10 to 12 feet high; leaves larger and darker green than the ordinary type." (*Meyer.*)

20145. LONICERA sp. **Honeysuckle.**

From Bo-tau-shan Mountains, northern Korea. "(No. 420a, Aug. 24, 1906.) A low, shrubby honeysuckle, 3 to 4 feet high, bearing pretty blue berries of repulsive taste. These shrubs grow only at high altitudes and may be used in the colder parts of the United States as ornamental garden shrubs." (*Meyer.*)

20146. LONICERA sp. **Honeysuckle.**

From Sa-mai-tsi, Manchuria. "(No. 421a, July 27, 1906.) A large, bushy honeysuckle, becoming somewhat shaggy when old. When young, however, it is a fine shrub, bearing thousands of small, white, fragrant flowers." (*Meyer.*)

20147. ALNUS sp. **Alder.**

From the mountains of northern Korea. "(No. 422a, Sept. 1, 1906.) A large-leaved alder growing along water courses; quite a handsome shrub." (*Meyer.*)

20001 to 20229—Continued.

20148. ALNUS sp. **Alder.**

From near Tok-sil-tong, northern Korea. "(No. 423a, Aug. 12, 1906.) A large-leaved, dark green alder growing in rocky soil along a stream. Apparently grows to be only a tall shrub; at least no trees of it were seen." (*Meyer.*)

20149. ACER GINNALA. **Maple.**

From the mountains of northern Korea. "(No. 424a, August, 1906.) A dwarf, bushy maple with small, scarcely lobed leaves and bearing an abundance of fruits, which assume beautiful rosy and red colors toward the end of summer. It is exported from the Yalu River to ports in China, where the shoots with leaves on them are used in the manufacture of a black dye." (*Meyer.*)

20150. ACER sp. **Maple.**

From the mountains of northern Korea. "(No. 425a, Aug. 16, 1906.) A tall, bushy maple with rather large, dark green leaves." (*Meyer.*)

20151. ACER GINNALA. **Maple.**

From the mountains of northern Korea. "(No. 426a, Aug. 20, 1906.) A bushy maple with very slender branches and small leaves; probably a variety of No. 424a (S. P. I. No. 20149), and as such the same description applies to it." (*Meyer.*)

20152. ACER sp. **Maple.**

From the mountains of northern Korea. "(No. 427a, Aug. 21, 1906.) A rather large leaved maple growing to be a very tall shrub or sometimes a small tree; always found growing between other trees and not as solitary specimens in open spaces." (*Meyer.*)

20153. ACER sp. **Maple.**

From the mountains of northern Korea. "(No. 428a, Aug. 21, 1906.) A large-leaved maple growing to be a tall shrub or a small tree in the dense forests." (*Meyer.*)

20154. PAEONIA sp. **Peony.**

From Bo-tau-shan Mountains, northern Korea. "(No. 429a, Aug. 23, 1906.) A wild peony growing in the primeval forest at high altitudes, 3,000 to 4,000 feet, on decomposed sandstone." (*Meyer.*)

20155. SAXIFRAGA TABULARIS.

From the mountains of northern Korea. "(No. 430a, Aug. 27, 1906.) A Saxifraga having circular leaves which are sometimes over 1 foot in diameter. Grows in cool, shady places in the forests; prefers a sandy soil." (*Meyer.*)

20156. SAXIFRAGA sp.

From the mountains near Musan, northern Korea. "(No. 431a, July 16, 1906.) A Saxifraga growing in the rocks in shady places. In the distance it looks exactly like a vigorous *Ampelopsis veitchii*." (*Meyer.*)

20157. DRACOCEPHALUM sp.

From near Tchang-song, northern Korea. "(No. 432a, July 21, 1906.) An ornamental labiate with large, blue flowers; probably a perennial. Found only on sandy soil." (*Meyer.*)

20158. ASPARAGUS sp.

From near Mai-mi-la, northern Korea. "(No. 433a, Aug. 12, 1906.) An ornamental wild asparagus with straight stems and beautiful, light green, feathery foliage; grows from 2 to 4 feet tall." (*Meyer.*)

(See S. P. I. No. 20357.)

20001 to 20229—Continued.

20159. AMARANTHUS sp.

From near Hunchun, Manchuria. "(No. 434a, Sept. 7, 1906.) An ornamental Amaranthus with large, drooping plumes of canary-yellow color." (*Meyer.*)

20160. AMARANTHUS sp.

From Newchwang, Manchuria. "(No. 435a, May 18, 1906.) Seed of an Amaranthus, which is said to be an ornamental garden plant, obtained from Rev. J. Carson, of Newchwang, who received the seed from Japan." (*Meyer.*)

20161. AMARANTHUS sp.

From Newchwang, Manchuria. "(No. 436a, May 17, 1906.) Seed of an Amaranthus which is grown for ornament in Chinese gardens and of which the young seedlings are also used as a vegetable. Chinese name *Lao lai pien.* Obtained from Rev. J. Carson, of Newchwang." (*Meyer.*)

20162. DELPHINIUM sp. **Larkspur.**

From Newchwang, Manchuria. "(No. 437a, May 18, 1906.) A dark blue, perennial larkspur, of use as an ornamental garden plant in dry, cold regions. Seeds obtained from Rev. J. Carson, who received them from a friend in Kai-chow, Manchuria." (*Meyer.*)

20163. (Undetermined.)

From Newchwang, Manchuria. "(No. 438a, May 18, 1906.) A wild composite known as 'autumn daisy.' Seed obtained from Rev. J. Carson." (*Meyer.*)

20164. ANEMONE sp.

From Fong-whang-shen, Manchuria. "(No. 439a, June 30, 1906.) A wild anemone found only on sandy soil; probably an ornamental." (*Meyer.*)

20165. REHMANNIA GLUTINOSA.

From Liaoyang, Manchuria. "(No. 440a, June 21, 1906.) An ornamental plant found growing on the city walls of Peking and Liaoyang. Has rather large spikes of brownish purple flowers." (*Meyer.*)

20166. ALTHAEA ROSEA. **Hollyhock.**

From Hunchun, Manchuria. "(No. 441a, Sept. 8, 1906.) A large-flowered hollyhock of dark purple color; grown as an ornamental plant in Chinese gardens." (*Meyer.*)

20167. SCABIOSA CAUCASICA.

From northern Korea. "(No. 442a, Sept. 2, 1906.) An ornamental Scabiosa with large, deep blue flowers." (*Meyer.*)

20168. ASTER sp. **Aster.**

From near Musan, northern Korea. "(No. 443a, Aug. 29, 1906.) A herbaceous, perennial composite growing 2 or 3 feet high; has but few stalks and bears many flowers with yellow centers and dark blue rays." (*Meyer.*)

20169. (Undetermined.)

From the mountains of northern Korea. "(No. 444a, Aug. 11, 1906.) A composite bearing large flowers having a yellow center and blue rays; bears but a few flowers to each stalk. Grows from a few inches to 1 foot tall." (*Meyer.*)

20001 to 20229—Continued.

20170. CALLISTEPHUS HORTENSIS.

From the mountains of northern Korea. "(No. 445a, Sept. 3, 1906.) Seed of the wild form of our garden aster, found growing in great profusion in the mountains of northeast Korea. A beautiful plant that might be naturalized in the United States, especially in the Rocky Mountain regions." (*Meyer.*)

20171. DIANTHUS CHINENSIS.

From the mountains of northern Korea. "(No. 446a, Sept. 3, 1906.) A beautiful scarlet pink." (*Meyer.*)

20172. TARAXACUM sp.

From North Tomb, Mukden, Manchuria. "(No. 447a, May 28, 1906.) A white-flowering dandelion." (*Meyer.*)

20173. VIOLA sp. **Violet.**

From the mountains of northern Korea. "(No. 448a, Aug. 15, 1906.) A violet having small leaves which exactly resemble the Cyclamen." (*Meyer.*)

20174. AQUILEGIA sp. **Columbine.**

From the forest of Bo-tau-shan, northern Korea. "(No. 449a, Aug. 25, 1906.) A columbine with yellow-brown flowers." (*Meyer.*)

20175. SEDUM sp.

From Ai-djou, northern Korea. "(No. 450a, July 17, 1906.) A low-growing, yellow-flowering Sedum well adapted for rockeries; grows very compactly and covers large expanses; seems to prefer rocky or sandy situations." (*Meyer.*)

20176. LYCHNIS sp.

From the mountains of northern Korea. "(No. 451a, Aug. 22, 1906.) A Lychnis with rather large, bright scarlet flowers but of somewhat weedy growth. If it can be improved it will be a good garden plant." (*Meyer.*)

20177. ASTILBE sp.

From the mountains of northern Korea. "(No. 452a, July 19, 1906.) A rather tall growing Astilbe with large, bluish colored spikes; found growing in moist localities on peaty soil." (*Meyer.*)

20178. ACTAEA sp.

From the mountains of northern Korea. "(No. 453a, Aug. 23, 1906.) A plant with large bipinnate leaves and bearing spikes with berries of a striking red color; found growing in a dense forest." (*Meyer.*)

20179. GLYCYRRHIZA sp.

From near Liaoyang, Manchuria. "(No. 454a, June 1, 1906.) A rather handsome wild plant which is green when other vegetation has just commenced to grow. This plant grows in the driest of situations; is not eaten by animals and may be poisonous." (*Meyer.*)

20180. LYCIUM sp.

From Hoi-ryong, northern Korea. "(No. 455a, Sept. 3, 1906.) A wild matrimony vine with rather large scarlet berries; in the wild state the branches grow 3 to 5 feet long." (*Meyer.*)

20181. CLEMATIS sp. **Clematis.**

From the mountains of northern Korea. "(No. 456a, Aug. 28, 1906.) A large-growing clematis with white flowers; not highly ornamental, as the panicles with flowers are not dense enough and the individual flowers do not all blossom at the same time." (*Meyer.*)

20001 to 20229—Continued.

20182. ADLUMIA sp.

From the mountains of northern Korea. "(No. 457a, Aug. 23, 1906.) An ornamental, perennial climber with graceful foliage and bearing many racemes of drooping rosy flowers." (*Meyer.*)

20183. RICINUS COMMUNIS. **Castor-oil plant.**

From northern Korea. "(No. 458a, Aug. 5, 1906.) A cultivated variety of the spineless castor bean found growing among plants of the spiny variety." (*Meyer.*)

20184. (Undetermined.)

From Tchien-shan Mountains, Manchuria. "(No. 459a, June 7, 1906.) An umbelliferous plant, the rhizome of which is used for medicinal purposes by the Chinese. This plant was found growing on dry, shady spots in decomposed rock." (*Meyer.*)

20185. IRIS sp. **Iris.**

From northern Korea. "(No. 460a, Aug. 29, 1906.) An early flowering iris of northern China, Manchuria, and northern Korea growing on very dry ground; flowers pale blue." (*Meyer.*)

20186. IRIS sp. **Iris.**

From the mountains of northern Korea. "(No. 461a, Aug. 24, 1906.) An iris found growing in a wet meadow. This is a very rare plant and may be an ornamental." (*Meyer.*)

20187. HEMEROCALLIS sp.

From the mountains of northern Korea. "(No. 462a, Aug. 25, 1907.) An ornamental garden plant bearing large, sulphur-yellow flowers which open at sunset; the flowers have a pleasant odor." (*Meyer.*)

20188. HEMEROCALLIS sp.

From the mountains of northern Korea. "(No. 463a.) An ornamental garden perennial growing in high altitudes." (*Meyer.*)

20189. PARDANTHUS sp.

From the mountains of northern Korea. "(No. 464a, Aug. 28, 1906.) An ornamental garden perennial." (*Meyer.*)

20190. PARIS sp.

From the primeval forest of Bo-tau-shan, northern Korea. (No. 465a, Aug. 23, 1906.)

20191. CONVALLARIA sp.

From A-teuk-ryong, northern Korea. "(No. 466a, Aug. 10, 1906.) Plant bears red berries on stalks which resemble *C. polygonatum.*" (*Meyer.*)

20192. (Undetermined.)

From the mountains of northern Korea. "(No. 467, Aug. 13, 1906.) A rather ornamental, broad-leaved liliaceous plant growing at high elevations in the dense forest and bearing a spike with blue berries." (*Meyer.*)

20193. (Undetermined.)

From the primeval forest of Bo-tau-shan, northern Korea. "(No. 468a, Aug. 25, 1906.) Probably the same as No. 467a (S. P. I. No. 20192), but from a different locality." (*Meyer.*)

20194. (Undetermined.)

From the primeval forest of Bo-tau-shan, northern Korea. "(No. 469a, Aug. 25, 1906.) The same as Nos. 467a and 468a (S. P. I., Nos. 20192 and 20193), but bearing black berries." (*Meyer.*)

20001 to 20229—Continued.

20195. RUBUS sp. **Blackberry.**

From the mountains of northern Korea. "(No. 357a, Aug. 1906.) A red blackberry of crawling habit, producing large panicles with many red berries. The taste is somewhat flat, however, and the seeds too conspicuous when eating them. May be improved, though, and become a good garden fruit. When grown in a somewhat shady place the fruits become much juicier. The underside of the leaves is tomentose and white." (*Meyer.*)

20196. RUBUS sp. **Blackberry.**

From the mountains of northern Korea. "(No. 358a, July 25, 1906.) A red blackberry of erect habit, producing an abundance of small panicles with fruit. Has a good taste, though somewhat flat, but when eaten in quantity is quite acceptable. May be improved and become a garden fruit. Is closely related to the raspberry. The underside of the leaves is green. When grown in a shady place the leaves and fruits attain a larger size than when grown in the sun. Should be grown in good sandy or peaty soil." (*Meyer.*)

20197. ACTINIDIA KOLOMIKTA.

From the mountains of northern Korea. "(No. 359a, Aug., 1906.) A climbing Actinidia growing very large and producing green berries ranging in size from a gooseberry to a plum and tasting like the former. The plants are usually scant bearers and do not warrant the space given to them when grown for fruit, but may be used as an ornamental vine, the silver and red leaves being quite beautiful." (*Meyer.*)

20198. RIBES RUBRUM. **Currant.**

From A-teuk-ryong, northern Korea. "(No. 361a, Aug. 10, 1906.) A wild red currant found growing in the mountains. The berries are of a large size but very sour. The shrubs are more vigorous than those seen in cultivation." (*Meyer.*)

20199. RIBES RUBRUM. **Currant.**

From the mountains of northern Korea. "(No. 362a, Aug. 14, 1906.) A form of the wild currant with erect racemes; the berries are tasteless; leaves very large, and the whole shrub is of larger dimensions than those seen in cultivation." (*Meyer.*)

20200. RIBES RUBRUM. **Currant.**

From the mountains of northern Korea. "(No. 363a, Aug. 6, 1906.) A different form of the wild currant from that commonly seen. It is very shrubby and produces fruits which are not sour but rather dry." (*Meyer.*)

20201. RIBES PROCUMBENS. **Currant.**

From the forest of Bo-tau-shan, northern Korea. "(No. 364a, Aug. 25, 1906.) A species of Ribes growing from 3 to 5 inches high in shady, moist places in the forest. The berries are the same size as the taller varieties but the leaves are somewhat smaller." (*Meyer.*)

20202. RIBES ALPINUM.

From A-teuk-ryong, northern Korea. "(No. 365a, Aug. 10, 1906.) A small currant which might be grown in shady places as a garden shrub." (*Meyer.*)

20203. RIBES ALPINUM.

From the forest of Bo-tau-shan, northern Korea. "(No. 366a, Aug. 26, 1906.) An ornamental currant with small, red, elongated berries." (*Meyer.*)

20204. RIBES sp.

From the mountains of northern Korea. "(No. 367a, Aug. 6, 1906.) A small, shrubby bush bearing yellow, inedible berries." (*Meyer.*)

20001 to 20229—Continued.

20205. POA PRATENSIS. **Kentucky bluegrass.**

From the mountains of northern Korea. "(No. 476a, Aug. 15, 1906.) A wild meadow grass which forms a dense turf. This grass is rarely seen and it may be a good lawn and pasturing grass." (*Meyer.*)

20206. ELYMUS SIBIRICUS.

From the mountains of northern Korea. "(No. 477a, Aug. 11, 1906.) A tall wild grass with drooping heads growing in sandy and stony places; may be sand binding." (*Meyer.*)

20207. AGROPYRON sp.

From the mountains of northern Korea. "(No. 478a, Aug. 14, 1906.) A medium tall wild grass with drooping heads and scanty foliage, growing in stony places." (*Meyer.*)

20208. ERAGROSTIS sp.

From the mountains of northern Korea. "(No. 479a, Aug. 14, 1906.) A very delicate plumed grass growing along trails and in cleared places through the forests." (*Meyer.*)

20209. POA TRIVIALIS. **Rough-stalked meadow grass.**

From the mountains of northern Korea. "(No. 480a, Aug. 22, 1906.) A grass with clean, round stems found growing at high altitudes (3,000 to 4,000 feet) in dense bunches on somewhat sandy soil." (*Meyer.*)

20210. PHALARIS ARUNDINACEA. **Reed canary grass.**

From the mountains of northern Korea. "(No. 481a, Aug. 14, 1906.) A tall, rough grass growing at high elevations on moist, peaty soil. Is a good fodder for horses and cattle." (*Meyer.*)

20211. ARUNDINELLA ANOMALA.

From the mountains of northern Korea. "(No. 482a, Aug. 28, 1906.) A tall, rough grass growing on high, dry soil. May be a fodder grass." (*Meyer.*)

20212. POA sp.

From the mountains of northern Korea. "(No. 483a, Aug. 14, 1906.) A grass of dense habits found growing in high altitudes. May be of use as a lawn and pasture grass." (*Meyer.*)

20213. CALAMAGROSTIS sp.

From the mountains of northern Korea. "(No. 484a, Aug. 14, 1906.) A tall, rough grass covering enormous areas where the forest has been burned; prefers a moist, peaty soil. Grows from 3 to 5 feet tall and is a very good fodder grass." (*Meyer.*)

20214. BECKMANNIA ERUCIFORMIS.

From near Antung, northern Korea. "(No. 485a, July 11, 1906.) A grass found growing on wet, muddy flats along the Yalu River; may be a fodder grass." (*Meyer.*)

20215. AGROPYRON sp.

From northern Korea. "(No. 486a, June 28, 1906.) A rough, bluegrass growing along shady roads; may be of use as a sand binder." (*Meyer.*)

20216. MISCANTHUS JAPONICUS.

From the mountains of northern Korea. "(No. 487a. Aug. 20, 1906.) A tall, rough grass with ornamental white plumes; used locally for fodder." (*Meyer.*)

20001 to 20229—Continued.

20217. SACCHARUM ARUNDINACEUM.

From near Hunchun, Manchuria. (No. 488a, Sept. 9, 1906.)

20218. PHALARIS ARUNDINACEA. **Reed canary grass.**

From A-teuk-ryong, northern Korea. "(No. 489a, Aug. 10, 1906.) A rough grass growing in the primeval forest; of use as a fodder grass." (*Meyer.*)

20219. ERIOCHLOA VILLOSA.

From the mountains of northern Korea. "(No. 490a, Aug. 20, 1906.) A grass of peculiar growth growing in a dry, sandy situation." (*Meyer.*)

20220. ERIOCHLOA VILLOSA.

From northern Korea. "(No. 491a, Sept. 6, 1906.) The same as No. 490a (S. P. I. No. 20219), but of a more vigorous growth." (*Meyer.*)

20221. CHLORIS sp.

From northern Korea. "(No. 492a, Sept. 3, 1906.) A grass growing on very dry, elevated plains and along roads in but one locality; probably not very valuable." (*Meyer.*)

20222. MELICA sp.

From Liaoyang, Manchuria. "(No. 493a, June 21, 1906.) A graceful grass growing on the dry, exposed city wall of Liaoyang; may be of use in the very dry regions of the United States." (*Meyer.*)

20223. AGROPYRON SIBIRICUM (?).

From Liaoyang, Manchuria. "(No. 494a, June 21, 1906.) A coarse grass growing on the dry, exposed city wall of Liaoyang." (*Meyer.*)

20224. POA TRIVIALIS. **Rough-stalked meadow grass.**

From Liaoyang, Manchuria. "(No. 495a, June 21, 1906.) A grass of good habit growing on the dry, exposed city wall of Liaoyang." (*Meyer.*)

20225. CAREX sp. **Sedge.**

From the mountains of northern Korea. "(No. 496a, Aug. 22, 1906.) A round-stemmed Carex growing on dry, high grounds. May be of use as a fodder plant." (*Meyer.*)

20226. CAREX sp. **Sedge.**

From the mountains of northern Korea. "(No. 497a, Aug. 22, 1906.) Probably identical with No. 496a (S. P. I. No. 20225)." (*Meyer.*)

20227. CAREX sp. **Sedge.**

From the mountains of northern Korea. "(No. 498a, Aug. 27, 1906.) A Carex grown in fields used as pasturing grounds for bulls and horses, which seem to like this sedge. Grows on somewhat moist, peaty soil. Of use as a fodder plant on moist lands in the Northern States." (*Meyer.*)

20228. SCIRPUS ERIOPHORUM.

From the mountains of northern Korea. "(No. 499a, Sept. 6, 1906.) A tall, rough Scirpus found on very dry ground; probably a good fodder plant." (*Meyer.*)

20229. SCIRPUS ERIOPHORUM.

From near Novo Kiowsk, Siberia. "(No. 500a, Sept. 9, 1906.) Identical with No. 499a (S. P. I. No. 20228), but found growing in a moist locality." (*Meyer.*)

20230 to 20288.

From Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, March 12, 1907.

Cuttings of fruit trees, ornamentals, etc., as follows:

20230. MALUS sp. **Apple.**

From Kwang-cheng-tze. "(No. 575.) Chinese name *Sha ho tze.* A red apple with white cheeks." (*Meyer.*)

20231. MALUS sp. **Siberian crab apple.**

From Kwang-cheng-tze. "(No. 576.) Cuttings of the original Siberian crab apple growing at Kwang-cheng-tze and used for grafting stock for the better varieties." (*Meyer.*)

20232. PYRUS SINENSIS. **Pear.**

From Kwang-cheng-tze. "(No. 577.) The fragrant water pear, or *Hsiang suy li*, used dried and fresh in Manchuria." (*Meyer.*)

20233. PYRUS SINENSIS. **Pear.**

From Kwang-cheng-tze. "(No. 578.) Chinese name *Ya li.* A large pear, one of the best of north China." (*Meyer.*)

20234. PYRUS SINENSIS. **Pear.**

From Kwang-cheng-tze. "(No. 579.) The same as No. 578 (S. P. I. No. 20233), but said to be a somewhat different form." (*Meyer.*)

20235. PYRUS SINENSIS. **Pear.**

From Kwang-cheng-tze. "(No. 580.) Chinese name *Bay li.* A pear with rather hard, whitish yellow fruits." (*Meyer.*)

20236. SALIX sp. **Willow.**

From near Kwang-cheng-tze. "(No. 581.) A semiweeping willow with a straight stem and graceful, drooping branches hanging from its crown." (*Meyer.*)

20237. MALUS sp. **Crab apple.**

From San-tau-lin-tze. "(No. 582.) A tall-growing form of the wild crab apple." (*Meyer.*)

20238. MALUS sp. **Crab apple.**

From San-tau-lin-tze. "(No. 583.) A very shrubby form of the wild crab apple." (*Meyer.*)

20239. AMYGDALUS PERSICA. **Peach.**

From Kirin. "(No. 584.) A pale colored, medium-sized peach. Kirin is the most northern locality where I have as yet found peaches." (*Meyer.*)

20240. PRUNUS sp. **Cherry.**

From Kirin. "(No. 585.) A large-fruited bush cherry. Chinese name *Ta ying taor.*" (*Meyer.*)

20241. PRUNUS sp. **Plum.**

From Kirin. "(No. 586.) A medium-sized, red-fruited sweet plum." (*Meyer.*)

20242. SALIX sp. **Willow.**

From near Yi-ma-tchau. "(No. 588.) A willow with opposite leaves." (*Meyer.*)

20243. PYRUS SINENSIS. **Pear.**

From Tieling. "(No. 589.) A wild pear with drooping branches and edible fruit." (*Meyer.*)

20230 to 20288—Continued.

20244. PYRUS SINENSIS. **Pear.**

From Liaoyang. "(No. 590.) A round, medium-sized, soft pear of reddish color. Chinese name *Shuy hong hsiau li.*" (*Meyer.*)

20245. PYRUS SINENSIS. **Pear.**

From Liaoyang. "(No. 591.) The famous fragrant-water pear or *Hsiang suy li;* used by the Chinese both dried and fresh." (*Meyer.*)

20246. PYRUS SINENSIS. **Pear.**

From Liaoyang. "(No. 592.) A medium-sized, soft pear, called *Ping li.*" (*Meyer.*)

20247. PYRUS SINENSIS. **Pear.**

From Liaoyang. "(No. 593.) A very large-fruited pear of yellow color and with juicy, somewhat hard flesh. A little coarse, but may be excellent for canning purposes." (*Meyer.*)

20248. PYRUS SINENSIS. **Pear.**

From Liaoyang. "(No. 594.) A soft pear, called *Moa pan suan li.*" (*Meyer.*)

20249. CAREX sp. **Sedge.**

From San-tau-lin-tze. "(No. 599.) A very nice sedge. May be valuable for lawn and fodder purposes in dry, cold regions." (*Meyer.*)

20250. CAREX sp. **Sedge.**

From near San-tau-lin-tze. "(No. 600.) A semicoarse sedge." (*Meyer.*)

20251 to 20267. PYRUS SINENSIS. **Pear.**

A collection of pear cuttings from Manchuria. With each number the Chinese varietal name is given. From Kwang-ning. (Nos. 601 to 617.)

20251.

Ma ti huang li. (No. 601.)

20252.

Chin tse li. (No. 602.)

20253.

Hsiang suy li. (No. 603.)

20254.

Ping ding li. (No. 604.)

20255.

Ta ma li. (No. 605.)

20256.

Ya li. One of the best pears of north China. (No. 606.)

20257.

Hung li. (No. 607.)

20258.

Chin pai li. (No. 608.)

20259.

Yuan po li. (No. 609.)

20260.

Mien swan li. (No. 610.)

20261.

Mien kuan li. (No. 611.)

20262.

An li. (No. 612.)

20263.

Kuan hung hsiao li. Seems to be a very rare variety; used only as presents to the Emperor. (No. 613.)

20264.

Chang poa li. (No. 614.)

20265.

Yu chiu li. (No. 615.)

20266

Ta li. (No. 616.)

20267.

Shan li hung. A wild mountain pear used as grafting stock. (No. 617.)

20230 to 20288—Continued.

20268. CRATAEGUS PINNATIFIDA. **Hawthorn.**

From Kwang-ning. "(No. 618.) A large-fruited hawthorn called *Tsuan dsao*." (*Meyer.*)

20269 to 20275. PYRUS SINENSIS. **Pear.**

From Kwang-ning. (Nos. 619 to 625.)

20269.
Ne o tau li. (No. 619.)

20270.
Ta yang li. (No. 620.)

20271.
Huang hsiang sui li. (No. 621.)

20272.
Tang li. (No. 622.)

20273.
Ghua kai li. (No. 623.)

20274.
Lin yuen li. (No. 624.)

20275.
Nai tsu hsiang li. (No. 625.)

20276 to 20280. MALUS sp. **Apple.**

From Kwang-ning. (Nos. 626 to 630.)

20277.
Pin tsu. (No. 627.)

20278.
Hua hong chintze. A pretty flowering tree or shrub. (No. 628.)

20279.
Hua hong. A pretty flowering tree or shrub, a little different from the preceding. (No. 629.)

20280.
Ping kua. (No. 630.)

20281. PRUNUS sp. **Plum.**

From Kwang-ning. (No. 631.)

20282. AMYGDALUS PERSICA LAEVIS. **Nectarine.**

From Kwang-ning. (No. 634.)

Li tsu.

20283 to 20286. AMYGDALUS PERSICA. **Peach.**

From Kwang-ning. (Nos. 640 to 643.)

Ta hsing mei.

20283.
Ta chich tau. (No. 640.)

20284.
Pai tau. (No. 641).

20285.
Hung tau. (No. 642.)

20286.
Mao tau. (No. 643.)

20287 and 20288. PRUNUS sp. **Cherry.**

From Kwang-ning. (Nos. 644 and 645.)

20287.
Ta ying tao. (No. 644.)

20288.
Moa ying tao. (No. 645.)

20289 to 20424.

From Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, February 28, 1907.

A collection of seeds, as follows:

20289. JUGLANS MANDSHURICA. **Manchuria walnut.**

From between Vladivostok and Spask. "(No. 515a, Oct. 19, 1906.) Collected from different trees in eastern Siberia. These are worthless from a utilitarian point of view, but the trees are quite ornamental and reach large sizes." (*Meyer.*)

20289 to 20424—Continued.

20290. TILIA CORDATA (?). **Linden.**

From Khabarovsk. "(No. 516a, Nov. 10 and 12, 1906.) A small-leaved linden growing wild in the neighborhood of Khabarovsk; is used in the city as an avenue tree; also in the parks and gardens. Seems to be a most profuse bloomer; height, 12 to 20 feet." (*Meyer.*)

20291. TILIA CORDATA (?). **Linden.**

From the mountains near Czernigowka. "(No. 517a, Oct. 22, 1906.) A small-leaved linden used locally for making wooden pumps and small water troughs. Apparently the same as No. 516a (S. P. I. No. 20290)." (*Meyer.*)

20292. TILIA MANDSHURICA (?). **Linden.**

From the mountains near Merkoechofka. "(No. 518a, Oct. 20, 1906.) A very large-leaved linden found growing in the forests; is used locally to make water troughs, barrels, and beehives. May be used in the colder parts of the United States as an ornamental park and shade tree." (*Meyer.*)

20293. TILIA MANDSHURICA. **Linden.**

From Khabarovsk. "(No. 519a, Nov. 7, 1906). Received from the forester of the Imperial Domains. This is said to be an ornamental forest tree." (*Meyer.*)

20294. ACER GINNALA. **Japan maple.**

From between Vladivostok and Iman. "(No. 520a, Oct., 1906.) The same as No. 424a (S. P. I. No. 20149)." (*Meyer.*)

20295. ACER PALMATUM. **Maple.**

From near Vladivostok. "(No. 521a, Oct. 6, 1906.) A medium-sized maple, the leaves of which assume a beautiful fiery-red color in the fall." (*Meyer.*)

20296. ACER sp. **Maple.**

From Saponsky. "(No. 522a, Oct. 19, 1906.) A bushy maple producing many stems, with a beautiful red-colored bark. Seed obtained from the forester of the government nursery at Saponsky." (*Meyer.*)

20297. ACER sp. **Maple.**

From the mountains near Merkoechofka. "(No. 523a, Oct. 25, 1906.) A bushy, red-stemmed maple, the same as No. 522a (S. P. I. No. 20296), but obtained from another source." (*Meyer.*)

20298. ACER MONO (?). **Maple.**

From Saponsky. "(No. 524a, Oct. 19, 1906.) A small or medium sized maple bearing a great profusion of small, five-pointed leaves, which assume a golden yellow color in the fall. Obtained from the forester of the government nursery at Saponsky." (*Meyer.*)

20299. ACER TEGMENTOSUM (?). **Maple.**

From Saponsky. "(No. 525a, Oct. 19, 1906.) A broad-leaved maple growing to be a small tree or large shrub. Obtained from the forester of the government nursery at Saponsky." (*Meyer.*)

20300. ACER TEGMENTOSUM. **Maple.**

From Khabarovsk. "(No. 526a, Nov. 7, 1906.) For description see No. 525a (S. P. I. No. 20299). Seed obtained from the forester of the Imperial Domains." (*Meyer.*)

20301. ACER sp. **Maple.**

From Khabarovsk. "(No. 527a, Nov. 7, 1906.) A small-sized maple of use as an ornamental bush in large shrubberies in parks. Obtained from the forester of the Imperial Domains." (*Meyer.*)

20289 to 20424—Continued.

30302. CORYLUS AVELLANA. **Hazelnut.**

From Khabarovsk. "(No. 528a, Nov. 15, 1906.) Nuts purchased at a Chinese fruit stand in Khabarovsk; said to have come from Siberia." (*Meyer.*)

20303. CORYLUS ROSTRATA. **Hazelnut.**

From Merkoechofka. "(No. 529a, Oct. 25, 1906.) A hazelnut growing on the edges of the forests, often covering very large expanses and forming dense thickets." (*Meyer.*)

20304. CORYLUS ROSTRATA. **Hazelnut.**

From Khabarovsk. "(No. 530a, Nov. 15, 1906.) Purchased at a Chinese fruit stand in Khabarovsk; said to have come from the country along the Sungari." (*Meyer.*)

20305. CORYLUS ROSTRATA. **Hazelnut.**

From Khabarovsk. "(No. 531a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains. For other remarks, see No. 520a (S. P. I. No. 20303)." (*Meyer.*)

20306. QUERCUS MONGOLICA. **Oak.**

From between Vladivostok and Iman. "(No. 532a, Oct., 1906.) A rather large leaved oak found growing all over the country. May thrive in the coldest parts of the United States." (*Meyer.*)

20307. QUERCUS MONGOLICA. **Oak.**

From Khabarovsk. "(No. 533a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains. For further description see No. 532a (S. P. I. No. 20306)." (*Meyer.*)

20308. ACANTHOPANAX SESSILIFLORUM.

From between Vladivostok and Spask. "(No. 534, Oct., 1906.) An ornamental, hardy shrub. For further description see Nos. 547 to 550 (S. P. I. No. 19476)." (*Meyer.*)

20309. ELEUTHEROCOCCUS SENTICOSUS.

From near Vladivostok and Merkoechofka. "(No. 535a, Oct., 1906.) A very spiny shrub, bearing palmate divided leaves and having at the end of its long shoots small umbels of black berries; grows generally in dense shade. May be of use as an undergrowth beneath tall trees." (*Meyer.*)

20310. ARALIA MANDSHURICA. **Chinese angelica tree.**

From the forest near Merkoechofka. "(No. 536a, Oct. 25, 1906.) A robust-growing Aralia, with very large leaves and bearing big umbels of whitish flowers." (*Meyer.*)

20311. ARALIA MANDSHURICA. **Chinese angelica tree.**

From Khabarovsk. "(No. 537a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains. For further remarks see No. 536a (S. P. I. No. 20310)." (*Meyer.*)

20312. ACANTHOPANAX RICINIFOLIUM.

From the forest near Merkoechofka. "(No. 538a, Oct. 25, 1906.) A beautiful tree of striking appearance, having large, palmately lobed leaves and flowers in white umbels. A tree in full flower makes a striking impression, growing to be about 50 feet tall." (*Meyer.*)

20313. PICEA sp. **Spruce.**

From the forest near Bo-tau-shan, northern Korea. (No. 539a, Aug. 24, 1906.)

20289 to 20424—Continued.

20314. PICEA sp. **Spruce.**

From the primeval forests of Bo-tau-shan, northern Korea. "(No. 540a, Aug. 24, 1906.) A tall, large spruce." (*Meyer.*)

20315. PINUS KORAIENSIS. **Pine.**

From Khabarovsk and Corvuskaya. "(Nos. 542a and 682a.) No. 542a was purchased at a Chinese fruit stand in the market at Khabarovsk, while No. 682a was obtained from collectors at Corvuskaya, where there are large forests of these pines." (*Meyer.*)

20316. PINUS KORAIENSIS. **Pine.**

From Khabarovsk. "(No. 543a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20317. PINUS CEMBRA. **Pine.**

From Khabarovsk. "(No. 544a, Nov. 15, 1906.) Edible pine seeds, said to have came from the forests of eastern Siberia; purchased at a Chinese fruit stand in the market at Khabarovsk." (*Meyer.*)

20318. PICEA AJANENSIS. **Spruce.**

From Khabarovsk. "(No. 545a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20319. PICEA OBOVATA. **Spruce.**

From Khabarovsk. "(No. 546a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20320. ABIES SIBIRICA. **Fir.**

From Khabarovsk. "(No. 547a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20321. LARIX DAHURICA. **Larch.**

From Khabarovsk. "(No. 548a, Nov. 7, 1907.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20322. CLADRASTIS AMURENSIS.

From between Vladivostok and Iman. "(No. 549a, Oct., 1906.) A hardy, ornamental tree; seen often also as a shrub. Has beautiful hard wood, which is very durable and which can be used for many purposes, such as making furniture, bridge rafters, fence posts, etc. This tree is a slow grower." (*Meyer.*)

20323. CLADRASTIS AMURENSIS.

From Khabarovsk. "(No. 550a, Nov. 14, 1906.) The same as No. 549a (S. P. I. No. 20322), but may be hardier" (*Meyer.*)

20324. SYRINGA AMURENSIS. **Amur lilac.**

From Nikolsk. "(No. 552a, Oct. 18, 1906.) The beautiful Amur lilac, a vigorous-growing shrub, able to withstand great droughts and cold; having large, glossy, dark green leaves, and bearing large panicles of white flowers." (*Meyer.*)

20325. FRAXINUS MANDSHURICA. **Ash.**

From Khabarovsk. "(Nos. 553a and 554a, Nov. 12, 1906.) A tall-growing ash with rather large leaves; able to withstand much drought and cold. Obtained from the forester of the Imperial Domains." (*Meyer.*)

20326. PHELLODENDRON AMURENSE. **Chinese cork tree.**

From Sedansk. "(No. 555a, Oct. 6, 1906.) The Manchurian cork tree or, in Russian, *Barchat.* The wood is quite durable and takes on a beautiful polish; the berries contain a fragrant oil." (*Meyer.*)

20289 to 20424—Continued.

20327. PHELLODENDRON AMURENSE. **Chinese cork tree.**

From Khabarovsk. "(Nos. 556a and 668a, Nov. 7, 1906, and Apr. 11, 1907.) Obtained from the forester of the Imperial Domains. Coming from a more northern locality these seeds may produce hardier trees than those sent under No. 555a (S. P. I. No. 20326)." (*Meyer.*)

20328. CRATAEGUS SANGUINEA. **Hawthorn.**

From the mountains near Okiansk. "(No. 557a, Oct. 9, 1906.) A very hardy hawthorn growing all over eastern Siberia. Seeds also collected in northern Korea and sent under No. 380a (S. P. I. No. 20105)." (*Meyer.*)

20329. BERBERIS AMURENSIS. **Barberry.**

From Khabarovsk. "(No. 558a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20330. BERBERIS sp. **Barberry.**

From near Vladivostok. "(No. 559a, Oct. 5, 1906.) A shrub with large, light green leaves and large racemes of scarlet berries." (*Meyer.*)

(See also S. P. I. Nos. 20111 and 20112.)

20331. LONICERA sp. **Honeysuckle.**

From near Merkoechofka. "(No. 560a, Oct. 23, 1906.) A tall bush bearing red berries, growing in semishady places." (*Meyer.*)

20332. PHILADELPHUS sp. **Mock orange.**

From the mountains near Merkoechofka. "(No. 561a, Oct. 24, 1906.) A mock orange growing to be a very tall bush. Judging by the many fruit capsules on a bush, it must be a fine bush when in full bloom." (*Meyer.*)

20333. EUONYMUS THUNBERGIANUS.

From near Vladivostok. "(No. 562a, Oct. 6, 1906.) A low, bushy Euonymus having large, corky wings on its branches. When loaded with its numerous scarlet berries it is really quite ornamental." (*Meyer.*)

20334. EUONYMUS sp.

From near Vladivostok. "(No. 563a, Oct. 6, 1906.) A tall, bushy Euonymus with large, dark green leaves and bearing big red capsules." (*Meyer.*)

20335. LESPEDEZA sp.

From the mountains near Czernigowka. "(No. 564a, Oct. 21 and 22 1906.) A tall, shrubby Lespedeza bearing slender racemes or rosy flowers. Seems to be a good plant for rather dry situations." (*Meyer.*)

20336. PYRUS SINENSIS. **Pear.**

From Saponsky. "(No. 565a, Oct. 19, 1906.) *Pyrus ussuriensis.* The wild pear found growing all over eastern Siberia; produces worthless fruit, but may, on account of its hardiness, be utilized as a stock plant for better varieties, and also be used for hybridizing so as to extend the belt of pear culture farther north. Obtained from the forester of the government nursery at Saponsky." (*Meyer.*)

20337. PYRUS SINENSIS. **Pear.**

From Khabarovsk. "(No. 566a, Nov. 7, 1906.) *Pyrus ussuriensis.* Obtained from the forester of the Imperial Domains at Kharbarovsk. For description see preceding number." (*Meyer.*)

20338. PYRUS SINENSIS. **Pear.**

From Vladivostok. "(No. 567a, Oct. 6, 1906.) Seed of a large, juicy, brown pear said to have come from Japan." (*Meyer.*)

20289 to 20424—Continued.

20339. MALUS BACCATA. **Siberian crab apple.**

From near Okiansk. "(No. 568a, Oct. 9, 1906.) The ordinary type of *Malus baccata*, seen all over eastern Siberia, northern Korea, and Manchuria. Is worthless from a fruiting point of view, but may be very valuable as a stock for apples in the northern regions; also in hybridizing with large-fruited varieties it may be possible to produce a perfectly hardy apple far north. At the present, as an ornamental early-flowering shrub or tree it has most value." (*Meyer.*)

20340. MALUS BACCATA. **Siberian crab apple.**

From near Saponsky. "(No. 569a, Oct. 19, 1906.) Obtained from the forester of the government nursery at Saponsky. See also 568a (S. P. I. No. 20339)." (*Meyer.*)

20341. MALUS BACCATA. **Siberian crab apple.**

From Khabarovsk. "(No. 570a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains at Khabarovsk. For other remarks see 568a and 569a (S. P. I. Nos. 20339 and 20340)." (*Meyer.*)

20342. PRUNUS PUMILA. **Sand cherry.**

From Khabarovsk. "(No. 571a, Nov. 7, 1906.) A low bush bearing many scarlet cherries, which are generally inedible. Obtained from the forester of the Imperial Domains. Seeds of this cherry were also collected in Korea under Nos. 353a to 356a (S. P. I. Nos. 20085 to 20088)." (*Meyer.*)

20343. PRUNUS sp. **Plum.**

From Khabarovsk. "(No. 572a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains at Khabarovsk. May be of use as a stock plant or for breeding purposes." (*Meyer.*)

20344. PRUNUS GLANDULIFOLIA. **Chokecherry.**

From Khabarovsk. "(No. 573a, Nov. 7, 1906.) An ornamental chokecherry well adapted for use as a small avenue tree. Seems to be the same as that sent from Korea under No. 348a (S. P. I. No. 20080). Obtained from the forester of the Imperial Domains at Khabarovsk." (*Meyer.*)

20345. RUBUS sp. **Blackberry.**

From near Vladivostok. "For description see No. 358a. (S. P. I. No. 20196)." (*Meyer.*)

20346. DIOSPYROS KAKI. **Persimmon.**

From Khabarovsk. "(No. 575a, Nov. 14, 1906.) Seeds of a persimmon sold in Khabarovsk by Chinese fruit peddlers, coming from Chefoo, China." (*Meyer.*)

20347. VITIS AMURENSIS. **Grape.**

From Khabarovsk. "(No. 567a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains at Kharbarovsk. For other remarks see Nos. 551 and 552 (S. P. I. No. 19477) and 564 and 565 (S. P. I. No. 19600)." (*Meyer.*)

20348. VITIS AMURENSIS. **Grape.**

From between Vladivostok and Spask. "(No. 577a, Oct., 1906.) Seed of wild grapes collected at different points in eastern Siberia. See No. 567a (S. P. I. No. 20347)." (*Meyer.*)

20349. VITIS AMURENSIS. **Grape.**

From the mountains near Czernigowka. "(No. 578a, Oct. 23, 1906.) A very large leaved variety. For description see Nos. 564 and 565 (S. P. I. No. 19600)." (*Meyer.*)

20289 to 20424—Continued.

20350. CRATAEGUS PINNATIFIDA. **Hawthorn.**

From near Czernigowka. "(No. 579a, Oct. 23, 1906.) For description see No. 384a (S. P. I. No. 20109)." (*Meyer.*)

20351. ROSA sp. **Rose.**

From near Okiansk. "(No. 580a, Oct. 9, 1906.) A wild climbing rose." (*Meyer.*)

20352. ROSA sp. **Rose.**

From near Vladivostok. "(No. 581a, Oct. 6, 1906.) A wild rose forming a low, dense bush; of use as a shrub for small gardens." (*Meyer.*)

20353. ROSA RUGOSA. **Rose.**

From near Okiansk. "(No. 582a, Oct. 9, 1906.) A very low growing variety of the Japanese rose; of use in small gardens as an ornamental shrub." (*Meyer.*)

20354. ROSA sp. **Rose.**

From near Czernigowka. "(No. 583a, Oct. 23, 1906.) A wild rose forming low bushes and covering here and there large areas; of use in parks and gardens as a shrub for the borders." (*Meyer.*)

20355. LILIUM sp. **Lily.**

From near Vladivostok. "(No. 584a, Oct. 6, 1906.) Seed of a wild lily found growing between shrubs; not seen in flower, but probably has scarlet blossoms." (*Meyer.*)

20356. LILIUM sp. **Lily.**

From the mountains near Czernigowka. "(No. 585a, Oct. 21, 1906.) A lily with very narrow leaves; not seen in flower, but probably has pink blossoms." (*Meyer.*)

20357. ASPARAGUS sp. **Asparagus.**

From near Sedansk. "(No. 586a, Oct. 8, 1906.) An ornamental asparagus, seeds of which were collected in northern Korea and sent under No. 433a (S. P. I. No. 20158)." (*Meyer.*)

20358. ACTAEA sp.(?).

From the forest near Merkoechofka. "(No. 587a, Oct. 24, 1906.) A perennial bearing blue berries and found growing in dense, shady places." (*Meyer.*)

20359. (Undetermined.)

From Tchien-shan mountains, southern Manchuria. "(No. 588a, June 8, 1906.) A perennial with several short stems, each bearing four dark green, serrated leaves of ovate-lanceolate form. Has long, narrow pods containing many small greenish seeds and is closely related to the Papaveraceæ and Fumariaceæ. It is only to be found in dense, shady places." (*Meyer.*)

20360. ACTINIDIA KOLOMIKTA.

From the mountains near Merkoechofka. "(No. 589a, Oct. 24, 1906.) These fruits are called *Kishmis* by the Russian settlers here and are collected in the fall and can be kept, when dried, through the whole winter. They are used in bread and confectionery by the country people. See also No. 359a (S. P. I. No. 20197)." (*Meyer.*)

20361. SCHIZANDRA CHINENSIS.

From near Vladivostok. "(No. 590a, Oct. 8, 1906.) For description see Nos. 360a, 567, and 568. (S. P. I. No. 19602.)" (*Meyer.*)

20289 to 20424—Continued.

20362. CLEMATIS sp. **Clematis.**

From Sedansk. "(No. 591a, Oct. 8, 1906.) A climbing Clematis; not seen in flower, but probably has yellow blossoms." (*Meyer.*)

20363. PANICUM CRUS-GALLI. **Barnyard millet.**

From Merkoechofka. "(No. 592a, Oct. 26, 1906.) Chinese name *Bay tze.* This millet prefers a heavy, wet soil; of use as a fodder plant. See also No. 50a (S. P. I. No. 17901)." (*Meyer.*)

20364. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 594a, Nov. 8, 1906.) *Black French. 'Prolifique.'* Seed obtained from Mr. V. T. Kovaleff, in charge of the agricultural station at Khabarovsk. These oats were ordered from Russia in 1900 and gave in four years' time the heaviest crop of all oats experimented with up here." (*Meyer.*)

20365. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 595a, Nov. 8, 1906.) *Shatilovsky.* Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station at Khabarovsk. These oats were ordered from Russia in 1905 and gave a heavy crop last year." (*Meyer.*)

20366. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 596a, Nov. 15, 1906.) *Shatilovsky.* Purchased on the market at Khabarovsk, where these oats are considered the best variety and are dearer than other varieties." (*Meyer.*)

20367. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 597a, Nov. 8, 1906.) *Shawannie.* Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station at Khabarovsk. Original seed secured in Russia in 1900; produced rather good crops at Khabarovsk." (*Meyer.*)

20368. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 598a, Nov. 8, 1906.) A local variety of oats secured from Mr. V. T. Kovaleff, in charge of the agricultural station. This does not produce as heavy a crop as the improved varieties do." (*Meyer.*)

20369. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 599a, Nov. 15, 1906.) Purchased on the market at Khabarovsk. An ordinary variety grown anywhere." (*Meyer.*)

20370. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 600a, Nov. 15, 1906.) Red oats purchased on the market at Khabarovsk; considered to be of a medium good quality." (*Meyer.*)

20371. TRITICUM VULGARE. **Wheat.**

From Khabarovsk. "(No. 601a, Nov. 8, 1906.) Summer wheat obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. This wheat has to be sown somewhat early here; otherwise it produces very little." (*Meyer.*)

20372. TRITICUM VULGARE. **Wheat.**

From Khabarovsk. "(No. 602a, Nov. 15, 1906.) Red summer wheat purchased on the market at Khabarovsk; grown locally and in Manchuria." (*Meyer.*)

20289 to 20424—Continued.

20373. SECALE CEREALE. **Rye.**

From Khabarovsk. "(No. 603a, Nov. 8, 1906.) *Propsteyer.* Winter rye obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1895. When sown the last week in August it produces in general a satisfactory crop." (*Meyer.*)

20374. SECALE CEREALE. **Rye.**

From Khabarovsk. "(No. 604a, Nov. 8, 1906.) *Propsteyer.* Summer rye obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1897; does not produce as heavy a crop as the winter rye." (*Meyer.*)

20375. HORDEUM HEXASTICHUM. **Six-row barley.**

From Khabarovsk. "(No. 605a, Nov. 6, 1906.) Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. This barley produces medium heavy crops here." (*Meyer.*)

20376. FAGOPYRUM ESCULENTUM. **Buckwheat.**

From Khabarovsk. "(Nos. 606a and 674a, Nov. 8, 1906.) A local variety of buckwheat obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. This variety is not a very great success here." (*Meyer.*)

20377. HELIANTHUS ANNUUS. **Sunflower.**

From Merkoechofka. "(No. 607a, Oct. 25, 1906.) A local form of sunflower producing many heads." (*Meyer.*)

20378. BRASSICA NAPUS. **Rape.**

From Khabarovsk. "(No. 609a, Nov. 8, 1906.) Summer rape obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1902." (*Meyer.*)

20379. SINAPIS ALBA. **White mustard.**

From Khabarovsk. "(No. 610a, Nov. 8, 1906.) Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1902." (*Meyer.*)

20380. PISUM SATIVUM. **Pea.**

From Khabarovsk. "(No. 611a, Nov. 8, 1906.) Wax peas obtained from Mr. V. T. Kovaleff, in charge of agricultural station. Original seed secured in Russia in 1900; not a very good producer in this country." (*Meyer.*)

20381. PISUM SATIVUM. **Pea.**

From Khabarovsk. "(No. 612a, Nov. 8, 1906.) An early green pea obtained from Mr. V. T. Kovaleff, in charge of agricultural station. Original seed secured in Russia in 1900; a rather good producer at Khabarovsk." (*Meyer.*)

20382. PISUM SATIVUM. **Pea.**

From Khabarovsk. "(No. 613a, Nov. 8, 1906.) A local variety of white peas secured from Mr. V. T. Kovaleff, in charge of agricultural station. This variety is the largest producer in these regions." (*Meyer.*)

20383. LATHYRUS MARITIMUS.

From the shore of Amur Bay, near Sedansk. "(No. 614a, Oct. 6, 1906.) A perennial pea." (*Meyer.*)

20384. TRIFOLIUM sp. **Clover.**

From the mountains near Czernigowka. "(No. 615a, Oct. 22, 1906.) For description see 328a and 329a (S. P. I. Nos. 20021 and 20022.)" (*Meyer.*)

20289 to 20424—Continued.

20385. VICIA sp. **Vetch.**

From the mountains near Czernigowka. (No. 616a, Oct. 21, 1906.)

20386. AMPHICARPAEA EDGWORTHII (?).

From the mountains near Czernigowka. (No. 617a, Oct. 22, 1906.)

20387. SCIRPUS LACUSTRIS.

From near Sedansk. "(No. 618a, Oct. 7, 1906.) Found growing in standing water on clayey land. May be of use for making coarse, cheap matting. Sow the seeds in pans which are kept in standing water." (*Meyer.*)

20388. JUNCUS EFFUSUS (?). **Rush.**

From near Czernigowka. "(No. 620a, Oct. 22, 1906.) A rush, found growing in moist mountain meadows on black, peaty soil. This is a valuable rush for matting manufacture. See Nos. 559 and 560 (S. P. I. No. 19597)." (*Meyer.*)

20389. JUNCUS sp. (?).

From near Vladivostok. "(No. 624a, Oct. 5, 1906.) A juncus-like plant growing in swampy, submerged places." (*Meyer.*)

20390. ELYMUS SABULOSUS.

From the shore of Amur Bay, Sedansk. "(No. 626a, Oct. 7, 1906.) A grass which may be of use as a sand binder in the northern parts of the United States." (*Meyer.*)

20391. CALAMAGROSTIS sp.

From the mountains near Czernigowka. "(No. 627a, Oct. 22, 1906.) A tall, slender grass, growing in dense masses in the open forest. It is browsed upon by cattle and may be of use as a forage grass in the colder parts of the United States." (*Meyer.*)

20392. ARUNDINELLA ANOMALA.

From the mountains near Czernigowka. "(No. 629a, Oct. 21, 1906.) A coarse grass that may be of use as a forage grass in the colder, drier parts of the United States." (*Meyer.*)

20393. PANICULARIA sp.

From near Sedansk. "(No. 631a, Oct. 7, 1906.) A tall-growing variety of swamp-grass, to be tried as a fodder grass on swampy land." (*Meyer.*)

20394. PANICULARIA sp.

From near Sedansk. (No. 632, Oct. 7, 1906.) For description see S. P. I. No. 20393.

20395. ANDROPOGON sp.

From the mountains near Czernigowka. "(No. 633a, Oct. 22, 1906.) A grass found growing in the open forest on rather sterile soil." (*Meyer.*)

20396. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 634a, Nov. 15, 1906.) Large, red beans, purchased on the market at Khabarovsk. These beans are grown in Siberia for food, being eaten either fresh or dried. This is a dwarf variety, and seems to thrive best on black, peaty soil." (*Meyer.*)

20397. PHASEOLUS VULGARIS. **Bean.**

From Merkoechofka. "(No. 635a, Oct. 25, 1906.) Large, rosy beans, grown locally for food, being eaten either fresh or dried. A dwarf variety that seems to thrive best on black, peaty soil." (*Meyer.*)

20289 to 20424—Continued.

20398. PHASEOLUS VULGARIS. **Bean.**

From Merkoechofka. "(No. 636a, Oct. 25, 1906.) A yellow bean, grown locally for food." (*Meyer.*)

20399. PHASEOLUS VULGARIS. **Bean.**

From Merkoechofka. "(No. 637a, Oct. 25, 1906.) Medium-sized, dwarf, white beans, grown locally for food." (*Meyer.*)

20400. PHASEOLUS VULGARIS. **Bean.**

From Merkoechofka. "(No. 638a, Oct. 25, 1906.) Small, dwarf, white beans, grown locally for food." (*Meyer.*)

20401. PHASEOLUS VULGARIS. **Bean.**

From Merkoechofka. "(No. 639a, Oct. 25, 1906.) Very small, dwarf, white beans, grown locally for food." (*Meyer.*)

20402. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 640a, Nov. 15, 1906.) Small, yellowish beans, purchased in the market at Khabarovsk." (*Meyer.*)

20403. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 641a, Nov. 15, 1906.) Small, blackish beans, purchased in the market at Khabarovsk." (*Meyer.*)

20404. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 642a, Nov. 15, 1906.) Small, red beans, purchased in the market at Khabarovsk." (*Meyer.*)

20405. GLYCINE HISPIDA. **Soy bean.**

From Khabarovsk. "(No. 643a, Nov. 15, 1906.) Round, yellow soy beans purchased in the market at Khabarovsk. The Chinese let these beans sprout and use the sprouts all winter as a vegetable. Oil is also extracted from this variety, and the cakes thus formed make a very nutritious food for horses." (*Meyer.*)

20406. GLYCINE HISPIDA. **Soy bean.**

From Khabarovsk. "(No. 644a, Nov. 15, 1906.) A yellow soy bean purchased in the market at Khabarovsk." (*Meyer.*)

20407. GLYCINE HISPIDA. **Soy bean.**

From Merkoechofka. "(No. 645a, Oct. 25, 1906.) A brown-black variety grown in eastern Siberia; does not scatter when ripe and is very late in ripening, as it is harvested in the last half of October. Is used for food, being boiled with millet. This variety seems to have come originally from more southern regions, as the season here is somewhat short for it." (*Meyer.*)

20408. GLYCINE HISPIDA. **Soy bean.**

From Khabarovsk. "(No. 647a, Nov. 8, 1906.) Black soy beans obtained from Mr. V. T. Kovaleff, in charge of the experiment station at Khabarovsk. These seeds came originally from Manchuria in 1899 and are ripening here to perfection, while the light and dark yellow varieties do not ripen well at all. Are used for food for domestic animals when boiled, and are also sometimes fed in the green state." (*Meyer.*)

20409. GLYCINE HISPIDA. **Soy bean.**

From Merkoechofka. "(No. 648a, Oct. 25, 1906.) Very small, brownish beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)

20289 to 20424—Continued.

20410. GLYCINE HISPIDA. **Soy bean.**

From Merkoechofka. "(No. 649a, Oct. 25, 1906.) Very small, black beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)

20411. GLYCINE HISPIDA. **Soy bean.**

From Merkoechofka. "(No. 650a, Oct. 25, 1906.) Very small, dull-black beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)

20412. GLYCINE HISPIDA. **Soy bean.**

From Merkoechofka. "(No. 651a, Oct. 25, 1906.) Brown soy beans found mixed with No. 645a (S. P. I. No. 20406)." (*Meyer.*)

20413. PHASEOLUS VULGARIS. **Bean.**

From Merkoechofka. "(No. 652a, Oct. 25, 1906.) Black beans." (*Meyer.*)

20414. GLYCINE HISPIDA. **Soy bean.**

From Merkoechofka. "(No. 653a, Oct. 25, 1906.) Small, black soy beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)

20415. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 654a, Nov. 15, 1906.) Red beans found mixed with No. 634a (S. P. I. No. 20396), and seem to be a variety of that number." (*Meyer.*)

20416. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 655a, No. 15, 1906.) Brown beans found mixed with No. 634a (S. P. I. No. 20396), and seem to be a variety of that number." (*Meyer.*)

20417. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 656a, Nov. 15, 1906.) Dark brown-red beans found mixed with No. 634a (S. P. I. No. 20396)." (*Meyer.*)

20418. TYPHA LAXMANNI. **Cat-tail.**

From near Vladivostok. "(No. 664a, Oct. 5, 1906.) A very diminutive *Typha* especially adapted for a small pond in a Japanese garden. Should be sown on sterilized, peaty soil and the seed vessel kept in a saucer of water with a glass plate over the top." (*Meyer.*)

20419. NYMPUAEA sp. **Pond lily.**

From Lake Hanka. "(No. 665a, Oct. 29, 1906.) A water lily found growing in Lake Hanka; probably not ornamental." (*Meyer.*)

20420. RHEUM RHAPONTICUM. **Rhubarb.**

From Khabarovsk. "(No. 669a, Nov. 20, 1906.) A rhubarb perfectly hardy in this climate, where the temperature drops to 45° F. below zero in midwinter. Obtained from the agricultural station at Khabarovsk." (*Meyer.*)

20421. PHASEOLUS VULGARIS. **Bean.**

From Khabarovsk. "(No. 670a, Nov. 20, 1906.) A large, climbing bean obtained from the agricultural station at Khabarovsk. This bean is eaten as a vegetable when fresh, the pods being sliced." (*Meyer.*)

20289 to 20424—Continued.

20422. PAPAVER SOMNIFERUM. **Opium poppy.**

From Khabarovsk. "(No. 671a, Nov. 20, 1906.) Seed of a white poppy obtained from the agricultural station at Khabarovsk. This poppy is used locally by the Russians as a condiment on cakes and for oil production, and by the Chinese for opium production." (*Meyer.*)

20423. PAPAVER SOMNIFERUM **Opium poppy.**

From Khabarovsk. "(No. 672a, Nov. 20, 1906.) Seed of a blue poppy obtained from the agricultural station at Khabarovsk. For description see No. 671a (S. P. I. No. 20422)." (*Meyer.*)

20424. AVENA SATIVA. **Oat.**

From Khabarovsk. "(No. 673a, Nov. 20, 1906.) *Black French.* '*Prolifique.*' Obtained from the agricultural station at Khabarovsk. These oats are the best variety that has been experimented with in these northern regions and are considered by the manager of the station as very good." (*Meyer.*) (Same as S. P. I. No. 20364.)

20425. MEDICAGO SATIVA. Alfalfa.

From Liaoyang, Manchuria. Received through Mr. Frank N. Meyer, agricultural explorer, February 28, 1907.

"(No. 721a, Jan. 26, 1907.) An alfalfa growing in a sterile and rather exposed situation on the city wall of Liaoyang; possibly of value for the northern arid regions of the United States. Does not produce much growth in Liaoyang, but may develop when placed in a better situation." (*Meyer.*)

20426 to 20431.

From Paris, France. Presented by Prof. Julien Constantin, of the Museum of Natural History. Received March 16, 1907.

Roots, as follows:

20426. COLEUS DAZO.
Dazo.

20427. COLEUS TUBEROSUS.

20428. PLECTRANTHUS COPPINI.

20429. PLECTRANTHUS COPPINI.
Variety *nigra.*

20430. PLECTRANTHUS COPPINI.
Variety *rubra.*

20431. PLECTRANTHUS TERNATUS.

20435. SECHIUM EDULE. Chayote.

From Funchal, Madeira. Received through Mr. David Fairchild, March 19, 1907.

A lot containing large, smooth, and small prickly fruits.

20436. (Undetermined.) "Umshakata."

From Gwelo, South Africa. Presented by Mr. W. M. Longden, of Melsetter. Received March 25, 1907.

"A fruit very common in the low-lying parts of the district, known by the natives as *Umshakata.* This tree grows in many parts of this district, but attains a great size only in very warm, low-lying parts, and does not seem to fruit at all in places where there is much frost. This fruit is from the farm of Mr. R. A. Blake, of Gwelo." (*Longden.*)

20438 to 20440.

From Kelso, Scotland. Received through Laing and Mather, March 23, 1907.

20438. DACTYLIS GLOMERATA. **Orchard grass.**
Danish.

20438 to 20440—Continued.

20439. PHLEUM PRATENSE. **Timothy.**

Scotch.

20440. FESTUCA PRATENSIS. **Meadow fescue.**

Danish.

20447. DOLICHOS LABLAB. **Hyacinth bean.**

From Paris, France. Received through Vilmorin-Andrieux & Co., March 25, 1907.

Stringless variety.

20450. XANTHOSOMA sp. **Yautia.**

From the Isle of Pines. Presented by Dr. S. W. Mellott, of Santa Fe. Received March 26, 1907.

"Roots of what is said to be the best variety of yautia grown in the Isle of Pines. This lot is from an English colony from Cayman Island, now settled on the south coast of the Isle of Pines." (*Mellott.*)

20451. XANTHOSOMA sp. **Yautia.**

From Victoria, Tamaulipas, Mexico. Presented by Dr. Edward Palmer. Received March 25, 1907.

"A very common plant here; it gets into the water ditches and is as hard to get rid of as Johnson grass; it is called *Rejolgar* and no use is made of it here." (*Palmer.*)

20453. AGAVE sp. **Zapupe.**

From Victoria, Tamaulipas, Mexico. Received through Mr. Bernardo Zodilla, March 27, 1907.

Bulbils.

20454. SCIRPUS sp. **Rush.**

From Caldas da Rainha, Portugal. Received through Mr. David Fairchild, March 27, 1907.

"(No. 020.) Seed of a rush called the wild rush, which, though longer and even taller at times than the slender variety (see S. P. I. No. 19998), is brittle and not used for tying the vines or for mat making." (*Fairchild.*)

20458 to 20483.

From Svalöf, Sweden. Received through the Allmänna Svenska Utsädesaktiebolaget, March 22, 1907.

20458. AVENA SATIVA. **Oat.**

Svalöfs Hvitlinghafre (White oats).

20459. AVENA SATIVA. **Oat.**

Svalöfs Ligowohafre (Ligowo oats).

20460. AVENA SATIVA. **Oat.**

Svalöfs Guldregnshafre (Golden Rain oats).

20461. AVENA SATIVA. **Oat.**

Svalöfs Borstlösa Propsteierhafre (awnless Propsteier oats.)

20462. AVENA SATIVA. **Oat.**

Svalöfs Hvita Propsteierhafre (White Propsteier oats).

20463. AVENA SATIVA. **Oat.**

Svalöfs Svarta Klockhafre (Black Bell oats).

20458 to 20483—Continued.

20464. AVENA SATIVA. **Oat.**
Svalöfs Svarta Stormogulhafre (Black Great Mogul oats).

20465. PISUM SATIVUM. **Pea.**
Svalöfs Kapitalärt (Capital).

20466. PISUM SATIVUM. **Pea.**
Svalöfs Concordiaärt (Concordia).

20467. PISUM ARVENSE. **Pea.**
Soloärt (Solo).

20468. TRIFOLIUM PRATENSE. **Red clover.**
Gammal Svensk Rödklöfver (Old Swedish red clover).

20469. PHLEUM PRATENSE. **Timothy.**

20470. DACTYLIS GLOMERATA. **Orchard grass.**
Hundäxing (Couch-grass).

20471. ARRHENATHERUM ELATIUS. **Tall oat-grass.**
Knylhafre (Tall oats).

20472. FESTUCA PRATENSIS. **Meadow fescue.**
Angssvingel (Dansk.) (Danish meadow fescue).

20473. FESTUCA ARUNDINACEA. **Reed fescue.**
Rörsvingel (Reed fescue).

20474. BROMUS INERMIS. **Smooth brome-grass.**
Foderlosta (Fodder brome-grass).

20475. BROMUS ERECTUS. **Erect brome-grass.**
Raklosta (Erect brome-grass).

20476. POA PRATENSIS. **Kentucky bluegrass.**
Angsgröe (Meadow reed).

20477. HOLCUS LANATUS. **Velvet grass.**
Luddtätel (Velvet grass).

20478. PHALARIS ARUNDINACEA. **Reed canary grass.**
Rörflen (Reed canary grass).

20479. MELILOTUS ALBA. **Sweet clover.**
Hvitmelot (White melilot).

20480. HORDEUM DISTICHUM. **Two-row barley.**
Hannchen.

20481. HORDEUM HEXASTICHUM. **Six-row barley.**
Vätte Sexradskorn.

20482. HORDEUM DISTICHUM. **Two-row barley.**
0301 Gottland.

20483. BRASSICA RAPA. **Turnip.**
Kälrötter (cabbage-root).

20484 to 20490. XANTHOSOMA spp. Yautia.

From Sanchez, Santo Domingo. Presented by Mr. A. Hyatt Verrill, through Mr. O. W. Barrett. Received March 30, 1907.

Seven apparently distinct varieties without further data.

20492. PITTOSPORUM PENTANDRUM.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, March 21, 1907.

"Seed of an evergreen shrub, very showy when in fruit. Found in the Zambales Mountains at an altitude of 300 to 600 feet." (*Lyon.*)

20493. (Undetermined.)

From Washington, D. C. Presented by Hon. Edward A. Moseley, secretary, Interstate Commerce Commission. Received April 1, 1907.

Hon-Qua. "Seed of a species of gourd-like melon which the Chinese use for preserve making and in soups. Mr. Moseley says that the seeds of this are characteristic, with a curious protuberance near the hilum. Chinese in this country pay 50 cents a pound for these melons. They are often kept for two or three years by the Chinese before using. The culture is the same as that given to watermelons. Flesh white and as firm as the part of a watermelon which is commonly preserved." (*Fairchild.*)

20495 to 20504. PHOENIX DACTYLIFERA. Date.

From Tempe, Ariz. Received through Mr. C. J. Brand during the winter of 1906–7.

Seeds from American-grown fruit of the following imported varieties:

20495. *Amari.* (P. L. H. No. 2066.)

20496. *Birket el Haggi.* (P. L. H. No. 2067.)

20497. *Deglet Noor.* (P. L. H. No. 2068.)

20498. *False Rhars.* (P. L. H. No. 2069.)

20499. *Hamraia.* (P. L. H. No. 2070.)

20500. *Kemp's Seedling.* (P. L. H. No. 2071.)

20501. (No name.) (P. L. H. No. 2072.)

20502. *Oga de Bedreschen.* (P. L. H. No. 2073.)

20503. *Purdy Seedling.* (P. L. H. No. 2074.)

20504. *Rhars.* (P. L. H. No. 2075.)

See remarks under next shipment.

20505 to 20507. PHOENIX DACTYLIFERA. Date.

From Tempe, Ariz. Received through Mr. F. H. Simmons, manager, Tempe Date Garden, March 10, 1907.

Seeds from American-grown fruit of the following varieties:

20505. *Deglet Noor.* (P. L. H. No. 2098.)

20506. *Rhars.* (P. L. H. No. 2099.)

20507. *Oga de Bedreschen.* (P. L. H. No. 2100.)

"Both lots, S. P. I. Nos. 20495 to 20507, were raised on imported offshoots grown in the Cooperative Date Garden in Tempe and were distributed with the expectation of securing some good varieties through seedlings." (*Brand.*)

20508 to 20514. PHOENIX DACTYLIFERA. Date.

From Bagdad, Asiatic Turkey. Received through the Hills Brothers Company, of Bassorah, Arabia, and New York, N. Y., February 15, 1907.

A collection of date seeds, as follows:

20508.

Aschcrasi. (See S. P. I. No. 8739.)

20509.

Bedraihe. (See S. P. I. No. 8740.)

20510.

Lehedi or *Zehedi.* (See S. P. I. No. 8743.)

20511.

Kustawi. (See S. P. I. No. 8738.)

20512.

Maktum. (See S. P. I. No. 8741.)

20513.

Sukeri. (See S. P. I. No. 8745.)

20514.

Yaberzal or *Taberzal.* (See S. P. I. No. 8794.)

20515 and 20516. PHOENIX DACTYLIFERA. Date.

From Washington, D. C. Received through H. L. Strang & Co., March, 1907.

Two varieties of dates purchased in the open market.

20515.

Haluwi, from Bassorah, Arabia. (See S. P. I. No. 8750.)

20516.

Fard, from Mascat, Arabia. (See S. P. I. No. 8754.)

"Both lots, S. P. I. Nos. 20508 to 20516, inclusive, secured for the purpose of propagating seedlings in the expectation of securing some good varieties." (*Swingle.*)

20519. MUSA LIVINGSTONIANA.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, botanist, Transvaal Department of Agriculture. Received March 18, 1907.

"This is an East African wild banana, with seed fruits; probably a good ornamental." (*Barrett.*)

20521 to 20795.

From northern Europe, Siberia, and eastern Asia.

Seeds collected by Prof. N. E. Hansen, of the agricultural experiment station, Brookings, S. Dak., in 1906 while traveling as an agricultural explorer for the Department of Agriculture on an extended trip through Scandinavia, Russia, Siberia, and returning through China and Japan. Received March 1907.

20521. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 1.) Wild red clover from Pajala; 1905 seed." (*Hansen.*)

20522. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 2.) Native red clover from Karungi, about 40 kilometers north of Haparanda." (*Hansen.*)

20523. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 3.) Wild red clover found in the vicinity of the experiment station in Luleå; the locality is termed Norrbotten. Seed from a different place from that of No. 6 (S. P. I. No. 20526)." (*Hansen.*)

20521 to 20795—Continued.

20524. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 4.) Native red clover from Pajala; 1906 seed." (*Hansen.*)

20525. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 5.) Seed collected by the experiment station at Luleå from an early, wild red clover in 1906." (*Hansen.*)

20526. TRIFOLIUM PRATENSE. **Red clover.**

From Luleå, Sweden. "(No. 6.) Wild red clover found in the vicinity of the experiment station in Luleå. Seed from a different place from that of No. 3 (S. P. I. No. 20523)." (*Hansen.*)

20527. TRIFOLIUM PRATENSE. **Red clover.**

From Luleå, Sweden. "(No. 7.) Seed collected in 1906 by the experiment station at Luleå from a single plant of the early wild red clover of that vicinity." (*Hansen.*)

20528. TRIFOLIUM PRATENSE. **Red clover.**

From Luleå, Lapland, Sweden. "(No. 8.) This sample is from seed of a single plant selected by the experiment station at Luleå in 1906. The original seed was secured at Pajala, Lapland, in 1901. The extreme northern limit of the wild red clover in Lapland appears to be Karesuando, about 68° 15′ N. lat., so that the present sample is from about 75 miles south of the extreme northern limit." (*Hansen.*)

20529. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 9.) Wild red clover from Kalie, about 62 miles north of Luleå." (*Hansen.*)

20530. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 10.) Sample of the late-flowering form of the Swedish red clover. Originally from southern Sweden, but the present sample is 1906 seed and the result of thirteen years of natural selection at Luleå." (*Hansen.*)

20531. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 11.) Seed collected in 1906 from a single plant of the local native red clover by the experiment station at Luleå." (*Hansen.*)

20532. TRIFOLIUM PRATENSE. **Red clover.**

From Lapland, Sweden. "(No. 12.) Sample of the wild red clover from Pajala; 1906 seed from the experiment station at Luleå." (*Hansen.*)

20533. TRIFOLIUM PRATENSE. **Red clover.**

From Bodoe, Norway. "(No. 13.) The wild red clover from Bodoe, latitude 67°. This is north of the Arctic Circle." (*Hansen.*)

20534. TRIFOLIUM REPENS. **White clover.**

From Lapland, Sweden. "(No. 14.) Seed gathered in 1906 by the experiment station at Luleå from the native white clover of that vicinity." (*Hansen.*)

20535. TRIFOLIUM HYBRIDUM. **Alsike clover.**

From Lapland, Sweden. "(No. 15.) Seed gathered in 1906 by the experiment station at Luleå from a single plant of the native alsike clover of that vicinity." (*Hansen.*)

20536. TRIFOLIUM REPENS. **White clover.**

From Lapland, Sweden. "(No. 16.) Seed of the wild white clover gathered in 1906 about 20 miles north of Haparanda." (*Hansen.*)

20521 to 20795—Continued.

20537. TRIFOLIUM HYBRIDUM. **Alsike clover.**

From Lapland, Sweden. "(No. 17.) Seed gathered in 1906 by the experiment station at Luleå from a single plant of wild alsike clover of that vicinity." (*Hansen.*)

20538. POA SEROTINA.

From Lapland, Sweden. "(No. 18.) Seed of a good native grass gathered in 1906 at Korpilombolo, about eighty-five miles north of Luleå." (*Hansen.*)

20539. POA SEROTINA L.

From Lapland, Sweden. "(No. 19.) Seed gathered from several plants in 1905 at Korpilombolo." (*Hansen.*)

20540. POA SEROTINA.

From Lapland, Sweden. "(No. 20.) Seed of a good native grass from Kalix, about 62 miles north of Luleå." (*Hansen.*)

20541. POA SEROTINA.

From Lapland, Sweden. "(No. 21.) Seed selected in 1906 from a single plant of the native form by the experiment station at Luleå." (*Hansen.*)

20542. POA SEROTINA.

From Lapland, Sweden. "(No. 22.) A good native grass from about 50 miles north of Luleå; gathered in 1905 by the experiment station at Luleå." (*Hansen.*)

20543. VICIA CRACCA. **Bird vetch.**

From Lapland, Sweden. "(No. 23.) An excellent forage plant, especially on poor soil. Seed gathered from a single plant of the native form in 1906 by the experiment station at Luleå." (*Hansen.*)

20544. PHLEUM PRATENSE. **Timothy.**

From Lapland, Sweden. "(No. 24.) Seed from several plants of the native timothy from southern or central Sweden. Grown at Luleå five years; seed gathered in 1906 by the experiment station at Luleå." (*Hansen.*)

20545. PHLEUM PRATENSE. **Timothy.**

From Lapland, Sweden. "(No. 25.) Seed selected from a single plant of the native timothy at Pilea, Norrbotten district, in 1906." (*Hansen.*)

20546. PHLEUM ALPINUM. **Mountain timothy.**

From Lapland, Sweden. "(No. 26.) Seed of the wild timothy from Qvickjock." (*Hansen.*)

20547. FESTUCA RUBRA. **Red fescue.**

From Lapland, Sweden. "(No. 27.) Seed of the wild form from Luleå; selected by the experiment station." (*Hansen.*)

20548. FESTUCA RUBRA. **Red fescue.**

From Lapland, Sweden. "(No. 28.) The same source as No. 27 (S. P. I. No. 20547), but a different selection." (*Hansen.*)

20549. FESTUCA ELATIOR. **Tall fescue.**

From Lapland, Sweden. "(No. 29.) A good native grass from Ranea, about 25 miles north of Luleå." (*Hansen.*)

20550. AGROSTIS ALBA. **Redtop.**

From Lapland, Sweden, "(No. 30.) Seed selected in 1905 by the experiment station at Luleå from wild plants in that vicinity." (*Hansen.*)

20521 to 20795—Continued.

20551. ALOPECURUS PRATENSIS. **Meadow foxtail.**

From Lapland, Sweden. "(No. 31.) A good native grass from Luleå." (*Hansen.*)

20552. ALOPECURUS NIGRICANS.

From Lapland, Sweden. "(No. 32.) A good native grass from Haparanda. This grass likes rich, moist soil full of humus. Selection from Luleå Experiment Station." (*Hansen.*)

20553. ALOPECURUS NIGRICANS.

From Lapland, Sweden. "(No. 33.) The same source as No. 32 (S. P. I. No. 20552) but another selection." (*Hansen.*)

20554. ALOPECURUS PRATENSIS.

From Lapland, Sweden. "(No. 34.) A valuable grass highly regarded as making hay of as good quality as timothy. Suitable for moist soils. The native form from Luleå. See No. 267 (S. P. I. No. 20787)." (*Hansen.*)

20555. ANTHYLLIS VULNERARIA.

From Lapland, Sweden. "(No. 35.) A good native leguminous forage plant from Luleå." (*Hansen.*)

20556. SECALE CEREALE. **Rye.**

From Yakutsk, Siberia. "(No. 36.) Spring rye from Yakutsk, 62° 30′ N. lat., 132° west of Greenwich. This is probably the most northern point where cereals are raised to any extent in Siberia. This seed is old, as it was brought from Yakutsk by a Swedish expedition in 1898–99 searching after Andrée. Sample secured at the experiment station, Svalöf, southern Sweden." (*Hansen.*)

20557. HORDEUM VULGARE. **Barley.**

From Yakutsk, Siberia. "(No. 37.) Spring barley from the same source as No. 36 (S. P. I. No. 20556). This variety has done well at Svalöf and some new selections have been made from it." (*Hansen.*)

20558. TRITICUM VULGARE. **Wheat.**

From Yakutsk, Siberia. "(No. 38.) Spring wheat from the same source as No. 36 (S. P. I. No. 20556)." (*Hansen.*)

20559. AVENA SATIVA. **Oat.**

From Yakutsk, Siberia. "(No. 39.) Spring oats from the same source as No. 36 (S. P. I. No. 20556)." (*Hansen.*)

20560. AVENA SATIVA. **Oat.**

From Svalöf, Sweden. "(No. 40.) A pedigree variety of spring oats (Svalöf No. .0392) selected by the experiment station at Svalöf from oats originally received from Yakutsk, Siberia. See Nos. 36 and 39 (S. P. I. Nos. 20556 and 20559)." (*Hansen.*)

20561. AVENA SATIVA. **Oat.**

From Luleå, Lapland, Sweden. "(No. 41.) A pedigree variety of black oats selected from seed originally from Norrland, the Arctic Circle province of northern Norway. It is No. 11 of Luleå and No. .0668 of Svalöf. The present sample is from the experiment station at Luleå." (*Hansen.*)

20562. AVENA SATIVA. **Oat.**

From Luleå, Sweden. "(No. 42.) A low, dwarf variety originally from Switzerland. The present sample was grown in 1906 by the experiment station at Luleå." (*Hansen.*)

20521 to 20795—Continued.

20563. AVENA SATIVA. **Oat.**

From Luleå, Sweden. "(No. 43.) A tall, fine variety of black oats, the best so far at the Svalöf Experiment Station. It is Svalöf No. .0660, originally from the native black oats of northern Finland. The present sample is No. 10 from the experiment station at Luleå." (*Hansen.*)

20564. FESTUCA ELATIOR. **Tall fescue.**

From Ranea, Lapland, Sweden. "(No. 44.) An excellent grass both for sandy and clay soils; very productive of seed and responds quickly to manuring with potash and phosphate manures. Ranea is about 25 miles north of Luleå." (*Hansen.*)

20565. VICIA CRACCA. **Bird vetch.**

From the Ultuna district, 60° N. lat., Sweden. "(No. 45.) A good native leguminous forage plant." (*Hansen.*)

20566. TRIFOLIUM PRATENSE. **Red clover.**

From the Norrland section, 64° N. lat., Sweden. (Hansen's No. 46.)

20567. TRIFOLIUM PRATENSE. **Red clover.**

From Sweden. "(No. 47.) The Swedish red clover as grown for 20 years on the same farm in the Luleå district in 60° N. lat." (*Hansen.*)

20568. TRITICUM VULGARE. **Wheat.**

From the experiment station at Ultuna, near Upsala, Sweden. "(No. 48.) *Svalöf's Extra Squarehead.* Winter wheat selected by the experiment station at Svalöf, southern Sweden." (*Hansen.*)

20569. TRITICUM VULGARE. **Wheat.**

From Ultuna, near Upsala, Sweden. "(No. 49.) *Poodle.* A winter wheat originated by the experiment station at Svalöf. The name refers to the velvet chaff, being woolly like a French poodle." (*Hansen.*)

20570. VICIA sp. **Vetch.**

From Svalöf, Sweden. "(No. 50.) A good forage plant originated by the experiment station at Svalöf; season early. Svalöf No. .0151." (*Hansen.*)

20571. MEDICAGO MEDIA. **Sand lucern.**

From Ultuna, near Upsala, Sweden. "(No. 51.) Native alfalfa taken from 20-year-old fields near Ultuna, about 60° N. lat. Possibly there is some *Medicago falcata* mixed with it, as both are found in this vicinity. A promising forage plant for cold, rather moist climates. For cold, dry climates the Siberian form of *Medicago falcata* is much more promising." (*Hansen.*)

20572. TRITICUM VULGARE. **Wheat.**

From the experiment station at Ultuna, near Upsala, Sweden. "(No. 52.) A very hardy, early winter wheat with short straw." (*Hansen.*)

20573. VICIA CRACCA. **Bird vetch.**

From the Ultuna district, central Sweden. "(No. 53.) The wild form of this promising forage plant from 60° N. lat." (*Hansen.*)

20574. LOTUS CORNICULATUS. **Bird's-foot trefoil.**

From Sweden. "(No. 54.) A promising native leguminous forage plant with yellow flowers. Seed collected about 121 miles north of Ultuna, 62° N. lat., by the father of Doctor Elofson, for the experiment station at Ultuna." (*Hansen.*)

20521 to 20795—Continued.

20575. LATHYRUS PRATENSIS. **Meadow pea.**

From Ultuna, 60° N. lat., Sweden. "(No. 55.) A native wild leguminous forage plant." (*Hansen.*)

20576. PHLEUM ALPINUM. **Mountain timothy.**

From Ultuna, Sweden. "(No. 56.) Native timothy from Sanding, in the Austrian Alps. Seed grown the second year at the experiment station at Forsse, 63° N. lat., in 1906. The present sample is from Dr. E. O. Arenander, at the experiment station at Ultuna." (*Hansen.*)

20577. VICIA CRACCA. **Bird vetch.**

From the Vesterbotten district, Sweden. "(No. 57.) A valuable forage plant collected from wild plants in northern Sweden, north of the Polar Circle, in the Vesterbotten district, 64° N. lat. Over 80 per cent of the seeds are hard, so should be prepared by scratching by the Svalöf method before sowing." (*Hansen.*)

20578. TRIFOLIUM PRATENSE. **Red clover.**

From Bodoe, Norway. "(No. 58.) Wild red clover collected on the Landingeness farm, near the experiment station at Bodoe, 67° N. lat." (*Hansen.*)

20579. HORDEUM HEXASTICHUM. **Six-row barley.**

From Tjeldnaes, Loedingen district, Norway. "(No. 59.) A spring barley which ripens in 94 days. From 68° 20′ N. lat." (*Hansen.*)

20580. HORDEUM VULGARE. **Barley.**

From Stroemmen, Tysfjord district, 68° N. lat., Norway. "(No. 60.) A spring barley which ripens in 96 days." (*Hansen.*)

20581. HORDEUM VULGARE. **Barley.**

From Hammeroe district, 68° N. lat., Norway. "(No. 61.) A spring barley which ripens in 93 days." (*Hansen.*)

20582. HORDEUM VULGARE. **Barley.**

From Moljord, Beieren district, Norway. "(No. 62.) A spring barley of very ancient cultivation in this district; lat 66° 54′." (*Hansen.*)

20583. HORDEUM VULGARE. **Barley.**

From Liland, Evenaes district, 68° 29′ N. lat., Norway. (No. 63.) Spring barley.

20584. AVENA SATIVA. **Oat.**

From Breirem, Vefsen district, Norway. "(No. 64.) Spring oats from 65° 55′ N. lat., where they ripen in 91 days." (*Hansen.*)

20585. SECALE CEREALE. **Rye.**

From Aaenget, Mo district, Norway. "(No. 65.) Spring rye from 66° 20′ N. lat., where it ripens in 120 days. Aaenget is about 10 Norwegian miles from the coast." (*Hansen.*)

20586. SECALE CEREALE. **Rye.**

From Hjertoe, Nordfolden district, Norway. "(No. 66.) Winter rye from 67° 40′ N. lat. This rye has been cultivated for many years in this locality." (*Hansen.*)

20587. HORDEUM VULGARE. **Barley.**

From Trysil, Hatfjelddalen district, Norway. "(No. 67.) One of the very earliest varieties of spring barley, which ripens on sandy soil in 98 days. Trysil is a mountain village in the Trysil Valley in Nerli; latitude 65° 32′." (*Hansen.*)

20521 to 20795—Continued.

20588. HORDEUM VULGARE. **Barley.**

From Nerli, Hatfjelddalen district, Norway. "(No. 68.) Spring barley grown at Nerli on very sandy soil; latitude 65° 32′. The harvest often fails in this locality." (*Hansen.*)

20589. AVENA SATIVA. **Oat.**

From Vefsen district, latitude 65° 30′, Norway. (No. 69.) Spring oats.

20590. FESTUCA ELATIOR. **Tall fescue.**

From Mjoes, Vardahl, Christiania province, Norway. "(No. 70.) Wild seed selected by Director Nielsen, of the experiment station at Bodoe; latitude 67°." (*Hansen.*)

20591. PISUM ARVENSE. **Field pea.**

From Bodoe, Norway. "(No. 71.) *Sveding.* A field pea originally introduced from Denmark by Mr. Sebastian Larson, of Aas, Norway; grown for the past twelve years in Norway—the last two at the Bodoe Experiment Station. Does well on sandy soil at Bodoe and ripens in 120 days." (*Hansen.*)

20592. HORDEUM VULGARE. **Barley.**

From Bodoe, Norway. "(No. 72.) Spring barley from the experiment station at Bodoe; latitude 67°." (*Hansen.*)

20593. PHLEUM PRATENSE. **Timothy.**

From Christiania, Norway. "(No. 73.) Native timothy, No. 469, from A. Michelet, seedsman. The claim in Norway is that the native is hardier than that introduced." (*Hansen.*)

20594. BRASSICA RAPA. **Turnip.**

From Mjelde, near Tromsoe, Norway. "(No. 74.) Mjelde is near 70° N. lat. Turnips are found very useful for stock feeding north of the Arctic Circle in Lapland." (*Hansen.*)

20595. LOLIUM PERENNE. **Perennial rye-grass.**

From Aas, Norway. "(No. 75.) Native name *Yaedersk Raigrass.* Native grass from the upland district of southern Norway. This sample is from the experiment station at Aas." (*Hansen.*)

20596. HORDEUM VULGARE. **Barley.**

From Bjaerkoe, an island on the coast of northern Norway. "(No. 76.) An extremely early spring barley." (*Hansen.*)

20597. LUPINUS ANGUSTIFOLIUS (?).

From Aas, Norway. "(No. 77.) A perennial forage plant from the experiment station at Aas." (*Hansen.*)

20598. BRASSICA RAPA. **Turnip.**

From Aas, Norway. "(No. 78.) The yellow Finland turnip, from the experiment station at Aas." (*Hansen.*)

20599. BRASSICA RAPA. **Turnip.**

From Aas, Norway. "(No. 79.) Swedish turnip from the experiment station at Aas; obtained in 1902 from Mustiala, Finland." (*Hansen.*)

20600. HORDEUM VULGARE. **Barley.**

From the island of Donnes, Nordland, Norway. "(No. 80.) *Donnes.* Spring barley from the large estate Donnes, the proprietor of which is Mr. Isaac Coldevin, of Nordoevaagen. Donnes is an island in Nordland, the Arctic Circle province of Norway. This variety is not so early, but is more productive than the *Bjoerkeby* barley. Sample from the experiment station at Aas." (*Hansen.*)

20521 to 20795—Continued.

20601. BRASSICA RAPA. **Turnip.**

From Budalen, Trondilagen in Roeraastrakten, Norway. "(No. 81.) Received through the experiment station at Aas." (*Hansen.*)

20602. FESTUCA RUBRA. **Red fescue.**

From the Guldbrand Valley, Norway. "(No. 82.) A desirable native lawn grass." (*Hansen.*)

20603. BRASSICA RAPA. **Turnip.**

From Vefsen, Nordland, the Arctic Circle province of Norway. "(No. 83.) Swedish turnip." (*Hansen.*)

20604. BRASSICA RAPA. **Turnip.**

From Foerland, Ryfylke in Stavanger province, Norway. "(No. 84.) Swedish turnip." (*Hansen.*)

20605. BRASSICA RAPA. **Turnip.**

From Bjoerli, in the Guldbrand Valley, Norway. (No. 85.)

20606. LATHYRUS PRATENSIS. **Meadow pea.**

From Aas, Norway. "(No. 86.) A wild leguminous forage plant found in the vicinity of Aas." (*Hansen.*)

20607. HORDEUM VULGARE. **Barley.**

From Bjoerkoe Island, Norway. "(No. 87.) Spring barley." (*Hansen.*)

20608. HORDEUM VULGARE. **Barley.**

From Donnes, Norway. "(No. 88.) *Donnes.* A very early spring barley." (*Hansen.*)

20609. VICIA CRACCA. **Bird vetch.**

From the experiment station at Otava, Finland. "(No. 89.) 1905 seed. *Vicia cracca* is coming to the front as a valuable forage plant in Finland, and hence merits special attention for cool, moist climates." (*Hansen.*)

20610. AVENA SATIVA. **Oat.**

From the experiment station at Otava, Finland. "(No. 90.) Native black oats." (*Hansen.*)

20611. VICIA CRACCA. **Bird vetch.**

From the experiment station at Otava, Finland. "(No. 91.) The same as No. 89 (S. P. I. No. 20609), but is 1906 seed." (*Hansen.*)

20612. ANDROPOGON SORGHUM. **Sorghum.**

From Manchuria. "(No. 92.) *Gaolan.* Brought by a Russian student-soldier from Manchuria after the Russo-Japanese war." (*Hansen.*)

20613. TRIFOLIUM ELEGANS. **Clover.**

From Viatka, Russia. "(No. 93.) Native red clover from Viatka, near Perm, in the northern Volga River section in eastern Russia. This is about 58° latitude. A drought-resistant steppe clover." (*Hansen.*)

20614. AGROPYRON DASYANTHUM.

From Moscow, Russia. "(No. 94.) A valuable Russian steppe grass originally from a single spike. This is No. 2635 of Professor Williams, of the Moscow Agricultural College." (*Hansen.*)

20521 to 20795—Continued.

20615. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 95.) Grown from seed originally from Don province, southern Volga River region, Russia. See No. 167 (S. P. I. No. 20688). Variety D. This lot was selected for its larger and heavier seeds." (*Hansen.*)

20616. AGROPYRON SIBIRICUM.

From Moscow, Russia. "(No. 96.) The original mixture of elementary species from the Trans-Ural region east of Orenburg; hence, in extreme western Siberia. A valuable grass for dry steppes. This is No. 2636 of Professor Williams, of the Moscow Agricultural College." (*Hansen.*)

20617. ASTRAGALUS GLYCYPHYLLOS.

From Don province, Russia. "(No. 97.) A leguminous forage plant from the dry steppes of Don province of the Volga River region of southeastern Russia." (*Hansen.*)

20618. POA ALPINA.

From Kazan province, Russia. "(No. 98.) A good native pasture grass from Kazan province of the northern Volga region in European Russia." (*Hansen.*)

20619. PANICUM ERUCIFORME.

From Poltava province, south-central Russia. "(No. 99.) A desirable native grass." (*Hansen.*)

20620. ANDROPOGON SORGHUM. **Sorghum.**

From Ussurie province, Siberia. "(No. 100.) *Gaolan.* This variety grows from 20 to 25 feet in height, and during the Russo-Japanese war the Cossacks on horseback found trouble in getting through the sorghum fields, as they would be lost from view even with their spears." (*Hansen.*)

20621. ANDROPOGON SORGHUM. **Sorghum.**

From Ussurie province, Siberia. "(No. 101.) *Gaolan.* For description see No. 100 (S. P. I. No. 20620). The head does not appear as compact as in No. 100. Seed brought from Manchuria by Russian student-soldiers after the Russo-Japanese war." (*Hansen.*)

20622. AGROPYRON DESERTORUM.

From the Trans-Ural region, Siberia. "(No. 102.) A drought-resistant grass from the dry steppes." (*Hansen.*)

20623. AGROPYRON sp.

From Moscow, Russia. "(No. 103.) This is from a single seed selected by Professor Williams, of the Moscow Agricultural College, from a plant with long, upright stolons from the Orenburg region on the boundary between European Russia and Siberia. Promising as a grass for dry, cold regions." (*Hansen.*)

20624. PHLEUM PRATENSE. **Timothy.**

From Podolsk province, Russia. "(No. 104.) Wild native timothy." (*Hansen.*)

20625. ANDROPOGON SORGHUM. **Sorghum.**

From Asiatic Russia. "(No. 105.) One of the best varieties cultivated by the native Mohammedans in Russian central Asia, east of the Caspian Sea. The native variety is *Ak-ju-gah-rah.*" (*Hansen.*)

20521 to 20795—Continued.

20626. AGROPYRON CYLINDRICUM.

From Moscow, Russia. "(No. 106.) The first generation from a single seed selected by Professor Williams, of the Moscow Agricultural College, from a black-seeded form of a grass from Odessa, southern Russia, on the Black Sea." (*Hansen.*)

20627. ANDROPOGON SORGHUM. **Sorghum.**

From Manchuria. "(No. 107.) Native name *Tjie-choo-meed-zha.* This variety is used for brooms in Manchuria. Seed brought from Manchuria by a Russian student-soldier after the Russo-Japanese war." (*Hansen.*)

20628. PHLEUM BOEHMERI. **Timothy.**

From Moscow, Russia. "(No. 108.) Variety *macrantha.* A drought-resistant species of timothy from the east Russia steppes, where *Bromus inermis* is native. This is No. 2492A of Professor Williams, of the Moscow Agricultural College. The plants are not so tall as the species, but have very long spikes." (*Hansen.*)

20629. GLYCINE HISPIDA. **Soy bean.**

From Manchuria. "(No. 109.) Variety *Hoo-an-dooh.* Used for human food and for fodder in Manchuria and brought from that country by a Russian student-soldier after the Russo-Japanese war." (*Hansen.*)

20630. ASTRAGALUS CICER.

From Poltava province, southern European Russia. "(No. 110.) A native leguminous forage plant." (*Hansen.*)

20631. PHLEUM ASPERUM. **Timothy.**

From Turgai province, western Siberia. "(No. 111.) A native timothy from the dry steppes of Turgai province. The very small seeds may be an objection to this species, but this may be remedied by selection." (*Hansen.*)

20632. AGROPYRON SIBIRICUM.

From Moscow, Russia. "(No. 112.) Variety *latifolia*, form *A.* A promising drought-resistant grass from the Trans-Ural region of western Siberia. See also No. 96 (S. P. I. No. 20616)." (*Hansen.*)

20633. PERILLA OCYMOIDES. **Perilla.**

From Ussurie province, Siberia. (No. 113.) *Zooza.*

20634. PHLEUM BOEHMERI Wibel.

From Kiev, Russia. "(No. 114.) Seed from a single plant of the tall-growing native form." (*Hansen.*)

20635. AGROPYRON ELONGATUM.

From the Trans-Ural region, Siberia. "(No. 115.) Seed from a single plant of a native grass from the dry steppes." (*Hansen.*)

20636. ASTRAGALUS HYPOGLOTTIS.

From Potalva province, Russia. "(No. 116.) A native leguminous forage plant." (*Hansen.*)

20637. AGROPYRON SIBIRICUM.

From Moscow, Russia. "(No. 117.) Variety *angustifolia*, form *B.* A promising grass from the dry steppes of the Trans-Ural region, western Siberia. See also No. 96 (S. P. I. No. 20616)." (*Hansen.*)

20521 to 20795—Continued.

20638. TRIFOLIUM LUPINASTER.

From Tobolsk, Siberia. "(No. 118.) A native clover from the dry steppes of Tobolsk, where it endures —40° F. The seed should be scratched with sand or by the Svalöf method to insure germination the first year; otherwise many of the seeds will not germinate until the second year." (*Hansen.*)

20639. AGROPYRON INTERMEDIUM.

From the Trans-Ural region, Orenburg province, Siberia. "(No. 119.) A collection of elementary species of a promising grass from the dry steppes of the Trans-Ural region of the Orenburg province. This province extends on both sides of the Ural range of mountains, which forms the natural boundary between European Russia and Siberia. The *non-aristate* plants, those without spines or long barbs on the seeds, should be selected as the only form desirable for cultivation." (*Hansen.*)

20640. PANICUM MILIACEUM. **Broom-corn millet.**

From northwestern China. (No. 120.) *Meeza.*

20641. LATHYRUS MONTANUS.

From Tobolsk, Siberia. "(No. 121.) 1902 seed. A very good wild leguminous forage crop." (*Hansen.*)

20642. KOELERIA CRISTATA.

From Moscow, Russia. "(No. 122.) 1905 seed. Fourth generation from seed originally from Turgai province, a dry steppe region of western Siberia. This is one of the best steppe grasses." (*Hansen.*)

20643. KOELERIA CRISTATA.

From Moscow, Russia. "(No. 123.) 1904 seed. Third generation from seed originally from Don province, Volga River region, southern Russia. One of the best steppe grasses. This is No. 2560 of the Moscow Agricultural College." (*Hansen.*)

20644. CORONILLA VARIA. **Crown vetch.**

From Don province, Russia. "(No. 124.) 1903 seed. A hardy steppe legume from Don province. A very handsome plant, with white and rose colored flowers." (*Hansen.*)

20645. ASTRAGALUS ASPER.

From Kherzon province, southern Russia. "(No. 125.) 1904 seed. A leguminous forage plant." (*Hansen.*)

20646. ELYMUS SABULOSUS.

From Moscow, Russia. "(No. 126.) Found on sand dunes in southeastern Russia in the Volga River region. The hay is of no value, but it is good fodder when green. The horses on the dry steppes like the seed more than they do oats and get fat on it. This is No. 1181 of the Moscow Agricultural College." (*Hansen.*)

20647. VICIA VILLOSA. **Hairy vetch.**

From Khavrof, Vladimir province, Russia. "(No. 127.) A well-known forage plant said to have come originally from western Asia. It is now cultivated to some extent in the United States." (*Hansen.*)

20648. BROMUS ERECTUS. **Upright brome-grass.**

From the Kazan province, central Volga River region, Russia. "(No. 128.) A very good steppe grass." (*Hansen.*)

20649. CANNABIS SATIVA. **Hemp.**

From Tomsk province, Siberia. (No. 129.)

20521 to 20795—Continued.

20650. LATHYRUS PRATENSIS. **Meadow pea.**

From Kazan province, Volga River region, Russia. "(No. 130.) A tall plant with yellow flowers. A very good fodder plant, very common in the steppe region; a long-lived perennial." (*Hansen.*)

20651. VICIA SEPIUM. **Vetch.**

From Perm-Ufa region, Russia. "(No. 131.) A very good fodder plant, very common in northeastern Russia, including the Volga, Kazan, Ufa, and Perm provinces. A long-lived perennial and a beautiful plant." (*Hansen.*)

20652. ALOPECURUS RUTHENICUS. **Russian foxtail.**

From Russia. "(No. 132.) A good steppe grass from the dry steppe country of extreme eastern Russia and western Siberia in the Ural, Orenburg, and Trans-Ural region." (*Hansen.*)

20653. CHAETOCHLOA ALOPECUROIDES.

From Manchuria. "(No. 133.) Native name *Hoon-kood-zha.* A very good forage plant; also used for porridge by the natives of Manchuria. The present seed was brought by a Russian student-soldier from Manchuria after the Russo-Japanese war. The seeds of this millet are small, light reddish yellow; spikes long and dense, made up of many subspikes." (*Hansen.*)

20654. TRIFOLIUM ALPESTRE.

From Samara province, Russia. "(No. 134.) A wild red clover from Samara province, Volga River region, eastern Russia. Some authorities call this *Trifolium medium.* It is highly regarded as a drought-resistant clover for the dry steppes, where it is found native." (*Hansen.*)

20655. TRIFOLIUM MONTANUM.

From Moscow, Russia. "(No. 135.) First generation from seed originally from Kharkov province. This is the only clover (Trifolium) that is native to the south Russian steppes. It is not a heavy cropper, but is very drought resistant." (*Hansen.*)

20656. TRIFOLIUM MONTANUM.

From Voronesh province, Volga River region, eastern Russia. (No. 136.)

20657. TRIFOLIUM LUPINASTER.

From Tobolsk province, Siberia. "(No. 137.) Native clover from the Siberian steppes." (*Hansen.*)

20658. TRIFOLIUM MEDIUM. **Mammoth clover.**

From Moscow, Russia. "(No. 138.) Seed originally from one plant of a wild steppe clover from the Kazan province, Volga River region, central-eastern Russia. Seed selected by Professor Williams, of the Moscow Agricultural College." (*Hansen.*)

20659. TRIFOLIUM PRATENSE. **Red clover.**

From Perm province, Russia. "(No. 139.) A native red clover of the Perm province, from the northern part of the Volga River region. This is considered one of the best forms of the Russian clover, as it is from the far north." (*Hansen.*)

20660. TRIFOLIUM MONTANUM.

From Saratov province, Russia. "(No. 140.) A drought-resistant clover as found in the dry steppe region from Saratov province south to Voronesh province in the Volga River region of eastern Russia." (*Hansen.*)

20521 to 20795—Continued.

20661. TRIFOLIUM AGRARIUM.

From Moscow province, Russia. "(No. 141.) Native clover; worthy of trial for meadows, but probably not of especial promise." (*Hansen.*)

20662. TRIFOLIUM FILIFORME.

From Moscow, Russia. "(No. 142.) Seed of the third or fourth generation of a native clover from the Kazan province. Worthy of trial, though not especially promising. Grown by Professor Williams, of the Moscow Agricultural College." (*Hansen.*)

20663. TRIFOLIUM PRATENSE. **Red clover.**

From Sterlitomack district, Ufa province, Volga River region, Russia. "(No. 143.) Wild red clover. At the Moscow Agricultural College the red clovers from Perm and Ufa provinces have been found to be the best forms of the Russian red clover." (*Hansen.*)

20664. TRIFOLIUM PROCUMBENS.

From Orel province, Volga River region, Russia. "(No. 144.) Wild clover." (*Hansen.*)

20665. TRIFOLIUM PANNONICUM. **Hungarian clover.**

From Saratov province, Volga River region, Russia. "(No. 145.) Native clover." (*Hansen.*)

20666. TRIFOLIUM PANNONICUM. **Hungarian clover.**

From western Europe. "(No. 146.) Commercial seed to compare with No. 145 (S. P. I. No. 20665)." (*Hansen.*)

20667. PHLEUM BOEHMERI.

From Moscow, Russia. "(No. 147.) This species of timothy is found native in the steppes of eastern Russia and in Siberia, and resists severe drought and cold. There is reason to hope that it will be valuable as a westward extension of the common timothy, as it is native in much of the same region where *Bromus inermis* is at home. The present seed is from the Kazan province, Volga River region, from a low-growing form; originally from a single spike. It is No. 2492 of Professor Williams's selection at the Moscow Agricultural College." (*Hansen.*)

20668. PHLEUM BOEHMERI.

From Moscow, Russia. "(No. 148.) This is the same as No. 147 (S. P. I. No. 20667), except that it is from a higher growing plant. This species is easily distinguished from common timothy by the fact that the spike subdivides into large subspikes when sharply bent, whereas in common timothy the spike separates evenly throughout." (*Hansen.*)

20669. FAGOPYRUM TATARICUM. **India wheat.**

From Tomsk province, Siberia. (No. 149.)

20670. PHLEUM BOEHMERI.

From Moscow, Russia. "(No. 150.) This is the same as Nos. 147 and 148 (S. P. I. Nos. 20667 and 20668), except that it is the fourth generation from one plant from the Kazan province selected by Professor Williams, of the Moscow Agricultural College." (*Hansen.*)

20671. GENISTA TINCTORIA.

From Don province, Volga River region, Russia. "(No. 151.) Variety *depressa*. A very good pasture plant." (*Hansen.*)

20672. ORYZA SATIVA. **Upland rice.**

From China. "(No. 152.) Considered to be a first-class variety. Sent from China to the Moscow Agricultural College." (*Hansen.*)

20521 to 20795—Continued.

20673. BROMUS STERILIS.

From Poltava province, Russia. "(No. 153.) If sown in the fall the seeds may scatter so that it becomes a very bad weed; but if sown in the spring it gives a fine grass for cutting by June and July. It seeds in August and hence should be cut early." (*Hansen.*)

20674. ZEA MAYS. **Corn.**

From Khokand, Russian Turkestan. "(No. 154.) Indian corn grown by the Mohammedans at Khokand. This white, rather flinty corn has probably been selected for drought resistance. The kernels are small." (*Hansen.*)

20675. PANICUM CRUS-GALLI. **Barnyard millet.**

From Ussurie province, Siberia. "(No. 155.) This is our barnyard grass as found native in the Ussurie province of the Pacific coast section of Siberia. It is considered a good forage plant there, although coarse. A Japanese form of this species has been introduced by a western seedsman as *Billion-Dollar* grass." (*Hansen.*)

20676. PHLEUM BOEHMERI.

From Samara province, Russia. "(No. 156.) Seed gathered by Mr. Klingen, government agronomist, in 1904. See No. 147 (S. P. I. No. 20667)." (*Hansen.*)

20677. CHAETOCHLOA ALOPECUROIDES.

From Ussurie province, Siberia. "(No. 157.) See No. 133 (S. P. I. No. 20653)." (*Hansen.*)

20678. PANICUM MILIACEUM. **Broom-corn millet.**

From Manchuria. "(No. 158.) The common millet of Manchuria. The present seed was brought by a Russian student-soldier from Manchuria after the Russo-Japanese war." (*Hansen.*)

20679. STIPA PENNATA.

From Moscow, Russia. "(No. 159.) Variety *graffiana.* The Kirghiz Tartar horses are fond of it and will dig away the snow in winter to get at it. It is best for pasture and should be cut after the seeds, which are heavy, fall. The long-tailed seeds are hygroscopic, and when they get into the wool of a sheep they screw their way into its flesh, sometimes killing the animal. After the seeds blow away the grass is found to be nutritious. The present seed is No. 2476 of Professor Williams, of the Moscow Agricultural College, and is the first generation from the original seed gathered in 1904 from Turgai province, in western Siberia, east of Orenburg, which is on the boundary line of European Russia and Siberia." (*Hansen.*)

20680. TRITICUM VULGARE. **Wheat.**

From Kargopol, Olonetz province, Russia. "(No. 160.) Winter wheat from Kargopol, which is about 210 miles southwest of Archangel, hence almost up to the Arctic Circle, where there is often not much snow." (*Hansen.*)

20681. CHAETOCHLOA VIRIDIS. **Green foxtail.**

From Moscow, Russia. "(No. 161.) This is an annual grass very good for hay in the Caucasus and Siberia, but considered a weed in central Russia. In the Caucasus the natives call it 'timothy grass hay.' The present seed is the sixth or seventh generation under cultivation by Professor Williams, of the Moscow Agricultural College, of the forms of the species from Kharkov and Don provinces. At Moscow it would be regarded rather as a weed because it is not cultivated and timothy is better; in fact, timothy becomes very near being a perennial at Moscow." (*Hansen.*)

20521 to 20795—Continued.

20682. MELILOTUS OFFICINALIS. **Yellow sweet clover.**

From Daghestan province, Transcaucasia, bordering on the Caspian Sea. "(No. 162.) A dwarf form; considered a very good fodder plant." (*Hansen.*)

20683. MELILOTUS ALBA (and M. OFFICINALIS).

From the banks of the Msta River, Novgorod province, Russia. "(No. 163.) Nos. 162 and 163 (S. P. I. Nos. 20682 and 20683) may prove too near the sweet clover to win favor." (*Hansen.*)

20684. ORYZA SATIVA. **Upland rice.**

From Khokand province, Russian Turkestan. (No. 164.)

20685. PISUM ARVENSE(?). **Field pea.**

"(No. 165.) A winter pea which is cultivated by the Cossacks in southwestern Russia, in the lower Volga River region, as a forage plant. In western Russia and Poland it is used for human food also, but is considered of poor quality. Sow in the fall." (*Hansen.*)

20686. STIPA CAPILLATA.

From Turgai province of the steppe section of western Siberia. "No. 166.) Considered one of the best grasses for pasture." (*Hansen.*)

20687. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 167.) Variety A. From seed of one plant selected for its large seeds by Professor Williams from his No. 2637 at the Moscow Agricultural College. A good grass from the dry steppes." (*Hansen.*)

20688. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 168.) The original seed from which No. 167 (S. P. I. No. 20687) was selected, originally from Don province, southern Volga River region, Russia. A good grass from the dry steppes." (*Hansen.*)

20689. AGROPYRON CYLINDRICUM.

From Moscow, Russia. "(No. 169.) One of the best grasses from Don province, southern Volga River region, Russia. Usually a biennial, but sometimes lasts three years. Mow before it gets woody. This is the second generation from the original seed of one plant and is No. 2643 from Professor Williams, of the Moscow Agricultural College." (*Hansen.*)

20690. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 170.) Variety B. The same as No. 167 (S. P. I. No. 20687); from one plant, but with smaller seed." (*Hansen.*)

20691. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 171.) Variety E. The same as No. 167 (S. P. I. No. 20687); from seed of one plant." (*Hansen.*)

20692. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 172.) Variety C. The same as No. 167 (S. P. I. No. 20687)." (*Hansen.*)

20693. CHAETOCHLOA VIRIDIS. **Green foxtail.**

From Tomsk province, Siberia. "(No. 173.) This is considered a weed at Moscow, Russia, but makes a very good hay as found in the Caucasus and in Siberia. This sample is the native form from Tomsk province and is a mixture of elementary species." (*Hansen.*)

20521 to 20795—Continued.

20694. CHAETOCHLOA ALOPECUROIDES.

From Khokand, Russian Turkestan. "(No. 174.) This millet makes very good hay, and cattle are fond of the seeds. It is also used by the natives as food. As found wild, there are two forms, one of yellow and one of red seed, and the two forms should be separated before sowing." (*Hansen.*)

20695. CHAETOCHLOA ALOPECUROIDES.

From Ussurie province, Pacific coast section, Siberia. "(No. 175.) Native form. See No. 174 (S. P. I. No. 20694)." (*Hansen.*)

20696. PHASEOLUS RADIATUS. **Mung bean.**

From Khokand, Russian Turkestan. "(No. 176.) Native *Masch.* A native legume." (*Hansen.*)

20697. PANICUM CRUS-GALLI. **Barnyard millet.**

From north China. "(No. 177.) Native name *Pisa.* See No. 155 (S. P. I. No. 20675)." (*Hansen.*)

20698. PHASEOLUS RADIATUS. **Mung bean.**

From Ussurie province, Pacific coast section, Siberia. "(No. 178.) Chinese name *Lango.* A native legume." (*Hansen.*)

20699. GLYCINE HISPIDA. **Soy bean.**

From Ussurie province, Pacific coast section, Siberia. "(No. 179.) From the farm of Mr. Fick, near Nicolsk." (*Hansen.*)

20700. CHAETOCHLOA sp.

From Ussurie province, Siberia. "(No. 180.) This is one of the best forage plants of the Ussurie province of the Pacific coast section of Siberia, and was used freely for the Russian horses in the Russo-Japanese war. The native name is *Choomeeza.* The sample is a mixture of red-yellow seeds, with the yellow largely predominating." (*Hansen.*)

20701. CHAETOCHLOA ALOPECUROIDES.

From Manchuria. "(No. 181.) Native name *Hoon-kood-zha.* A yellow-seeded variety of millet brought from Manchuria by a Russian student-soldier in the Russo-Japanese war." (*Hansen.*)

20702. ANDROPOGON SORGHUM. **Sorghum.**

From Jahzavan, Marghilan district, Russian Turkestan. "(No. 182.) Native name *Joo-gar-ah.* A drought-resistant forage plant especially adapted to hot, dry climates. See No. 190 (S. P. I. No. 20710)." (*Hansen.*)

20703. PHASEOLUS ANGULARIS. **Adzuki bean.**

From south Ussurie, Pacific coast section, Siberia. "(No. 183.) *Weido.* A leguminous forage plant." (*Hansen.*)

20704. PANICUM CRUS-GALLI. **Barnyard millet.**

From Manchuria. "(No. 184.) Native name *Zan-Zah.* A good forage plant brought from Manchuria after the Russo-Japanese war." (*Hansen.*)

20705. ORYZA SATIVA. **Upland rice.**

From Manchuria. "(No. 185.) Native name *Zoo-za-mie.* Its northern origin makes it worthy of attention on the northern borders of our rice belt." (*Hansen.*)

20706. ANDROPOGON SORGHUM. **Sorghum.**

From south Ussurie, Pacific coast section, Siberia. "(No. 186.) *Gaolan.*" (*Hansen.*)

20521 to 20795—Continued.

20707. ASTRAGALUS VESICARIUS.

From Kharkov, southern Russia. "(No. 187.) A wild fodder plant." (*Hansen.*)

20708. ASTRAGALUS FALCATUS.

From Don province, southern Volga River region, Russia. "(No. 188.) A good forage plant from the dry steppes." (*Hansen.*)

20709. PHLEUM ALPINUM. **Mountain timothy.**

From Moscow, Russia. "(No. 189.) A promising species of native timothy from the dry steppes of the Turgai province of western Siberia. The plant grows ordinarily as high as timothy. This is No. 2491 of Professor Williams, of the Moscow Agricultural College, who finds it has already shown a great improvement in size of seed, the seed as found in its native habitat being rather small. The present stock is originally from a single seed." (*Hansen.*)

20710. ANDROPOGON SORGHUM. **Sorghum.**

From Jahzavan, Marghilan province, Russian Turkestan. "(No. 190.) One of the best varieties; called *Ak-juh-gar-ah* by the native Mohammedans. These central Asiatic sorghums have dense heads of round, white kernels which are much used for feeding stock. The heads bend sharply in the stalk, so that they point downward when mature. Promising for dry hot climates where Indian corn suffers from hot winds. See No. 182 (S. P. I. No. 20702)." (*Hansen.*)

20711. MEDICAGO SATIVA. **Alfalfa.**

From Moscow, Russia. "(No. 191.) *Turkestan.* The present sample is originally from Tashkent, the capital of Russian Turkestan, grown at Moscow, and originally the seed came from one plant. At the Moscow Agricultural College, Professor Williams has found this strain very hardy, very productive, and a beautiful plant, while the French lucern, by which is meant the ordinary south European or North African form of the species, winterkills at Moscow." (*Hansen.*)

20712. MEDICAGO DENTICULATA. **Bur clover.**

From Moscow, Russia. "(No. 192.) This makes a good forage plant in Italy, but is worthless at Moscow; originally from Italy." (*Hansen.*)

20713. MEDICAGO DENTICULATA. **Bur clover.**

From Don province, lower Volga River region, southeastern European Russia. "(No. 193.) A good native forage plant. The seed pods are very spiny, so are found very undesirable for sheep pastures, as the spines stick to the wool." (*Hansen.*)

20714. MEDICAGO MEDIA. **Sand lucern.**

From Moscow, Russia. "(No. 194.) Originally from a single plant growing wild in the Voronesh province of the central Volga River region, Russia. It is a natural hybrid of *M. falcata* and *M. sativa* and found wild in the dry steppes. This spontaneous or natural hybrid will sometimes have blue flowers on one branch, yellow on another, and sometimes both colors on the same branch. The present sample is the fourth generation raised by Professor Williams at the Moscow Agricultural College and is his No. 571×572." (*Hansen.*)

20715. MEDICAGO MEDIA. **Sand lucern.**

From Moscow, Russia. "(No. 195.) The same source as No. 194 (S. P. I. No. 20714), and also the fourth generation from a single plant found wild in the dry steppes of the Voronesh province. The present strain bears yellow flowers; in fact, it is almost *M. falcata* in its characteristics and is not as heavy a yielder as Nos. 194 and 196 (S. P. I. Nos. 20714 and 20716)." (*Hansen.*)

20521 to 20795—Continued.

20716. MEDICAGO MEDIA. **Sand lucern.**

From Moscow, Russia. "(No. 196.) Originally from a single plant found wild in the dry steppes of the Voronesh province, eastern Russia, and is now the fourth generation under cultivation. A beautiful plant, very hardy, very productive, and with black-green flowers." (*Hansen.*)

20717. MEDICAGO FALCATA. **Yellow lucern.**

From Kharkof province, southeastern Russia. "(No. 197.) A wild form." (*Hansen.*)

20718. MEDICAGO FALCATA. **Yellow lucern.**

From Omsk, western Siberia. "(No. 198.) The Siberian alfalfa as found wild at Omsk. In my Siberian investigations I learned that as found wild upon the Siberian steppes this is a valuable forage plant in regions where the mercury freezes sometimes without snow; that it is green very early in the spring; that it endures severe drought; that it does well upon soils underlaid with hardpan; that it is considerably resistant to alkali; that it flourishes where common alfalfa from Europe winterkills; that the Siberian form of this species is so much superior to the European form in hardiness and other desirable characteristics that to go by the botanical name only is very misleading. The present sample is from hay cut from wild plants before my arrival." (*Hansen.*)

20719. MEDICAGO FALCATA. **Yellow lucern.**

From Omsk, Siberia. "(No. 199.) This sample I picked from wild plants in the dry steppes near Omsk late in the fall when there was a little snow on the ground. I found the plants held their own perfectly with other native plants in the compact prairie or steppe sod. Omsk is in latitude 55°." (*Hansen.*)

20720. MEDICAGO FALCATA. **Yellow lucern.**

From Irkutsk, on Lake Baikal, eastern Siberia. "(No. 200.) Picked from a load of wild hay brought to the market at Irkutsk by the Buriats (native Mongolians)." (*Hansen.*)

20721. MEDICAGO FALCATA. **Yellow lucern.**

From Samara province, Russia. "(No. 201.) As found wild in Samara province. See No. 206 (S. P. I. No. 20726)." (*Hansen.*)

20722. MEDICAGO FALCATA. **Yellow lucern.**

From Saratov province, central Volga River region of eastern Russia, adjoining Siberia. "(No. 202.) As found wild in Saratov province." (*Hansen.*)

20723. PRUNUS NANA. **Russian almond.**

From Omsk, Siberia. "(No. 203.) As found native at Omsk." (*Hansen.*)

20724. MEDICAGO FALCATA. **Yellow lucern.**

From Tomsk, Siberia. "(No. 204.) As found wild at Tomsk." (*Hansen.*)

20725. MEDICAGO FALCATA. **Yellow lucern.**

From Moscow, Russia. "(No. 205.) Sample of the third generation under cultivation by Professor Williams, of the Moscow Agricultural College, of seed obtained from wild plants in Don province of the lower Volga River region of southeastern Russia." (*Hansen.*)

20726. MEDICAGO FALCATA. **Yellow lucern.**

From Samara province, Russia. "(No. 206.) Another sample of seed from wild plants of this promising forage plant. See No. 201 (S. P. I. No. 20721)." (*Hansen.*)

20521 to 20795—Continued.

20727. ASTRAGALUS FALCATUS.

From Kherson province, Russia. "(No. 207.) A native leguminous forage plant from the province of Kherson." (*Hansen.*)

20728. MELILOTUS OFFICINALIS. **Yellow sweet clover.**

From Donskaya district on the north coast of the Black Sea, Russia. "(No. 208.) This is perhaps variety *macrorhiza.* Grows from 7 to 9 feet in height. Seed from native plants. Used as a honey plant, but the odor is too strong for a good forage plant. It is evident that the sweet clover has possibilities as a forage plant, but that considerable work in plant breeding appears necessary before it will find wide popularity." (*Hansen.*)

20729. STIPA PENNATA.

From Turgai province, western Siberia. (No. 209.)

20730. ONOBRYCHIS ONOBRYCHIS. **Sainfoin.**

From Samara province, Russia. "(No. 210.) A leguminous forage plant as found wild in the dry steppes." (*Hansen.*)

20731. PYRUS SINENSIS. **Pear.**

From St. Petersburg, Russia. "(No. 211.) *Pyrus ussuriensis;* this is the same as *P. sinensis,* but it is worth while to make a distinction. This sample is from the original plants brought by Maximowicz from Ussurie province, Siberia, growing at St. Petersburg, where it is perfectly hardy, while the Chinese form winterkills. The fruits are bergamotte shaped, about 2 inches in diameter. This Siberian form of the pear is probably the hardiest known." (*Hansen.*)

20732. ASTRAGALUS HYPOGLOTTIS.

From Tomsk province, Siberia. "(No. 212.) A wild leguminous forage plant; considered of value for forage." (*Hansen.*)

20733. TRIFOLIUM sp. **Clover.**

From Omsk, Siberia. "(No. 213.) The wild red clover as found native at Omsk. Here it occurs sparingly in the steppes." (*Hansen.*)

20734. HALIMODENDRON ARGENTEUM. **Salt tree.**

From Djarkent, northern Russian Turkestan, on the edge of China. "(No. 214.) A native, silver-leaved, small tree found in dry places." (*Hansen.*)

20735. TRIFOLIUM MONTANUM.

From Tomsk province, Siberia. "(No. 215.) A clover native on dry steppes. The large seeds of this wild Siberian clover are noteworthy. It is considered a good forage plant." (*Hansen.*)

20736. TRIFOLIUM ALPESTRE. **Clover.**

From Samara province, northern Volga River region, eastern Russia. "(No. 216.) A promising wild clover from the dry steppes." (*Hansen.*)

20737. TRIFOLIUM PRATENSE. **Red clover.**

From Sarapul, Viatka province, northern Volga River region, eastern Russia. "(No. 217.) Wild red clover as found in the dry steppes at Sarapul, about 56° 25′ N. lat." (*Hansen.*)

20738. FESTUCA OVINA. **Sheep's fescue.**

From Samara province, Russia. "(No. 218.) Native fescue grass found wild." (*Hansen.*)

20521 to 20795—Continued.

20739. ASTRAGALUS GLYCYPHYLLOS.

From Tomsk province, Siberia. "(No. 219.) A leguminous forage plant as found wild." (*Hansen.*)

20740. POA PRATENSIS. **Kentucky bluegrass.**

From Samara province, northern Volga River region, eastern Russia. "(No. 220.) A good grass; found wild." (*Hansen.*)

20741. AGROPYRON REPENS. **Couch-grass.**

From Samara province, Russia. "(No. 221.) The wild white clover of Samara." (*Hansen.*)

20742. MELILOTUS ALBA. **Sweet or Bokhara clover.**

From Samara province, Russia. "(No. 222.) As found wild in Samara." (*Hansen.*)

20743. ONOBRYCHIS ONOBRYCHIS. **Sainfoin.**

From Omsk, Siberia. "(No. 223.) A leguminous forage plant as found wild on the dry steppes." (*Hansen.*)

20744. OROBUS LUTEUS.

From Tomsk province, Siberia. "(No. 224.) A leguminous forage plant, considered valuable for forage, from the Beryl Valley of the Altai Mountain region, Tomsk province. It is found up to a height of 2,000 meters." (*Hansen.*)

20745. VICIA sp.

From Vladivostok, Siberia. "(No. 225.) Seed of a wild leguminous forage plant found in wild hay brought to the Mongolian hay market at Vladivostok. Value not determined." (*Hansen.*)

20746. TRIFOLIUM sp. **Clover.**

From Irkutsk, Siberia. "(No. 226.) Seed of a wild clover gathered when the plants were frozen on moist soil near Irkutsk." (*Hansen.*)

20747. TRIFOLIUM sp. **Clover.**

From Samara province, Russia. "(No. 227.) A wild red clover allied to the common red clover but not of the same species." (*Hansen.*)

20748. FESTUCA RUBRA. **Red fescue.**

From Samara province, Russia. "(No. 228.) A good grass found wild in the dry steppes." (*Hansen.*)

20749. PANICUM MILIACEUM. **Broom-corn millet.**

From Turgai province, Siberia. "(No. 229.) Native name *Salma-bastara.* A large-seeded yellow millet. A promising variety, as it is native on dry steppes." (*Hansen.*)

20750. OROBUS LATHYROIDES.

From Tomsk province, Siberia. "(No. 230.) A wild leguminous forage plant." (*Hansen.*)

20751. PANICUM MILIACEUM. **Broom-corn millet.**

From Turgai province, Siberia. "(No. 231.) Native name *Kar-sak-ajak-tara.* This appears to be much the same as No. 229 (S. P. I. No. 20749). Both are promising, as they are native on dry steppes." (*Hansen.*)

20752. PHLEUM BOEHMERI Wibel.

From Samara province, Russia. "(No. 232.) Native timothy as found wild in the dry steppes." (*Hansen.*)

20521 to 20795—Continued.

20753. PANICUM MILIACEUM. **Broom-corn millet.**

From Turgai province, western Siberia. "(No. 233.) Native name *Kunak-tara.* A wild millet. Much the same as Nos. 229 and 231 (S. P. I. Nos. 20749 and 20751), but with smaller seeds." (*Hansen.*)

20754. PANICUM MILIACEUM. **Broom-corn millet.**

From Turgai province, western Siberia. "(No. 234.) Native name *Kisil-ala-tara.* The seeds of this wild millet are large, mostly white, ripening to yellow. All the native millets from Turgai province are used for porridge by the natives. This common dish is called 'Kasha' by the natives." (*Hansen.*)

20755. PANICUM MILIACEUM. **Broom-corn millet.**

From Turgai province, western Siberia. "(No. 235.) Native name *Yak-tara.* A wild millet, the seeds of which are large and white." (*Hansen.*)

20756. VICIA sp. **Vetch.**

From Irkutsk, on Lake Baikal, eastern Siberia. "(No. 236.) A wild legume common in the wild hay brought in by the Buriats to Irkutsk." (*Hansen.*)

20757. VICIA sp. **Vetch.**

From Omsk, Siberia. "(No. 237.) A wild leguminous forage plant. Value undetermined but considered promising." (*Hansen.*)

20758. BROMUS INERMIS. **Smooth brome-grass.**

From Besentsuk, Samara province, Russia. "(No. 238.) Found wild near the experiment station at Besentsuk, upper Volga River region. Native of dry steppes." (*Hansen.*)

20759. BROMUS ERECTUS. **Upright brome-grass.**

From Besentsuk, Samara province, Russia. "(No. 239.) A native grass of the dry steppes." (*Hansen.*)

20760. AGROPYRON CRISTATUM.

From Samara province, Russia. "(No. 240.) A promising grass from the dry steppes." (*Hansen.*)

20761. VITIS AMURENSIS. **Grape.**

From northern Manchuria. "(No. 241.) The wild grape of northern Manchuria as found along the line of the Siberian railway." (*Hansen.*)

20762. TRIFOLIUM ALPESTRE.

From Sarapul, Russia. "(No. 242.) A wild clover found native on the dry steppes in Viatka province, Russia. This seed is from Sarapul, which is about 56° 25′ N. lat. Promising as a clover resistant to severe cold and drought." (*Hansen.*)

20763. AGROPYRON DESERTORUM.

From Samara province, Russia. "(No. 243.) A promising wild grass from the dry steppes." (*Hansen.*)

20764. PINUS CEMBRA.

From Irkutsk, Siberia. "(No. 244.) The native pine of Siberia." (*Hansen.*)

20765. PANICUM MILIACEUM. **Broom-corn millet.**

From Turgai province, Siberia. "(No. 245.) Native name *Sara-tara.* Native millet from the dry steppes; the large white seeds are used for human food. Considered to be a very good variety." (*Hansen.*)

20521 to 20795—Continued.

20766. OROBUS LUTEUS.

From Omsk, Siberia. "(No. 246.) A promising native leguminous forage plant found wild." (*Hansen.*)

20767. PANICUM MILIACEUM. **Broom-corn millet.**

From Tugai province, Siberia. "(No. 247.) A yellow-seeded millet, native to dry steppes. Taken out of No. 235 (S. P. I. No. 20755)." (*Hansen.*)

20768. PANICUM MILIACEUM. **Broom-corn millet.**

From Turgai province, Siberia. "(No. 248.) A yellow-seeded millet, native to dry steppes. Taken out of No. 245 (S. P. I. No. 20765)." (*Hansen.*)

20769. CUCUMIS MELO. **Muskmelon.**

From the Imperial Botanical Garden, St. Petersburg, Russia. "(No. 249.) Gathered by Dr. Kochanovsky in 1906 in Mongolia. This variety ought to be of value in the north." (*Hansen.*)

20770. LATHYRUS MAGELLANICUS.

From Lago San Martin, Patagonia, South America. "(No. 250.) Seed gathered by A. Thesleff in a Swedish scientific expedition and sent to the Botanical Gardens at Helsingfors, Finland, Russia, in 1905. A native forage plant of Magellan Straits." (*Hansen.*)

20771. LATHYRUS NERVOSUS.

From Patagonia, South America. "(No. 251.) Seed gathered by A. Thesleff in a Swedish scientific expedition and sent to the Botanical Gardens at Helsingfors, Finland, Russia, in 1905." (*Hansen.*)

20772. TRIFOLIUM PRATENSE. **Red clover.**

From Christiania, Norway. "(No. 252.) The Toten clover, which is cultivated over large areas of Norway on account of its extreme hardiness. It is descended from a wild plant found at Toten, Norway, by a peasant about 1850. This form has sometimes been called *Trifolium pratense norvegica.* The present sample is No. 442 of Mr. A. Michelet, seedsman, Christiania, Norway." (*Hansen.*)

20773. TRIFOLIUM PRATENSE. **Red clover.**

From Christiania, Norway. "(No. 253.) The agronomists of Norway claim that the native red clover is hardier than that introduced from America and that the plant is much smoother. I found the same claim as to greater freedom from hairiness of plant, causing the hay to be more free from dust, made for the native red clovers of Finland and Russia. No. 439 of Mr. A. Michelet." (*Hansen.*)

20774. TRIFOLIUM HYBRIDUM. **Alsike clover.**

From Christiania, Norway. "(No. 254.) The Norwegian form of the alsike clover. No. 252 of Mr. A. Michelet." (*Hansen.*)

20775. MEDICAGO SATIVA. **Alfalfa.**

From Christiania, Norway. "(No. 255.) A hardy, vigorous, broad-leaved form of alfalfa found in Norway by Mr. O. Malthe. The present variety was selected a few years ago by Mr. Malthe from a patch of alfalfa cultivated in Norway for a score of years. Considered to be a promising mutation." (*Hansen.*)

20776. LATHYRUS SYLVESTRIS.

From Christiania, Norway. "(No. 256.) A hardy leguminous forage plant as found native a score of years ago in the Romerike Valley, a few miles north of Christiania." (*Hansen.*)

20521 to 20795—Continued.

20777. PINUS CEMBRA.

From Tomsk, Siberia. "(No. 257.) The common pine over a large section of central Siberia. The large seeds are a favorite dainty for dessert on Siberian tables." (*Hansen.*)

20778. PYRUS INTERMEDIA.

From Helsingfors, Finland. "(No. 258.) A native ornamental tree. The bright red berries are borne in great abundance and resemble those of a mountain ash." (*Hansen.*)

20779. BERBERIS sp. **Barberry.**

From Djarkent, northern Russian-Turkestan, on the edge of China. "(No. 259.) A large-berried variety remarkable for the intense dark red color of the juice. It may prove to be *Berberis heteropoda*, which is a market berry in Turkestan." (*Hansen.*)

20780. PYRUS SINENSIS. **Japanese pear.**

From Harbin, northern Manchuria. "(No. 260.) This pear is of poor quality, but juicy, and is representative of the pears of northern China and Manchuria." (*Hansen.*)

20781. SAMBUCUS RACEMOSA.

From Helsingfors, Finland. "(No. 261.) The native red-berried elder." (*Hansen.*)

20782. RIBES RUBRUM. **Red currant.**

From Bodoe, Norway. "(No. 262.) The wild red currant from Bodoe, which is in 67° 20′ N. lat., on the coast of Norway." (*Hansen.*)

20783. RUBUS CHAMAEMORUS. **Cloud berry.**

From Bodoe, Norway. "(No. 263.) The wild raspberry here." (*Hansen.*)

20784. RUBUS IDAEUS. **European raspberry.**

From Bodoe, Norway. "(No. 264.) A yellow-fruited form of the wild raspberry." (*Hansen.*)

20785. FRAGARIA VESCA. **Strawberry.**

From Bodoe, Norway. "(No. 265.) The wild strawberry from north of the Arctic Circle." (*Hansen.*)

20786. HORDEUM VULGARE. **Barley.**

From St. Petersburg, Russia. "(No. 266.) *Jarenskianum* × (*pallidum* × *lapponicum*), No. 448 of Dr. Robert Regel, of the Bureau of Applied Botany, Department of Agriculture, St. Petersburg. This is a representative of the barley grown on the northern boundary of barley culture in the provinces of Vologda and Archangel. Of special promise for Alaska and regions where the growing period is short." (*Hansen.*)

20787. ALOPECURUS PRATENSIS. **Meadow foxtail.**

From Helsingfors, Finland. "(No. 267.) A valuable grass highly regarded as making hay of as good quality as timothy. Suitable for moist soil. Finland exports an immense quantity of this, which is probably the best native grass, to other countries." (*Hansen.*)

20788. TRIFOLIUM PRATENSE. **Red clover.**

From Helsingfors, Finland. "(No. 268.) Native red clover of Finland. Claimed to be hardier than the red clover from America and a smoother plant." (*Hansen.*)

20521 to 20795—Continued.

20789. PHLEUM PRATENSE. **Timothy.**

From Finland. "(No. 269.) Native timothy of Finland. Timothy is found both in North America and Europe; in Europe it extends up to and north of the Arctic Circle." (*Hansen.*)

20790. TRIFOLIUM PRATENSE. **Red clover.**

From Perm province, European Russia. "(No. 270.) The Russian form of red clover." (*Hansen.*)

20791. TRIFOLIUM PRATENSE. **Red clover.**

From Olonetz province, Russia. "(No. 271.) Variety *pallidum.* Wild red clover, promising for very cold, rather moist regions." (*Hansen.*)

20792. LOTUS CORNICULATUS. **Bird's-foot clover.**

From Samara province, Russia. "(No. 272.) A wild leguminous forage plant as found native in Samara province." (*Hansen.*)

20793. RAPHANUS SATIVUS. **Radish.**

From Kioto, Japan. "(No. 273.) *Daikon.* Seed of a large, roundish radish. This radish appears to be a common article of food in Japan, as I saw it in the markets of Tokio. It attains a size of 8 inches in diameter. However, the quality is said to be very poor by European residents in Japan." (*Hansen.*)

20794. RAPHANUS SATIVUS. **Radish.**

From Kioto, Japan. "(No. 274.) A large, long, white variety." (*Hansen.*)

20795. CELOSIA sp. **Cockscomb.**

From Kioto, Japan. "(No. 275.) A cockscomb with large, bright red flowers of the ostrich-feather type, grown in the flower gardens at Kioto. Seed purchased in the bazaar at Kioto." (*Hansen.*)

20796 to 20798.

From Manchuria and China. Received through Mr. Frank N. Meyer, agricultural explorer, April 3, 1907.

20796. HORDEUM VULGARE. **Barley.**

From Mukden, Manchuria. "(No. 720a.) *Black* barley. Chinese name *Gai ta mi.* Said to be used sprouted as an addition to sweetmeats. A rather rare variety." (*Meyer.*)

20797. GLYCINE HISPIDA. **Soy bean.**

From Shanghai, China. "(No. 722a.) *Black* soy beans obtained through Dr. S. P. Barchet, of the U. S. consulate at Shanghai. These beans come from Chin-hua-fu, Chekiang province, and are used apparently as a second crop on low-lying rice fields, and may as such be very valuable for the Southern States. They are mainly used as a food for domestic animals. It seems that they are sown broadcast after the sowing of the rice crop; specific details are not obtainable just now." (*Meyer.*)

20798. GLYCINE HISPIDA. **Soy bean.**

From Shanghai, China. "(No. 723a.) *Brown* soy beans obtained through Dr. S. P. Barchet, of the U. S. consulate at Shanghai. These beans come from Chin-hua-fu, Chekiang province, and are used apparently as a second crop on low-lying rice fields, and may as such be very valuable for the Southern States. They are mainly used as a food for domestic animals." (*Meyer.*)

20800. PHOENIX DACTYLIFERA. Date.

From Washington, D. C. Received through the California Fruit Company, April 8, 1907.

"*Deglet Noor* dates for the propagation of seedling date orchards in the Southwest." (*Swingle.*)

20801 to 20805. RHEUM spp.

From Cornhill, Liverpool, England. Received from The Cooperative Bees (Limited) through Mr. David Fairchild, April 1, 1907.

20801. RHEUM COMPACTUM.
20802. RHEUM OFFICINALE.
20803. RHEUM MACROCARPUM.
20804. RHEUM TATARICUM.
20805. RHEUM ACUMINATUM.

For cooperative experimental work on production of new rhubarb varieties with Mr. J. B. Wagner, Pasadena, Cal. (*Fairchild.*)

20806. SOLANUM TUBEROSUM. Potato.

From Erfurt, Germany. Received from Messrs. Haage & Schmidt, April 6, 1907.

Mäuschen. "A potato highly esteemed in Germany and by Americans abroad for its fine texture and good flavor. It is about the size of a full-grown mouse and has much the appearance of one, whence the name. Its shape and firmness make it very desirable for salads.

"Imported on request of several parties to determine whether it will retain its high quality after several generations in this country." (*Fischer.*)

20808. CANARIUM COMMUNE. Tropical almond.

From Buitenzorg, Java, Dutch East Indies. Presented by Dr. M. Treub, director of the Department of Agriculture, April 2, 1907.

"There is probably not a more beautiful avenue tree in the world. The most beautiful avenue in the famous Gardens of Buitenzorg is of this species, and for this purpose alone it is worthy of the consideration of the landscape gardeners of the western Tropics. Avenues of this tree should be planted in Porto Rico, Cuba, and especially on the Canal Zone.

"Aside from its value as an avenue tree, its nuts have found a use in the Dutch East Indies in the preparation of a substitute for mothers' milk. The researches of Dr. W. G. Boorsma have shown this to be of unusual value for infants.

"To prepare the emulsion which is the principal ingredient of this baby food, the meat of the nut is removed from the shell, and also the thin skin which surrounds it, by putting it in hot water. These kernels are put in a mortar with an equal weight of milk sugar and are pounded up together into a dough-like mass, which is gradually mixed with a larger and larger quantity of water. The grinding of the kernels is assisted by the hard crystals of the milk sugar. After filtering through a cloth which has been washed in boiling water, the mass of kernels and sugar are wet with water again, and again pressed. This process may be repeated several times. The wet emulsion is added to cows' milk and the mixture sterilized. The oily layer which separates itself and lies on top of the sterilized preparation can be again mixed with the milk by vigorous shaking until only a few flocculent masses remain attached to the sides of the flask.

"See Dr. W. G. Boorsma, in 'Oorspronkelijke Bijdragen.—Lahmann's 'plantaardige melk' en kanarizaden-emulsie als toevoegsel tot de melk voor zuigelingen. (Geneeskundig Tijdschrift voor Ned.-Indië Deel, XLI, afl. 4.) Batavia Jav. Boekh. & Drukkerij, 1901. Also in kanarizaden-emulsie als toevoegsel tot voor zuigelingen bestemde koemelk. (Geneeskundig Tidjschrift voor Ned.-Indië Deel, XLV, afl. 1.) Batavia Jav. Boekh. & Drukkerij, 1905. As species of Canarium occur in the Philippines, this use of their seed should be called to the attention of Americans in Manila.

"This new vegetable fat is, furthermore, perhaps worthy of the attention of American pharmacologists." (*Fairchild.*)

20809 to 20812.

From Buenos Aires, Argentina. Presented by the Buenos Aires Botanical Garden, through Mr. C. V. Piper, April 6, 1907.

20809. LATHYRUS NERVOSUS.
20810. LATHYRUS SERICEUS.
20811. PASPALUM PARANENSE.
20812. STIPA ICHU.

20814. CUCURBITA MAXIMA. Squash.

From Venice, Italy. Received through Dr. Erwin F. Smith, of this Department, April 5, 1907.

"Collected in September, 1906. A large squash with thick flesh and small cavity; of good quality and the best variety seen in the streets of Venice, where it is sold baked in halves." (*Smith.*)

20837. CUCUMIS MELO. Muskmelon.

From Chios, Turkey. Presented by Mr. N. J. Pantelides. Received February, 1907.

Khios.

20838 to 20842.

From Shanghai, China. Received through Mr. Frank N. Meyer, agricultural explorer, April 9, 1907.

A collection of cuttings and plants.

20838 and 20839. VIBURNUM ODORATISSIMUM.

"Nos. 646 and 647. Cuttings of a beautiful, large-leaved, evergreen shrub, growing to a height of 15 feet, bearing many clusters of white flowers. A very fine shrub for the mild-wintered regions of the United States. Especially good for cemeteries and parks. Obtained from Mr. D. MacGregor, superintendent of the parks of Shanghai." (*Meyer.*)

20840 and 20841. OSTERDAMIA PUNGENS.

"Nos. 648 and 649. A grass used for lawns in the parks and open places in Shanghai. It is the only grass that can be kept green during the heat and drought of midsummer. It might be an excellent grass for gardens and parks in the southern United States. Obtained from Mr. D. MacGregor, superintendent of the parks of Shanghai." (*Meyer.*)

20842. BAMBUSA sp. Bamboo.

"No. 650. Shoots purchased in the vegetable market at Shanghai, where the plant is a favorite food with the Chinese. It is generally eaten boiled and sliced with rice, or in soups, although it is even better if fried in pork fat." (*Meyer.*)

20846. XANTHOSOMA SAGITTIFOLIUM. Yautia.

From Bahama Islands, British West Indies. Received through Mr. P. J. Wester, special agent, April 12, 1907.

"*Eddie*, the name by which this large variety is known in the Bahamas." (*Wester.*)

20854 to 20862.

From Harbin, Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, April 11, 1907.

A miscellaneous collection of seeds.

20854. GLYCINE HISPIDA. Soy bean.

"(No. 675a, Dec. 15, 1906.) Green soy beans; Chinese name *Ta shing toa.* These are boiled and used as food, and the sprouts of the germinated beans are also used as a vegetable throughout the winter months." (*Meyer.*)

20854 to 20862—Continued.

20855. CANNABIS SATIVA. **Hemp.**

"(Nos. 676a and 677a, Dec. 19, 1906.) Purchased in the market in Harbin, where the seeds are sold as bird food." (*Meyer.*)

20856. CHAETOCHLOA ITALICA. **Siberian millet.**

"(No. 678a, Dec. 19, 1906.) Chinese name *Hong shu tse.* It is used by the Chinese as food, being boiled and eaten in the form of a paste or as a porridge. Used by the Russians as a bird seed." (*Meyer.*)

20857. PANICUM MILIACEUM. **Broom-corn millet.**

"(No. 679a, Dec. 19, 1906.) Chinese name *Pai shu tse.* It is used by the Chinese the same as the preceding number, and is also used by the Russians as a bird seed." (*Meyer.*)

20858. TRITICUM VULGARE. **Wheat.**

"(No. 680a, Nov. 30, 1906.) Purchased near Ninguta. It is considered a very good wheat. It consists, however, of many varieties grown together; hence, many different types may appear." (*Meyer.*)

20859. FAGOPYRUM ESCULENTUM. **Buckwheat.**

"(No. 681a, Nov. 30, 1906.) A large variety of buckwheat grown by the Chinese on the sterile mountain sides near Ninguta." (*Meyer.*)

20860. PAPAVER SOMNIFERUM. **Opium poppy.**

"(No. 683a, Dec. 19, 1906.) A black poppy used in confectionery and as a bird seed." (*Meyer.*)

20861. PAPAVER SOMNIFERUM. **Opium poppy.**

"(No. 684a, Dec. 19, 1906.) A white poppy used in confectionery and as a bird seed." (*Meyer.*)

20862. BETULA sp. **Birch.**

From Corvuskaya, Siberia. "(No. 686a, Nov. 24, 1906.) A shrubby birch growing 5 to 8 feet tall with gray branches. Useful as a park shrub in northern regions." (*Meyer.*)

20863 to 20864.

From Huimanguillo, Tabasco, Mexico. Presented by Mr. A. G. Weiss, through Mr. O. W. Barrett, April 13, 1907.

20863. IPOMOEA BATATAS. **Sweet potato.**

Red Camote.

20864. XANTHOSOMA SAGITTIFOLIUM. **Yautia.**

Macal. Red, smooth variety.

20865. SECHIUM EDULE. Chayote.

From Huimanguillo, Tabasco, Mexico. Presented by Mr. A. G. Weiss, April 12, 1907.

Two small smooth fruits and one large prickly fruit.

20867 to 20869.

From Victoria, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, April 15, 1907.

20867. SECHIUM EDULE. **Chayote.**

Large, spiny, yellowish fruits.

20867 to 20869—Continued.

20868. PHYSALIS IXOCARPA. **Ground cherry.**

A large-fruited variety.

20869. FICUS sp. **Wild fig.**

Small fruits.

20870 to 20871. NEPHELIUM spp.

From Kuching, Sarawak. Presented by Mr. John Hewitt, curator of the Sarawak Museum, April 18, 1907.

20870. *Buoh Mo.* White. **20871.** *Buoh Mo.* Red.

"Possibly these are *N. formatum.*" (*Hewitt.*)

20873. ANDROPOGON SORGHUM. Sorghum.

From Bombay, Kirkee, India. Presented by Prof. G. A. Gammie, economic botanist, Ganeshkhind Botanical Gardens, through Mr. David Fairchild, April 10, 1907.

"*Juar.* Said to be a dwarf variety." (*Gammie.*)

20876. CASTILLA sp. Rubber.

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz, April 19, 1907.

20877. ASPARAGUS sp. Asparagus.

From Cape Town, South Africa. Received from Mr. J. S. Henkel, Acting Conservator of Forests, Western Conservancy, March 19, 1907.

Imported for experiments in the breeding of disease-resistant strains of asparagus.

20879. PHASEOLUS sp.

From Miami, Florida. Received through Mr. W. F. Wight, of the Bureau of Plant Industry, April 22, 1907.

"Collected on farm of Captain Haden, some miles south of Miami. Source unknown, but probably introduced with a large number of other plants from various parts of the world introduced by him." (*Wight*).

20880. AGAVE RIGIDA ELONGATA. Henequen.

From St. Louis, Mo. Received through Dr. Wm. Trelease, director, Missouri Botanical Garden, April 20, 1907.

"Plants representing the true gray henequen or gray sisal of Yucatan. They are what botanists currently call *Agave rigida elongata.*" (*Trelease.*)

20890. CARLUDOVICA PALMATA.

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz, April 23, 1907.

20891 to 20894.

From Kobe, Japan. Presented by Hon. Hunter Sharp, American consul, who purchased them from J. Ikeda & Co., Tokyo, Japan. Received March 25, 1907.

20891 to 20894—Continued.

20891. DOLICHOS LABLAB. **Hyacinth bean.**

Fujimame.

20892. GLYCINE HISPIDA. **Soy bean.**

White.

20893. GLYCINE HISPIDA. **Soy bean.**

Green.

20894. PHASEOLUS ANGULARIS. **Adzuki bean.**

20895. IPOMOEA FUCHSIOIDES.

From Miami, Fla. Received through Dr. E. A. Bessey, Subtropical Laboratory, April 25, 1907.

"A most excellent thing and destined to be a great favorite among lovers of morning-glories. It grows wild in the hammocks around Miami. In its native state it makes poor growth; but a vine in culture in the garden at Miami for two years has made immense growth and is covered nearly all the year with brilliant carmine-colored blooms. It seeds exceedingly sparsely. The plant is tuberous, and it is believed that if the roots were covered during the winter it would grow at least as far north as North Carolina." (*Wester.*)

20900 to 20906.

From Victoria, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, March 25, 1907.

20900 to 20905. PHASEOLUS VULGARIS. **Bean.**

20900. *Amarillo.*
20901. *Garbancillo.*
20902. *Gordo.*
20903. *Morado.*
20904. *Baylo chico.*
20905. *Negro chico.*

20906. ERVUM LENS. **Lentil.**

20907. PSOPHOCARPUS TETRAGONOLOBUS.

From Columbia, Isle of Pines, West Indies. Presented by Dr. F. R. Ramsdell, April 26, 1907.

20908. CANANGA ODORATA. **Ilang ilang.**

From Manila, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture, through Mr. O. W. Barrett, April 26, 1907.

"Mr. Creelman, the war correspondent, called on the Assistant Secretary of Agriculture and stated that it was his belief that the Ilang ilang might be grown in southern Florida and its remarkably fragrant blossoms shipped to our northern markets and sold—much as the Cape jasmine is now imported from the south and handled by the florists of our big cities. It is Mr. Creelman's belief that a small industry could be started with this flower and that its remarkable fragrance would attract the immediate attention of flower lovers." (*Fairchild.*)

20909 to 20922.

From Finland. Received April 20, 1907.

20909. HORDEUM VULGARE. **Barley.**

20910. SECALE CEREALE. **Rye.**

20911. PISUM SATIVUM. **Pea.**

20909 to 20922—Continued.

20912. PISUM SATIVUM. **Pea.**

20913. ALLIUM CEPA. **Onion.**

20914. BRASSICA OLERACEA. **Kale.**

20915. BRASSICA OLERACEA. **Kale.**

20916. BRASSICA OLERACEA. **Cabbage.**

20917. BRASSICA OLERACEA. **Cabbage.**

20918. BRASSICA RAPA. **Turnip.**

20919. CUCUMIS SATIVUS. **Cucumber.**

20920. CUCUMIS SATIVUS. **Cucumber.**

20921. CUCUMIS SATIVUS. **Cucumber.**

20922. LACTUCA SATIVA. **Lettuce.**

20923. HIBISCUS SABDARIFFA. **Roselle.**

From Alexandria, Egypt. Presented by Mr. V. F. Naggiar, November 6, 1906.

"From the calyx of this species is prepared one of the most attractive and delicious jellies known. It has been discovered that this jelly can be made not only from the calyx, but from all the succulent portions of the plant. As this species will grow, during our summers, as far north as New York, or perhaps farther, it is worthy of trial by all those interested in fancy jellies." (*Fairchild.*)

See Farmers' Bulletin No. 307, by P. J. Wester.

20924 to 20934. ORYZA SATIVA. **Rice.**

From Calcutta, India. Presented by Mr. A. T. Gage, superintendent of the Royal Botanic Garden, Sibpur. Received February 25, 1907.

20924. *Kalam dan* paddy.

20925. *Shela* paddy.

20926. *Srikole* paddy.

20927. *Bhusikar* paddy.

20928. *Banṣmate* paddy.

20929. *Behula* paddy.

20930. *Kedali* paddy.

20931. *Sita bhoge* paddy.

20932. *Thakar bhoge* paddy.

20933. *Ash baran* paddy.

20934. *Nagpur* paddy.

20935 and 20936. ORYZA SATIVA. **Rice.**

From Yokohama, Japan. Received through Sale & Frazar (Limited), April 23, 1907.

20935. *Hang choo.*

20936. *Kun po.*

20937. CITRUS MEDICA ACIDA. **Lime.**

From Port of Spain, Trinidad. Presented by Mr. E. André, April 30, 1907.

Dominica Spineless.

20938 to 20942.

From Moyobamba, Peru. Presented by Mr. Serafin Filomeno, April 29, 1907.

20938. HEVEA BRASILIENSIS. **"Jebe" rubber.**

20939 to 20942. PHASEOLUS VULGARIS. **Bean.**

20939. Reddish brown, mottled with brick.

20940. Yellow brown.

20941. White.

20942. Mixed, purplish and light brown, mottled with purple.

20943. CINNAMOMUM CAMPHORA. Camphor.

From Kobe, Japan. Presented by Hon. Hunter Sharp, American consul, who purchased them from J. Ikeda & Co., Tokyo, Japan. Received March 25, 1907.

Cultural directions:

"*Soil and situation.*—The camphor tree prefers a fertile clay soil with southern aspect, where no cold wind blows. If there are no cold winds, it thrives also in shaded places, but the most favorable situation is a valley open to the south or southeast, with much moisture and with a warm sea breeze.

"*Seeding.*—The seeds are sown in March as soon as there is no danger from frost, being covered with about one-third of an inch of soil. As soon as they begin to grow they must be carefully weeded.

"The following year about the middle of June, when the sprouts are about 3 inches high, the plants are to be transplanted, and when the small white roots begin to grow they are transplanted again to a place where they should stay a year. The plants should have the leaves and roots severely pruned. The roots are cut to about 5 inches, and the stems are also cut.

"The weather for transplanting should be cloudy, or a day before a rain if possible.

"Two-year-old trees may be set out in a forest or garden, at which time the branches are pruned severely. Poorly grown plants, however, may remain for another season in the same ground." (*Prepared for Sharp.*)

20944. CAESALPINIA NAGU.

From Mindoro, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture, by whom it was collected in March, 1907. Received April 29, 1907.

"Robust scandent shrub, ascending to 10 meters by means of small, scanty prickles; leaves coriaceous, lustrous, and very persistent; individual flowers small, canary yellow, grouped in large, showy terminal panicles, strongly and deliciously scented.

"Habitat, damp but well-drained clay soils at sea level. Tolerates occasional tidal overflows of brackish, but not pure, sea water.

"Flowers abundantly, but perfects seeds very sparingly. Worthy of cultivation." (*Lyon.*)

20945 to 20954.

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture, through Mr. O. W. Barrett, April 30, 1907.

20945 to 20948. COLOCASIA ANTIQUORUM. **Taro.**

20945. Variety *polyrhiza flava.*
"Kiempol koening."

20946. Variety *polyrhiza rubra.*
"Kiempol merah."

20947. Variety *polyrhiza alba.*
"Kiempol poetieh."

20948. Variety *polyrhiza.*
"Kiempol belang."

20949 and 20950. ALOCASIA MACRORHIZA. **Taro.**

20949. Variety *purpurascens.*
"Senteh merah."

20950. "Senteh belang."

20951 to 20954. COLOCASIA ANTIQUORUM. **Taro.**

20951. Variety *monorhiza.*
"Talus banteng ietem."

20952. Variety *monorhiza.*
"Talus banteng belang."

20945 to 20954—Continued.

20953. Variety *monorhiza*.

"Talus koekoek."

20954. Variety *monorhiza*.

"Talus belang."

20955 to 20967. CERATONIA SILIQUA. Carob.

From Lisbon, Portugal. Secured by Mr. Louis H. Aymé, United States consul-general, April 30, 1907.

"Scions of the finest 'alfarroba' trees to be found in the province of Algarve, the name of the plantation, proprietor, and the average annual production of the tree from which the grafts were cut being given with each." (*Aymé.*)

20955. From Valle da Arrencada, plantation of Joaquim Traquino; yield 50 to 60 pounds per annum.

20956. From Monte Alegre, plantation of Frederico da Paźmendes; yield 20 to 30 pounds per annum.

20957. From Serro dos Cörços, plantation of Dr. Alfredo Magathaes Barros; yield 30 to 40 pounds per annum.

20958. From Taipas, plantation of Visconde de Alvõr; yield 40 to 50 pounds per annum.

20959. From Quinto do Bispo, plantation of Brák Lamim; yield 15 to 20 pounds per annum.

20960. From Böa Vista, plantation of José Teiyeira Biker; yield 20 to 25 pounds per annum.

20961. From Alcurão, plantation of Antonio Vicente; yield 10 to 15 pounds per annum.

20962. From Chão das Donas, plantation of Antonio José da Motta; yield 35 to 40 pounds per annum.

20963. From Valle da Arrencada, plantation of Joaquim Traquino; yield 15 to 20 pounds per annum.

20964. From Böa Vista, plantation of Luis Antonio Maravithat; yield 30 to 40 pounds per annum.

20965. From Valle da Arrencada, plantation of Visconde de Alvõr; yield 15 to 20 pounds per annum.

20966. From Bem Parece, plantation of Conde de Silves; yield 16 to 20 pounds per annum.

20967. From Poço da Lagem, plantation of D. Luis Bordas y Marimon; yield 20 to 30 pounds per annum.

20968. GLYCYRRHIZA GLABRA. Licorice.

From Patras, Greece. Presented by Mr. F. B. Wood, British consul, March 6, 1907.

"Greek wild licorice roots." (*Wood.*)

20969. SYNGONIUM sp. Vanilla.

From Gomez Farias, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, Victoria, Tamaulipas, Mexico, through Dr. J. N. Rose, U. S. National Museum, Washington, D. C. Received May 4, 1907.

(Rose's No. 07.277.)

20970 to 20973.

From Gomez Farias, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, Victoria, Tamaulipas, Mexico, May 4, 1907.

20970. XANTHOSOMA sp. Yautia.

"*Rejalgar de castilla.* The young leaves and stalks are cooked as greens by the natives and are also cut up into bits and mixed with eggs,

20970 to 20973—Continued.

shrimps, and chile, forming a dish 'none will refuse.' Roots are also mashed and made into a gruel." (*Palmer.*)

20971 to 20973. IPOMOEA BATATAS. Sweet potato.

20971. Wild.

20972. White.

20973. Red.

20974. BARLERIA FLAVA.

From Mindoro, P. I. Presented by Mr. William S. Lyon, horticulturist, Bureau of Agriculture, by whom it was collected in March, 1907. Received May 4, 1907.

"Dwarf yellow-flowered shrub; very floriferous over period of six months. Thriving at sea level in shallow, rocky soils where exposed to nearly continuous drought from January to May." (*Lyon.*)

20976. RAPHANUS SATIVUS. Radish.

From Chico, Cal. Received through Mr. P. H. Dorsett, in charge of Plant Introduction Garden, April 13, 1907.

Seed raised from radishes sent in from Yang-tchow, China, in 1906, by Mr. Frank N. Meyer, agricultural explorer. (Meyer's No. 149.)

20977. ORYZA PUNCTATA. Rice.

From Cairo, Egypt. Presented by Dr. G. Schweinfurth, May 10, 1907.

"Wild *Seilluk* rice, gathered as a cereal by the Shilluk tribes in Lull, above Fashoda. Collected by Mr. Robert Tuerstig, Omdurman, British Egyptian Soudan." (*Schweinfurth.*)

20978 to 20979. PHYSALIS. Husk tomato.

From Queretaro, Mexico. Presented by Mr. M. M. Urquiza, through Mr. O. W. Barrett, May 13, 1907.

20978. Husk and fruit purple near stem.

20979. Husk and fruit yellowish near stem.

20980. VIGNA UNGUICULATA. Cowpea.

From Nairobi, British East Africa. Presented by Mr. Henry Powell, Director of Agriculture, through Mr. C. V. Piper, May 10, 1907.

20981 to 20984.

From Amani, German East Africa. Presented by Dr. Franz Stuhlmann, direktor des Kaiserlichen Biologisch-Landwirtschaftlichen Instituts, through Mr. C. V. Piper, May 8, 1907.

20981 and 20982. ANDROPOGON SORGHUM. Sorghum.

20981. *White durra.* "Kisuahili mgau."

20982. *White durra.* "Kisuahili fere-fere."

20983 and 20984. VIGNA UNGUICULATA. Cowpea.

20983. Brown, resembling *Red Ripper.*

20984. Mottled brown, resembling *New Era.*

20985 to 20987.

From St. Georges, Grenada, British West Indies. Presented by Mr. Rudolph I. Anstead, agricultural superintendent, Botanic Station, through Mr. O. W. Barrett, May 9, 1907.

20985 and 20986. XANTHOSOMA sp. Yautia.

20987. IPOMOEA BATATAS.

20989. ZIZYPHUS SPINA-CHRISTI. **Jujube, or Christ's-thorn.**

From Assiut, Egypt. Presented by Mr. Thomas W. Brown, secretary, La Société Horticole Commerciale, Cairo, May 14, 1907.

"A large edible-fruited variety of this species." (*Brown.*)

20990. CAREX TRIANGULARIS. **Sedge.**

From Rosenberg, Tex. Received through Mr. John H. Tull, special agent in charge of matting-rush investigations, United States Department of Agriculture, May 11, 1907.

"A sample of this sedge was discovered by Mr. R. H. Sawyer, of Malden, Mass., April 18, 1907, near the railroad station at Rosenberg, Tex. As it turns out to be a very promising species, his account of its discovery is worthy of record: During a delay caused by a breakdown on the railroad, as Mr. Sawyer was returning from Japan, where he had been in search of Japanese sedge and rush plants, he got out to explore the ditches and wet places for sedges and rushes, and this angular species attracted his attention. He gathered a few heads and collected a few plants, which he afterwards wove in his mills. Discovering that it was a native species occurring throughout Texas and Oklahoma and finding on weaving it that it was a specially promising variety, he requested that seeds be gathered in quantity. Mr. Tull was sent to Rosenberg, Tex., and collected the seed which forms the subject of this inventory description." (*Fairchild.*)

20991 to 21000. DIOSCOREA sp. **Yam.**

From Moamoa, Apia, Samoa. Presented by Brother Philippe, Marist Brothers' Agricultural College, through Mr. O. W. Barrett, May 14, 1907.

Samoan names accompanied the plants, as follows:

20991.	*Ufi vao.*	**20996.**	*Asoaso.*
20992.	*Calai.*	**20997.**	*Gu.*
20993.	*Laupalai.*	**20998.**	*Aumaile.*
20994.	*Tamuni.*	**20999.**	*Voli.*
20995.	*Asoasoulumoa.*	**21000.**	*Fakasoa.*

21001. PYRUS SINENSIS. **Pear.**

From Yokohama, Japan. Presented by the Yokohama Nursery Company (Limited). Received May 15, 1907.

"This pear seed was obtained at Heijo, some 150 miles by rail west of Seoul, Korea. The trees in the wild form are 20 feet high, and the trunks measure over 2 feet in diameter at the base. They spread out like the oak tree." (*Yokohama Nursery Company.*)

21002. BAMBUSA TULDA. **Bamboo.**

From Sibpur, Calcutta. Presented by Mr. A. T. Gage, superintendent, Royal Botanic Garden, May 16, 1907.

"*Habitat.*—This is the common bamboo of Bengal, where it grows in great abundance everywhere, flowering in May. 'Not uncommon in the deciduous forests of Pegu, generally occupying lower and moister stretches of ground in company with tinwa (*Cephalostachyum pergracile*), the dry hills surrounding being covered with *Dendrocalamus strictus*.' (*Brandis.*)

"'*Fiber.*—Largely used for mats, baskets, fans, and window blinds. This is, in fact, one of the most useful plants in Bengal.

"'*Food.*—The young shoots are pickled when only about two feet high. They are tender.' (*Roxburgh.*)

"'*Structure of the wood.*—The wood is strong, and the halms are used for roofing, scaffolding, mats, and other purposes.' (*Gamble.*)

"Found more durable if soaked in water previous to being used. This is regarded in Bengal as one of the best quality of bamboos. Both Roxburgh and Voigt mention several varieties. The following extract will be found to give the more important forms: '*Fowa bans* (*piabansh?*) of the Bengalis is only a large variety of this species, and used chiefly for scaffolding and building the larger and better sorts of houses of the natives. It differs from *tulda* proper

21002—Continued.

in the greater length and thickness of the joints. *Basini bans* of the Bengalis is another variety of *tulda*. It has a larger cavity and is used chiefly to make baskets. *Behoor bans* is of a small size, very solid and strong, much bent to one side, and armed with numerous strong thorns, which renders it very fit for hedges. A staff of this species must be placed in the hand of every young Brahmin when invested with the sacerdotal cord; otherwise they say the ceremony can not be performed.' (*Roxburgh.*)

"The total annual rainfall in the district where this garden is situated is about 83.22 inches. There should be no difficulty in growing this bamboo in the West Indies." (*Gage.*)

21003 to 21004. CYAMOPSIS TETRAGONOLOBA. **Guar.**

From Bombay, India. Received through Latham & Co., May 18, 1907.

21003. *Talbuda.* 21004. *Sotia.*

21006. VIGNA UNGUICULATA. **Cowpea.**

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. William Hart, director of the Agricultural College, May 21, 1907.

Macassar. "The blue cowpea, known here as *Feijao macassar*, grows in the spring more slowly than such varieties as the Clay, Whippoorwill, Blackeye, Wonderful, and Rice, but outclasses them all in vigor and productiveness." (*Hart.*)

21007. (Undetermined.)

From Santiago, Chile. Presented by Señor Salvador Izquierdo, Calle Moneda 788, May 13, 1907.

"On a trip that I made into the mountains of the central part and along the coast of Chile I observed a plant, a creeper (?), which grows in places absolutely arid, where it receives no water except in the rainy seasons in the months of May and October, remaining in perfect vegetation the rest of the year; animals eat it rather eagerly. The appearance of the plant and its seeds would indicate that it belongs to the family Umbelliferæ. It might prove interesting to experiment with for the very dry regions of the United States." (*Izquierdo.*)

21008. PHOENIX DACTYLIFERA. **Date.**

From Bagdad, Turkey in Asia. Received through Hills Bros. Company, New York, N. Y., May 18, 1907.

Zehedi. "For distribution to planters in the Southwest for the purpose of getting new seedling varieties." (*Swingle.*)

21009 to 21011. PHOENIX DACTYLIFERA. **Date.**

From Washington, D. C. Received through Mr. H. L. Strang, May 23, 1907.

"Persian Gulf dates purchased in the open market. For distribution to planters in the Southwest for the purpose of getting new seedling varieties." (*Swingle.*)

21009. *Fard.* 21011. *Khadrawi.*

21010. *Halawi.*

21012. ALEURITES CORDATA. **Japanese wood oil.**

From Kobe, Japan. Presented by Hon. Hunter Sharp, American consul, who purchased them from J. Ikeda & Co., Tokyo, Japan. Received March 25, 1907.

For comparison with the following (No. 21013)—Tung shu, or wood-oil tree.

21013. ALEURITES FORDII. **Tung, or Chinese wood oil.**

From Hankow, China. Secured by Hon. William Martin, United States consul-general, through Mr. David Fairchild, May 16, 1907.

21013—Continued.

For experiments in the propagation of this tree in America as a possible commercial source of Chinese wood oil and other products. (See S. P. I. No. 13104 and Daily U. S. Consular Report No. 2206.)

21014 to 21018.

From Melbourne, Victoria. Received through F. H. Brunning Pty. Ltd. Received May 22, 1907.

21014.	DACTYLIS GLOMERATA.	Orchard grass.
21015.	FESTUCA ELATIOR.	Tall fescue.
21016.	FESTUCA PRATENSIS.	Meadow fescue.
21017.	POA PRATENSIS.	Kentucky bluegrass.
21018.	PHLEUM PRATENSE.	Timothy.

21019. CITRUS MEDICA ACIDA. Lime.

From Dominica, British West Indies. Presented by Prof. Joseph Jones, curator, Botanic Station, May 24, 1907.

Dominica Spineless.

21020. OPUNTIA sp. Tuna.

From Alamogordo, New Mexico. Presented by Mr. A. B. Dille, May 27, 1907.

"This variety seems to grow very rank and vigorous and is almost entirely free from spines." (*Dille.*)

21021. GLYCYRRHIZA GLABRA. Licorice.

From Ispahan, Persia. Received through Mr. John Tyler, United States vice consul general, Teheran, Persia, May 31, 1907.

21023 to 21027.

From Auckland, New Zealand. Purchased from E. C. Pilkington & Co., June 1, 1907.

21023.	FESTUCA SABULICOLA.	Chewing's fescue.
21024.	DANTHONIA SEMIANNULARIS.	Wallaby grass.
21025.	SPOROBOLUS ELONGATUS.	Rat-tail.
21026.	DACTYLLIS GLOMERATA.	Akaroa cock's-foot.
21027.	FESTUCA ELATIOR.	Tall fescue.

21028 to 21029. LILIUM sp.

From Kinghwa, China. Received through Mr. J. M. W. Farnham, from Rev. T. D. Holmes, American Baptist Union, June 3, 1907.

"Golden yellow and cream-colored lilies, both rare, the cream colored being very rare. Blooms in July and August." (*Farnham.*)

21030 to 21031.

From Tegucigalpa, Honduras. Presented by Dr. Reinhold Fritzgartner, June 6, 1907.

21030. (Undetermined.)

"*Matasano.* A big tree; fruit the size of an orange or larger; skin green, with spiny pustules sparsely scattered over the surface; flesh white or yellow, sweet or slightly sour, containing two or three large black seeds." (*Fritzgartner.*)

21031. CARICA PAPAYA. Papaw.

"*Papaya*; a very large sized variety." (*Fritzgartner.*)

21033 to 21034.

From Venice, Italy. Presented by Hon. Paul Nash, American consul, June 7, 1907.

21033. BRASSICA OLERACEA. Cabbage.

"*Kupus.* From Ragusa, Dalmatia. In point of flavor the plant as grown there is very different from the ordinary European varieties, and highly prized by those who have eaten it. It appears that seeds produced in Ragusa have been planted in various parts of Europe, Asia Minor, and Africa, but the cabbages grown from them no longer retain the peculiar flavor of the *Kupus*. This is equally true of regions of the Dalmatian coast comparatively near Ragusa." (*Nash.*)

21034. LAGENARIA sp. (?)

Procured from Fratelli Sgaravatti, Saonara, Padova, Italy.

"This is a delicious, slightly sweet vegetable called *Zucca*, resembling in form the cucumber and eaten stewed, fried, or boiled, and served cold as a salad. The flowers of the squash are also used here extensively, and when fried to a crisp are most delightful." (*Nash.*)

21039. FURCRAEA sp.

From Nice, France. Presented by Dr. A. Robertson Proschowsky, June 13, 1907.

The same as S. P. I. No. 21473.

21040 to 21043.

From Christchurch, New Zealand. Presented by Mr. L. Cockayne, Ollivier's Road, June 13, 1907.

21040. MYOSOTIDIUM NOBILE.

"From Chatham Island; collected April, 1907." (*Cockayne.*)

21041. VERONICA MACROURA.

Cooks Strait form.

21042. PITTOSPORUM TENUIFOLIUM.

21043. CASSINIA FULVIDA.

"Grows on sand dunes." (*Cockayne.*)

21044. COLEOCOCCUS AMICARUM. Caroline ivory-nut palm.

From Ponape, Caroline Islands, Oceanica. Presented by Mr. Wm. S. Lyon, horticulturist, Bureau of Agriculture, Manila, P. I., June 14, 1907.

"A pinnate-leaved palm introduced into Guam from the Caroline Islands. The nuts are of an ivory-like texture and are exported from the Carolines to Germany for button making. The spheroid fruit, about 7 cm. long and 8 cm. in diameter, has a reddish brown, glossy, scaly shell. The surface of the seed is glossy black and thickly striped, but not furrowed. The allied species of the Solomon Islands (*C. solomonensis*) has a straw-colored shell, and that of *C. viticnsis*, of Fiji, which is not used in the arts, is yellow. The inflorescence of this genus has not yet been described. In some of the Solomon Islands the natives prepare sago from the pith of the species growing there. It is said to keep well and not to be injured by salt water, so that it is a valuable food staple to take with them on their canoe voyages." (*Safford's Useful Plants of Guam.*)

21045. ARAUCARIA IMBRICATA. Monkey-puzzle.

From Coronel, Chile. Presented by Mr. Teodoro Finger, June 14, 1907.

21046 to 21047.

From Cienfuegos, Cuba. Presented by Dr. Robert M. Grey, Harvard Botanical Station, Central Soledad, June 14, 1907.

21046. GOSSYPIUM BARBADENSE. **Cotton.**

"(Var. *purpurascens.*) Red cotton from the hills." (*Grey.*)

21047. XANTHOSOMA VIOLACEUM. **Yautia.**

21050 to 21055.

From Mayaguez, P. R. Presented by Mr. M. J. Iorns, horticulturist, Agricultural Experiment Station, through Mr. O. W. Barrett, June 18, 1907.

21050. ARTOCARPUS INCISA. **Breadfruit.**

21051. CASSIA OCCIDENTALIS. **"Ydionxa."**

21052. HIBISCUS ABELMOSCHUS. **"Algalia."**

21053 to 21055. MUSA SAPIENTUM. **Banana.**

21053. *Palembang.* (ex. Kew.)

21054. *Popoulu.* (ex. Hawaii.)

21055. *Lele.* (ex. Hawaii.)

21056 to 21057.

From Aburi, Gold Coast, British West Africa. Presented by Prof. A. E. Evans, Acting Director of Agriculture, through Mr. O. W. Barrett, June 17, 1907.

21056. SIDEROXYLON DULCIFICUM. **Miraculous tree.**

21057. MIMUSOPS DJAVE. **Baco nut.**

"Probably *M. djave*, 'baco nut.' Seed yields 40 per cent of oil; timber exported as West African mahogany." (*Evans.*)

21058. ANONA CHERIMOLIA. **Cherimoyer.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimental, June 19, 1907.

21059. EUGENIA JAMBOS. **Rose apple.**

From Mayaguez, Porto Rico. Presented by Mr. M. J. Iorns, horticulturist, Agricultural Experiment Station, through Mr. O. W. Barrett, June 18, 1907.

21060. VICIA VILLOSA. **Hairy vetch.**

From Riga, Russia. Received through Messrs. Vollmer & Co., June 20, 1907.

"This seed is exclusively grown in the Riga district, or, more correctly, in the Courland and Lithuanian provinces here, where we have experienced during the last winter a cold of 25° R. below zero, and we think that in New England scarcely any lower temperature will prevail in winter. This vetch is sown with us in autumn. We have inquired anew of the farmers and find that no hairy vetch seed is sown in the spring here. They call it winter vetch and sow it in the fall, using winter rye as a nurse crop. The northernmost point in Russia where the hairy vetch is grown is the Petersburg district, but the climatic conditions there do not allow it to mature, and large quantities of the seed are shipped there every year from here.

"An interesting point is that the Scandinavian countries are importing large quantities of this seed, much of it going to Copenhagen.

"This seed was grown on some large estates in Courland and adjoining Lithuanian districts." (*Vollmer & Co.*)

21061. VIGNA UNGUICULATA. **Cowpea.**

From Village, Ark. Presented by Mr. Jas. Moody, R. No. 1, through Prof. C. V. Piper, June 20, 1907.

"An ideal pea for hay, as the vines are slender." (*Moody.*)

21062 to 21086.

From Manchuria. Received through Mr. Frank N. Meyer, agricultural explorer, June 21, 1907.

21062. CANNABIS SATIVA. **Hemp.**

From Wu-lu-kai, Manchuria. "(No. 703a, Jan. 3, 1907.) Chinese name *Shem-ma*. A variety of hemp growing on the rather sandy lands around here. It has thin stalks and produces a strong kind of hemp, though not quite white of fiber." (*Meyer.*)

21063. CANNABIS SATIVA. **Hemp.**

From Wu-li-pu, Manchuria. "(No. 711a, Dec. 27, 1907.) Said to be a strong, good hemp." (*Meyer.*)

21064. FAGOPYRUM ESCULENTUM. **Buckwheat.**

From Tchwang-yang, Manchuria. "(No. 702a, Jan. 9, 1907.) Chinese name *Tchau mi*. It is used to make cakes and a blackish kind of bread." (*Meyer.*)

21065. MALUS sp. **Crab apple.**

From north Kirin, Manchuria. "(No. 716a, Jan. 2, 1907.) For remarks see Nos. 568a, 569a, and 570a (S. P. I. Nos. 20339 to 20341)." (*Meyer.*)

21066. ORYZA SATIVA. **Rice.**

From Wu-li-pu, Manchuria. "(No. 704a, Dec. 27, 1906.) Dry-land rice. Chinese name *Pai tau tze*. A very good variety of white rice, being eaten as a staple food by the people of the northern part of Manchuria; said to be a trifle soft when boiled. It is sown in rows 1¼ feet apart and loves a moisture-retaining soil." (*Meyer.*)

21067. ORYZA SATIVA. **Rice.**

From Scha-li-ho, Manchuria. "(No. 705a, Jan. 8, 1907.) Dry-land rice; said to be a better variety than the preceding number (No. 704a, S. P. I. No. 21066), but seems to be about the same." (*Meyer.*)

21068. ORYZA SATIVA. **Rice.**

From Kai-yuan, Manchuria. "(No. 706a, Jan. 14, 1907.) Dry-land rice. Chinese name *Neu mo tau*. It is a very good, hard variety, forming a staple food for the people, and seems to be able to grow in drier localities than the preceding numbers (Nos. 704a and 705a, S. P. I. Nos. 21066 and 21067). It seems to be a valuable addition to the crops of the northern United States." (*Meyer.*)

21069. ORYZA SATIVA. **Rice.**

From Tiëling, Manchuria. "(No. 707a, Jan. 17, 1907.) Dry-land rice; the same variety as the preceding number (No. 706a, S. P. I. No. 21068), but having somewhat redder husks; otherwise the same remarks apply to it." (*Meyer.*)

21070. POLYGONUM TINCTORIUM.

From Wu-li-pu, Manchuria. "(No. 708a, Dec. 27, 1906.) Chinese name *Diën*. An annual herb, the young stems and leaves of which are used to produce an indigo, which supplies the dye for the blue clothes seen all over north China. Seeds are sown in rows, generally 1¼ feet apart." (*Meyer.*)

21071. TRITICUM VULGARE. **Wheat.**

From Tchwang-yang, Manchuria. "(No. 700a, Jan. 9, 1907.) Summer wheat. The best variety of hard wheat of the neighborhood." (*Meyer.*)

21072. TRITICUM VULGARE. **Wheat.**

From Wu-lu-kai, Manchuria. "(No. 701a, Jan. 3, 1907.) Summer wheat. A medium hard variety of wheat grown all over the country around Wu-lu-kai." (*Meyer.*)

21062 to 21086—Continued.

21073. CHAETOCHLOA ITALICA. **Siberian millet.**

From Wu-li-pu, Manchuria. "(No. 696a, Dec. 27, 1906.) A small red millet. Chinese name *Hong nien ko.* Used, after being hulled, as food, being boiled with water into a kind of porridge. Sown on rather light soils, rows 1¼ feet apart." (*Meyer.*)

21074. PANICUM MILIACEUM. **Broom-corn millet.**

From Wu-li-pu, Manchuria. "(No. 697a, Dec. 27, 1906.) A white-seeded millet. Chinese name *Gwang mi.* The seeds are used, after being hulled, as food, being boiled into a stiff porridge; also used for broom making, the heads being very drooping. It is sown in rows 2 to 2½ feet apart on not too heavy soils." (*Meyer.*)

21075. PANICUM CRUS-GALLI. **Barnyard millet.**

From Tchwang-yang, Manchuria. "(No. 698a, Jan. 9, 1907.) A grayish millet; Chinese name *Pai tse.* It is used, after being hulled, in the boiled state as a food for the poorer classes. Grown on low-lying rich land, and makes an enormous number of stalks; sown in rows 2½ to 3 feet apart. Seeds sent before under Nos. 50a and 592a (S. P. I. Nos. 17901 and 20363." (*Meyer.*)

21076. CHAETOCHLOA ITALICA. **Siberian millet.**

From Wu-lu-kai, Manchuria. "(No. 699a, Jan. 3, 1907.) A small white millet. Chinese name *Pai shau mi tse.* This variety is considered the very best of all the small millets in Manchuria. It is boiled and eaten as a porridge after being hulled. Sown on sandy lands in rows 1¼ feet apart." (*Meyer.*)

21077. ANDROPOGON SORGHUM. **Sorghum.**

From Mukden, Manchuria. "(No. 717a, Jan. 23, 1907.) A white sorghum; Chinese name *Pai kau liang.* The best variety of white millet grown around Mukden. It is used as a food in the form of porridge, small cakes, and also served often as vermicelli. It commands one-third more money than the brown-colored millets do." (*Meyer.*)

21078. ANDROPOGON SORGHUM. **Sorghum.**

From Mukden, Manchuria. "(No. 718a, Jan. 23, 1907.) A brown-colored sorghum; Chinese name *Kau liang.* The best variety of brown millet grown around Mukden. It is used as food in the shape of porridge and cakes; also an important food for the domestic animals." (*Meyer.*)

21079. GLYCINE HISPIDA. **Soy bean.**

From Tiëling, Manchuria. "(No. 693a, Jan. 18, 1907.) A light green soy bean; Chinese name *Shing toa.* This bean is used to produce bean oil and bean cake. The variety is very rarely seen." (*Meyer.*)

21080. GLYCINE HISPIDA. **Soy bean.**

From Tiëling, Manchuria. "(No. 694a, Jan. 18, 1907.) A dark green soy bean; Chinese name *Li dau shing.* This bean is used as a vegetable throughout the winter months, being eaten boiled after it has sprouted slightly. This variety is the most expensive of all the soy beans and is eaten by the better classes of Chinese; sent also from Harbin under No. 675a (S. P. I. No. 20854)." (*Meyer.*)

21081. PHASEOLUS ANGULARIS. **Adzuki bean.**

From Tiëling, Manchuria. "(No. 689a, Jan. 17, 1907.) A small grayish bean; Chinese name *Pei sha toa;* used as food, being eaten boiled with rice or millets." (*Meyer.*)

21062 to 21086—Continued.

21082. PHASEOLUS ANGULARIS. **Adzuki bean.**

From Tiëling, Manchuria. "(No. 690a, Jan. 17, 1907.) A small red bean; Chinese name *Hong sha toa.* It is used as food, being eaten boiled with rice or different millets, and also ground up with sugar as a confection in small millet cakes." (*Meyer.*)

21083. PHASEOLUS ANGULARIS. **Adzuki bean.**

From Tiëling, Manchuria. "(No. 691a, Jan. 18, 1907.) A small red bean; Chinese name *Hong sha toa.* A larger variety than the preceding number (No. 690a, S. P. I. No. 21082); otherwise the same remarks apply to it." (*Meyer.*)

21084. PHASEOLUS ANGULARIS. **Adzuki bean.**

From Tiëling, Manchuria. "(No. 692a, Jan. 18, 1907.) A brown, white-spotted bean; Chinese name *Gwa sho toa;* used as food, being boiled with rice or millets." (*Meyer.*)

21085. VIGNA UNGUICULATA. **Cowpea.**

From Tchang-yang, Manchuria. "(No. 695a, Jan. 9, 1907.) A small speckled bean and a very rare variety. It is used as food in soup, and also boiled with rice and different millets." (*Meyer.*)

21086. PHASEOLUS RADIATUS. **Mung bean.**

From Mukden, Manchuria. "(No. 719a, Jan. 23, 1907.) Chinese name *Lu toa.* This bean is used to make bean vermicelli and as a vegetable after having sprouted. As such it deserves greatly to be tried. As a cold salad with vinegar, salt, etc., or served hot with small pieces of fried pork or mixed with vermicelli, it is exceedingly palatable and relished by foreigners and Chinese alike." (*Meyer.*)

21092. PHOENIX DACTYLIFERA. **Date.**

From Marseille, France. Purchased from Champagne Brothers through Mr. W. T. Swingle. Received June 22, 1907.

"*Deglet Noor.* To be planted in the southern part of California for experimental purposes." (*Swingle.*)

21094. MUCUNA sp.

From India. Presented by Vaughan's Seed Store, Chicago, Ill., June 25, 1907.

"This spotted bean is very productive. It grows wild and the seed is eaten. It is a pole bean and needs a long season, being planted in June and gathered in December. It is not of good flavor. The natives cook it with the flower of the mohul (*Bassia latifolia*), which is quite sweet; yields perhaps a quart and a gill to the vine; may be of value as food for stock." (*From letter of one of Vaughan's correspondents.*)

21095. BETA TRIGYNA.

From Strassburg, Germany. Presented by the director of the Botanic Gardens June 24, 1907.

Introduced for the beet-breeding work of this Department under Mr. Rittue's direct charge.

21096 to 21125. PHOENIX DACTYLIFERA. **Date.**

From El Oued, Algeria, North Africa. Received from Captain Bussy, chief of the Bureau Arabe, through Mr. T. H. Kearney, June 27, 1907.

"*Tafazween.* One offshoot of each of the above numbers was received. Each shoot was given a separate number, as it was thought possible that different varieties might be obtained and that it would be advisable to trace their development separately." (*Swingle.*)

21126 to 21185. PHOENIX DACTYLIFERA. **Date.**

From Biskra, Algeria, North Africa. Received from Mr. Colombo, sr., through Mr. W. T. Swingle. Received June 27, 1907.

21126 to 21135. *M'Kentishee Degla.*
21136 to 21146. *Horra.*
21147 to 21185. *Thooree.*

Offshoots numbered separately, as under numbers 21096 to 21125.

21186. VICIA FABA. **Broad bean.**

From Shanghai, China. Presented by Dr. S. P. Barchet, American deputy consul-general, through Prof. C. V. Piper, June 3, 1907.

O'deo Shai.

21188. CHAMAEDOREA sp. **Palm.**

From El Cacao, Trece Aguas, Alta Verapaz, Guatemala. Received through Mr. G. P. Goll, of the Bureau of Plant Industry, July 1, 1907.

"A dwarf palm growing at an altitude of 1,200 feet; introduced for its ornamental value, as it withstands the dry heat of dwellings better than any other variety and is the most graceful of the smaller ones." (*Goll.*)

21190. COLOCASIA sp. **Taro.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimental, through Mr. O. W. Barrett. Received July 3, 1907.

"So far as I can learn, this variety of taro is the only kind eaten here, and even this is not very extensively used." (*Sedgwick.*)

21194. CYPERUS EXALTATUS. **Samar.**

From Cairo, Egypt. Received from Mr. George P. Foaden, secretary, Khedivial Agricultural Society, July 2, 1907.

"This is a sedge which is grown in Egypt on irrigated lands, particularly on lands which are being flooded in order to wash out the salt. Its stems grow to a height of 6 or 8 feet and are split by the manufacturers and made into rather rough, but effective, mats, which they use in their houses. Introduced for the purpose of experiments in the manufacture of floor matting." (*Fairchild.*)

21198. ARACHIS HYPOGAEA. **Peanut.**

From Aburi, Gold Coast, British West Africa. Presented by Prof. A. E. Evans, Acting Director of Agriculture. Received July 5, 1907.

"So far this is the only variety grown in this colony. It is known as *Nkate* or *Nkatie* and is largely used as an article of food by the natives. It is exported from this colony, chiefly to France. The Gambia exports this nut in very large quantities, chiefly to France." (*Evans.*)

21199 to 21201. IPOMOEA BATATAS. **Sweet potato.**

From Bridgetown, Barbados, British West Indies. Presented by Mr. John R. Bovell, superintendent, Agricultural Department, through Mr. Rudolph Anstead, agricultural superintendent, Botanic Station, St. George's, Grenada, British West Indies, and Sir Daniel Morris, the Commissioner of Agriculture for the West Indies, at the request of Mr. O. W. Barrett. Received July 5, 1907.

"The varieties of sweet potatoes sent you are those that give a good yield all over the island and are free from disease. The *Trinidadian* is a potato that keeps well." (*Bovell.*)

21199. *Trinidadian.*
21200. *Johns.*
21201. *White Scaly.*

21202. JUNCUS EFFUSUS. **Rush.**

From Webster, Tex. Presented by Mr. K. Saibara, through Mr. John H. Tull. Received July 8, 1907.

Secured for experiments in matting-rush investigations.

21203. KIGELIA PINNATA. **Sausage tree.**

From Cairo, Egypt. Presented by Mr. George P. Foaden, secretary, Khedivial Agricultural Society. Received July 9, 1907.

"A good shade tree having exceedingly stiff foliage; the leaves are rough, like sandpaper." (*Fairchild.*)

21204. NEPHELIUM LITCHI. **Litchi.**

From Hinghua, Fukien, China. Secured by Rev. William N. Brewster. Received at Seattle, October 18, 1906.

"*Soil.*—The trees flourish best in a soft, moist, black soil; alluvium seems best.

"*Location.*—Near by or on the bank of a stream or irrigation canal is best, though this is not essential. Where there is no stream the trees should be watered so frequently that the ground below the surface is always moist; about twice a week when rain is not abundant should be enough. After the young trees are well started, about 2 or 3 years old, the irrigation may be less frequent.

"*Frost* can not be borne at all. They will not flourish north of the frost line. They are particularly sensitive to cold while young. It is the custom here to wrap the trees with straw to protect them from the cold. After the trees are 5 or 6 years old they are less sensitive, and it takes quite a heavy frost to injure them.

"*Pruning* is not practiced with the litchi. The leaves, branches, and blossoms are allowed to grow without molestation. It is notable that the companion tree, the 'lingeng' (*Nephelium longanum*), is treated in exactly the opposite way by the same Chinese cultivators. The only pruning seems to be that required to prevent the young tree from bearing until it is 5 or 6 years old. This is very important—especially so with the 'lingeng.'

"*Propagation* is accomplished by tying a ball of earth about 8 inches in diameter to a joint on a branch of a good tree. This is done in February or March. An earthen vessel with the bottom broken out is fastened to the top of the ball, and this is filled with water almost daily. In about eight months the branch may be cut off and planted in the manner above described. The young tree should be planted in soil similar to that of the earth ball.

"*Blossoms* appear in April. They are very small and make very little change in the appearance of the tree. The blossoms fall off or thin themselves out without trouble to the horticulturist. The fruit ripens in July. It is a bright red color when ripe, and at a little distance a stranger would mistake it for a strawberry, as it is like that fruit in color, shape, and size. However, it has a rough rind, or thick skin, which breaks off easily. The meat is white, slightly tart, and very delicious. Who can describe a taste?

"The *seeds* are both large and small on the same tree. The small pit, of course, is much more desirable, but so far the Chinese do not seem to know how to develop uniformly small-seeded fruit. They claim that the blossoms that come out first develop small-seeded fruit, and the later ones are large. However, there are trees which bear many small-seeded litchis and others that are uniformly the opposite. They think the original tree and the soil have much to do with this.

"*Grafting* is not practiced with the litchi so far as I can learn. This is also in marked contrast to the methods used in 'lingeng' culture.

"*Fertilization* is important. Guano is probably as good as anything. The Chinese use night soil. They dig a shallow trench around the tree at the end of the roots and fill it with liquid manure of some sort. This is done about once in three months.

"*Enemies.*—The litchi has enemies, as all good things do. There is a worm that makes a ring around the trunk under the bark. When the circle is complete the tree dies; but the bark is broken by it, and by careful watching this

21204—Continued.

can be prevented before the worm does serious harm. There is also a sort of mildew upon the leaves in certain years that does much harm, and the Chinese do not seem to have any way of dealing with it. If these do not get into America with the imported plants they may never trouble you there at all." (*Brewster.*)

21205. GALPHIMIA BRASILIENSIS.

From Piracicaba, São Paulo, Brazil. Presented by Mr. Georg H. Weigt, director of the Botanic Gardens. Received July 23, 1907.

"The plant out here proves to be of great value in garden planting." (*Weigt.*)

21209 and 21210. CITRUS AURANTIUM. **Orange.**

From Cape Verde, Africa. Presented by Mr. W. Crewdson, Southside, St. Leonards-on-Sea, England. Received July 16, 1907.

21209. Cuttings. **21210.** Seed.

"This is a delicious variety of green orange of large size. Said to be generally propagated from seed." (*Crewdson.*)

21213. BOUGAINVILLEA sp.

From Santiago de las Vegas, Cuba. Presented by Prof. C. F. Austin, chief, Department of Horticulture, Estación Central Agronómica. Received July 17, 1907.

"This form has a small white or yellowish flower. It is found in this country in the old gardens and patios. It is the purple part of the flower of this form that makes it a very showy ornamental for arbors and such places." (*Austin.*)

21214. CASTILLA ELASTICA (?). **Rubber.**

From Zent, Costa Rica. Presented by Mr. E. Pilgrims, United Fruit Company, Stirling Farm. Received July 18, 1907.

21215. CAREX TRIANGULARIS. **Sedge.**

From Pierce, Tex. Received through Mr. F. W. Clarke, of this Department, July 23, 1907.

Plants for use in the matting-rush experiments.

21218. GLYCYRRHIZA GLABRA. **Licorice.**

From Teheran, Persia. Secured by Mr. John Tyler, United States vice consul general. Received July 24, 1907.

For the experiments of Dr. Rodney H. True in the culture of licorice in America.

21219 to 21224.

From Barberton, Transvaal. Secured from Mr. George Thorncroft, through Mr. J. Burtt Davy, July 25, 1907.

21219. GLADIOLUS sp.
21220. GLADIOLUS sp.
21221. WATSONIA DENSIFLORA.
21222. TRITONIA sp.
21223. ANDROCYMBIUM MELANTUIOIDES.
21224. CEROPEGIA sp.

21226. ANONA CHERIMOLIA (?). **Cherimoyer.**

From Funchal, Madeira. Presented by Mr. Charles O. L. Power. Received July 29, 1907.

"Unnamed variety from tree having especially good record." (*Fairchild.*)

21227. AMYGDALUS DAVIDIANA. **Peach.**

From Tientsin, China. Received through Mr. Frank N. Meyer, agricultural explorer, July, 1907, at the Plant Introduction Garden, Chico, Cal.

"(No. 728a, June 12, 1907.) Seeds to be utilized as a stock for peaches. Thrives well on high, dry soils and is apparently very resistant to disease, Seeds sent in 1905 under No. 9a (S. P. I. No. 18262), from Peking." (*Meyer.*)

21228 to 21230.

From Shanghai, China. Received through Mr. Frank N. Meyer, agricultural explorer, July 19, 1907.

21228. RAPHANUS SATIVUS. **Radish.**

From Peking, China. "(No. 729a, June 3, 1907.) A long red radish; Chinese name *Hong laba.* A very good, large variety of a radish of a very oblong shape and bright red color; quite juicy when eaten fresh. It is eaten stewed, raw, or sliced and pickled; sown as soon as the frost leaves the ground." (*Meyer.*)

21229. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Peking, China. "(No. 730a, June 3, 1907.) Chinese name *Pai tsai.* Said to be a late, large, solid-headed, long cabbage of good keeping qualities. It requires, like all the Chinese varieties of cabbage, a light, well-worked soil with abundant moisture." (*Meyer.*)

21230. FOENICULUM DULCE. **Sweet fennel.**

From Peking, China. "(No. 731a, June 3, 1907.) Chinese name *Huin shang tsai.* A very early vegetable grown by the Chinese as a flavoring herb. They use it in soups, in sauces, and with meat and fish; it is very sweet. The seed can be sown on sandy, moist situations as soon as frost leaves the ground; well worth a trial." (*Meyer.*)

21231 to 21234.

From Mongolia. Received through Hon. W. W. Rockhill, United States minister, Peking, China, July 29, 1907, on a memorandum presented by Mr. W. T. Swingle, November 26, 1906.

The following notations as to where the seed was procured were taken from bags and tags that came with the seed:

21231. AVENA SATIVA. **Oats.**

Notation on tag: Oats gathered at Eul-cheu-seu-ts'ing-ti, in the valley of the upper Hoang-ho, two days' journey west of Koei-hoa-t'cheng.

Notation on bag: Oats gathered in the valley of the Yellow River, 260 li west of Blueville (Ville-Bleue).

21232. MEDICAGO SATIVA. **Alfalfa.**

Notation on tag: Lucern with blue flowers from Ning-t'iao-leang; locality four days' journey southeast of Yu-lin-fou.

21233. AVENA SATIVA. **Oats.**

Notation on tag: Oats of Mao-min-ngau. (From a very cold section.)

21234. AVENA SATIVA. **Oats.**

Notation on tag: Oats of Ning-t'iao-leang. (Locality four days' journey southeast of Yu-lin-fou.)

"Since the locality in which we live (Hadjoo, Mao Ming-ngan) is relatively cold, oats are sown here during the first days of May. They take 120 days to mature. When the season is not dry they grow exceedingly well, by preference in soil worked in the spring of the sowing, contrary to wheat, which gives the best yield in soil worked in the autumn

21231 to 21234—Continued.

previous. The great enemy of oats here is the smut, or black rust. The Chinese combat this in this way:

"They put the oats into a small, well-heated kettle together with 4 ounces of juniper (chaotsiou) to the measure (teou) of 18 t'oungs (say, 6 t'oungs more to the teou than the Peking teou). In order to mix the two thoroughly the kettle is shaken smartly after the manner of winnowing, and then permitted to rest for a few moments.

"Without this precaution smut works havoc here. Because of the scarcity of oats in this region during the past year (the harvest has failed for several years because of drought) I got my seed from the Siao-noor. My harvest of oats succeeded badly. I think the reason of this is to be found in the climate, which is milder than that of Siao-noor. My harvest resulted in a yield which was half smut. Those who used less juniper in the preparation of the seed obtained a yield which was a little more than a third good grain. We notice here that the oats sown in fine weather give a yield very different from those sown in cold and cloudy weather; hence, the sowing should be done on fine, sunny days.

"As to the general features of our district of Moa Ming-ngan, there is a succession of undulating plains, interspersed with occasional rocky mountains. The soil is stony and in working it the plows often break. Our region is at a much greater elevation than the town of Pao-t'ou; from that point there is a two days' journey, rising continually all the way." (*François de Bocck, missionary.*)

"NOTE.—The t'oung (or t'ung) referred to by the writer seems to be the official tube, kept in the magistrate's yamen, with which to test measures of capacity.

"All efforts to secure uniform weights and measures in China have thus far proved failures. Every county seems to have its own peck and pound. The teou (or tou) mentioned is that commonly called the "peck" by foreigners. It varies in various districts from 4 liters or a little more to 42 liters. The Peking liter, to which reference is made, is perhaps that used in measuring the tribute rice, which contains $\frac{10}{31}$ liter, or about 630.5 cubic inches—that is, about 1.17 pecks." (*Rockhill.*)

21235. (Undetermined.)

From Victoria, Kamerun, West Africa. Presented by Dr. A. Weberbauer. Received July 29, 1907.

Sent in as *Sideroxylon dulcificum*. According to Prof. C. F. Wheeler it is something different.

21236. CEPHALOSTACHYUM PERGRACILE.

From St. Symphorien, Belgium. Presented by Mr. Jean Houzeau de Lehaie. Received July 27, 1907.

"This plant is found growing in the Singhbhúm forests of Chota Nagpore; Sibságar lakhimpur and Naga Hills in Assam; all over Burma, where very common and often gregarious. A deciduous, arboreous, tufted bamboo, with glaucous-green culms 30 to 40 feet high, 2 to 3 inches in diameter, and rather thin walled, the walls usually about one-half inch thick. It is one of the chief bamboos of Burma, and one of those most frequently found in association with teak. It flowers usually gregariously, but also sporadically, though when thus flowering it rarely produces good seed, following in this the example of the male bamboo. The culms are used in building and mat making, and rice is often cooked in the joints to be easily carried on a journey. In Assam it is used for basket work." (*Gamble, Manual of Indian Timbers.*)

21237 to 21241.

From Peking, China. Received through Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this office. Received July 29, 1907.

Although these seeds came via Peking they were probably collected near Ichang, Hupeh, where Mr. Wilson had his headquarters.

21237 to 21241—Continued.

21237. RUBUS ROSAEFOLIUS.

"(No. 2, June 15, 1907.) An erect-growing bramble, 2 to 6 feet high, leaves pinnate. Stems square, green, reddish at base. Flowers white, 1 to 1¼ inches across, borne singly and laterally. Fruits of good size, globular, red, easily separated from receptacle; flavor pleasantly sweet. Common between 1,500 feet and 3,500 feet in open, sunny thickets and grassy areas. Probably hardy in the vicinity of Washington. Possibly useful to hybridists. Its large, white flowers are very ornamental." (*Wilson.*)

21238. RUBUS PLAYFAIRII.

"(No. 4, June 15, 1907.) A rambling bramble with long scandent branches. Leaves pedately 3 to 5 foliate, dun-colored below. Flowers insignificant, borne in long panicles at ends of shoots. Fruits small, very dark red, edible but of no particular merit. Abundant between 100 feet and 2,500 feet in thickets. Probably hardy around Washington. Possibly useful to hybridists on account of its free-fruiting proclivities. In foliage and habit ornamental." (*Wilson.*)

21239. RUBUS CORCHORIFOLIUS.

"(No. 15, June 15, 1907.) An erect-growing bramble. Stems arching, leaves on one-year-old shoots trifid, on two-year-old shoots simple, elliptic. Flowers white, insignificant, solitary, and lateral. Fruits raspberry-red, somewhat pointed, of good size, sweet, vinous, and of excellent flavor, easily articulating, but adhering to receptacle. Common 100 feet to 5,000 feet in open thickets and more especially abandoned cultivated areas. One of the finest of the Chinese Rubi from the point of view of its fruit. Hardy from New York south and possibly farther north. A fruit with possibilities in the hands of hybridists. Its disadvantage is that the receptacle, though small, firmly adheres to the fruit." (*Wilson.*)

21240. RUBUS CORCHORIFOLIUS.

"(No. 15a, June 15, 1907.) This is in all probability the same as No. 15 (S. P. I. No. 21239), but the fruits were all purchased in a mountain village, altitude 3,000 feet." (*Wilson.*)

21241. ARUNDINARIA WILSONI (?) **Bamboo.**

"(No. 30, June 19, 1907.) An erect-growing bamboo, forming impassable thickets on sparsely tree clad mountains between 500 feet and 8,500 feet. Culms thin, dull green, 2 feet to 10 feet high. Leaves 5 to 8 inches long, one-half inch broad. Flowers in panicles. Only flowering culms die. Grain eaten locally by peasants when obtainable. The periods of flowering are erratic as far as I can find out. Hardy and ornamental. Culms useful for paper making." (*Wilson.*)

21244. MACADAMIA TERNIFOLIA. **Queensland nut.**

From Burringbar, Tweed River, New South Wales, Australia. Presented by Mr. B. Harrison. Received July 13, 1907.

(See S. P. I. No. 18382 for description.)

21245. NEPHELIUM GLABRUM.

From Manila, P. I. Presented by Mr. Wm. S. Lyon, horticulturist, Bureau of Agriculture. Received July 19, 1907.

"One of the finest fruits in the Philippines." (*Lyon.*)

21246. BASSIA LATIFOLIA. **Mahwah tree.**

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent of the Royal Botanic Garden, through Mr. David Fairchild. Received July 31, 1907.

The Mahwah tree furnishes a hard and strong timber used for the wheels of carriages, etc. The flowers are sweet tasting and are eaten raw; the Beehls

21246—Continued.

are stated to collect and dry them as a staple article of food. The flowers are also used in the distillation of an ardent spirit. The seeds yield an oil used by the poorer classes for lamps, in the manufacture of soap, and for culinary purposes. (*Adapted from Gibson.*)

21248. MACADAMIA TERNIFOLIA. **Queensland nut.**

From Sydney, New South Wales. Received from Messrs. Anderson & Co., at the Plant Introduction Garden, Chico, Cal., August, 1906.

(See S. P. I. No. 18382 for description.)

21249. MACADAMIA TERNIFOLIA. **Queensland nut.**

From Brisbane, Australia. Received from Prof. F. M. Bailey, colonial botanist, Department of Agriculture, at the Plant Introduction Garden, Chico, Cal., April 26, 1907.

(See S. P. I. No. 18382 for description.)

21250. CASTANOPSIS CHRYSOPHYLLA.

From Willits, Cal. Secured by Mr. Edward Goucher, of the Plant Introduction Garden, Chico, Cal., October 30, 1906.

21251. JUNCUS EFFUSUS. **Matting rush.**

From Okayama, Japan. Received through Mr. John H. Tull, special agent, at the Plant Introduction Garden, Chico, Cal., October, 1906.

"A semiaquatic rush, found growing wild in the Temperate Zone almost all around the world. Some forms grow to a height of 4 or 5 feet and are rather coarse and stiff in structure, while other forms are smaller in diameter and only 1 or 2 feet in height.

"In the southern part of the main island of Japan, principally in Bingo province, and in many parts of northern China and Korea it is cultivated in the paddy fields for the purpose of making floor mattings of various kinds. The form used over there would seldom exceed 2 feet in height if planted wild, but when cultivated is often found 5 feet in height, while at least 33 per cent of the plants are generally 4 feet or over in height.

"The plant is a perennial and always propagated by root division, as it can be multiplied rapidly by this means.

"As it is grown in the same fields in which rice is grown, the crop must be planted, grown, and harvested within six months in order that a crop of rice may be produced on the same land in the same year.

"After the rice is harvested in the fall the land is prepared and immediately planted with small clumps of rush that have been subdivided from large clumps and saved for stock plants from the last year's crop. These are planted by hand in the soft mud about 8 or 10 inches apart each way and are immediately flooded with water to a depth of about 2 inches. The crop is heavily fertilized with night soil, manures of various kinds, and commercial fertilizers, the principal forms being night soil and bean cake, the latter being imported from China. At harvest time—generally July—the stems are cut by hand with a sickle and tied into bundles about a foot in diameter. As soon as cut, while the stems are still green, they are completely covered with a thin clay mixture by dipping them into a thick clayey solution produced by mixing a white clay gotten from the near-by mountains and water. After dipping they are spread out in the hot sun to cure, the clay on the stems preventing them from turning and causing them to cure to a uniform color. After curing, which takes about two days of hot sunshine, they are gathered into bundles and stored in an open airy shed to remain until the farmer has planted his rice crop for that season. After that they are assorted into proper lengths and are ready to be woven into mattings, hats, small mats, etc.

"These roots were collected in and around the towns of Onomechi and Okayama, in Bingo and Bizen provinces. They were shipped in bamboo crates packed in sphagnum moss. They were packed about September 20, shipped on October 2, and unpacked about a month later. There were possibly 35,000 good roots saved, though by dividing the root clumps any number of plants desired could be had." (*Tull.*)

21252. CYPERUS TEGETIFORMIS. **Matting sedge.**

From Beppu, Kiushiu Island, Japan. Received through Mr. John H. Tull, special agent, at the Plant Introduction Garden, Chico, Cal., January 4, 1907.

"A semiaquatic perennial sedge found wild in warmer parts of the Temperate Zone in Asia.

"In south middle China and in the island of Kiushiu, Japan, it is cultivated for its long stems, of which different grades of matting are made.

"The plants are grown in the low paddy fields where rice is grown and are generally grown in several inches of water, though by planting the roots in low moist land and heavily mulching them with rice straw to preserve moisture and prevent the weeds from crowding them out a very successful crop can be produced. These roots are preserved the same as the *Juncus effusus* roots, by saving them from the last year's crop, and when ready to plant are divided into small clumps, each clump containing several 'eyes.'

"They are planted about 5 inches apart each way and are then flooded with water to a height of about 2 inches. The fertilizer is put on very heavy, being divided into several applications during the growing season.

"In about five months after planting the stems are ready to harvest, being at that time from 4 to 6 feet high. These stems are harvested green by hand with a sickle and tied into bundles. In the evening the family all get busy and these stems are all split longitudinally several times by drawing through them a taut, fine wire.

"After splitting they are exposed three successive days to the hot sunshine, which cures them.

"They are then cut to the proper length, 3½ feet, for weaving matting a yard wide.

"About 90 large boxes of these roots were collected near Beppu, Bungo province, Kiushiu, Japan. They were packed about November 15 and shipped via both tram and boat to Nagasaki, and then to San Francisco.

"It was estimated that about 80,000 roots were alive on January 8, 1907, when unpacked, but by making smaller divisions many more plants could have been produced, as they are multiplied by root division." (*Tull.*)

21253. PYRUS SINENSIS. **Pear.**

From Peking, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., February 20, 1906.

"(No. 99a.) Seeds of the most remarkable pear of North China. Looks and smells like a quince, but has melting meat and tastes very good. Chinese name *Ya kwam li.*" (*Meyer.*)

21254. PYRUS SINENSIS, **Pear.**

From China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., February 20, 1906.

"(No. 127a.) Pear seeds from everywhere. In all probability some interesting varieties will appear from these seeds." (*Meyer.*)

21255. NANDINA DOMESTICA.

From Hanchau, China. Received through Mr. Frank N. Meyer, at the Plant Introduction Garden, Chico, Cal., April 22, 1906.

"(No. 224a, Mar. 5, 1906.) Seeds of 'heavenly bamboo.' An evergreen shrub bearing bunches of beautiful scarlet-colored berries in winter. The Chinese use the stalks with berries for house decoration at the Chinese New Year, for which purpose they are splendidly adapted." (*Meyer.*)

21256. CALLISTEPHUS HORTENSIS. **China aster.**

From Wu-tai-shan, Shansi, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden Chico, Cal., April 22, 1907.

"(No. 725a.) Seeds of an annual flower called *Hsi hua.* Obtained from a priest at the Ta Yuen Sze temple at Wu-tai-shan." (*Meyer.*)

21257. ANONA sp. (?).

From Tula, Vera Cruz, Mexico. Presented by Mr. Edward Everest, through Mr. O. W. Barrett. Received August 7, 1907.

"*Aguatoso*, a fruit which resembles the cherimoyer in appearance." (*Everest.*)

21258 to 21260. PHOENIX DACTYLIFERA. **Date.**

From Bagdad, Arabia. Received through Mr. William C. Magelssen, American consul, August 9, 1907.

21258. *Aschcrasi.* 21260. *Maktum.*

21259. *Zchedi.*

Date seeds from which to propagate seedling date orchards.

21261. XANTHORRHOEA TATEANA. **Australian grass-tree.**

From Melbourne, Australia. Presented by Mr. W. R. Guilfoyle, director, Botanic Gardens, through Mr. David Fairchild. Received August 6, 1907.

21262. LAGENARIA VULGARIS. **Gourd.**

From Columbia, Isle of Pines. Presented by Dr. F. R. Ramsdell. Received August 12, 1907.

"*Upo.* Grown from seeds procured from Mr. W. S. Lyon, Manila Bureau of Agriculture, who says fruits are to be eaten green, like summer squash. The one from which this seed was procured was 2 feet long, of a beautiful white color, smooth, and was tender until full grown. Instead of drying up like a gourd the meat, 2 inches thick, retained its consistency and was cooked and eaten weeks after it was ripe. It was not very good ripe, being very like watermelon rind, but when preserved was found to be very nice. It should be eaten when nearly grown but still tender." (*Ramsdell.*)

21263 to 21266. COLOCASIA ANTIQUORUM.

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture. Received August 13, 1907.

A collection of four varieties, marked, respectively, Nos. 1, 2, 3, and 4: 1 and 2, *Tales ketan;* 3 and 4, *Tales belang.*

21267 to 21268.

From Poole, Trinidad. Received through Mr. O. W. Barrett, Port of Spain, Trinidad, August 15, 1907.

21267. DIOSCOREA sp. **Yam.**

"A cultivated variety apparently distinct from any now in the collection of the Department and said to be of excellent quality." (*Barrett.*)

21268. BROWNEA COCCINEA (?).

"A tree of the virgin forest; flowers large, red." (*Barrett.*)

21276. GARCINIA MANGOSTANA. **Mangosteen.**

From Peradeniya, Ceylon. Received from Mr. H. F. MacMillan, Royal Botanic Gardens, Peradeniya, Ceylon, August 22, 1907.

"Seed of the well-known delicious fruit tree of the eastern Tropics." (*Fairchild.*)

21277. GYMNOCLADUS CHINENSIS.

From Ning-po, China. Received through Mr. Frank N. Meyer, agricultural explorer, August 24, 1907.

"(No. 738a, July 5, 1907.) One of the soap trees of which the pods are used as a substitute for soap with which to wash ladies' hair in China. Seeds formerly sent under Nos. 202a and 203a (S. P. I. Nos. 18432 and 18433)." (*Meyer.*)

21278. PAPAVER SOMNIFERUM. **Opium poppy.**

From Shanghai, China. Received through Mr. Frank N. Meyer, agricultural explorer, August 24, 1907.

"(No. 739a, July 22, 1907.) The ordinary variety of opium poppy as grown in the southeastern part of Chehkiang province in China. Obtained from Dr. H. G. C. Hallock, S'hai." (*Meyer.*)

21280. CANARIUM COMMUNE.

From Buitenzorg, Java. Presented by Dr. M. Treub, August 21, 1907.

See S. P. I. No. 20808.

21283. COLOCASIA ANTIQUORUM. **Taro.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture, August 30, 1907.

"Malay name *Talus pandan.*" (*Treub.*)

21284. CITRUS sp. (?).

From Tula, Vera Cruz, Mexico. Presented by Mr. Edward Everest, manager of the Commonwealth Plantation Company, through Mr. O. W. Barrett, August 30, 1907.

Sent in as "Limoncillo" by Mr. Everest.

21285 to 21297.

From Bombay, India. Received from Messrs. Latham & Co., through Prof. C. V. Piper. Received September 4, 1907.

A collection of legumes; the notes were received with the seeds.

21285. DOLICHOS BIFLORUS. **Kulthi.**

Vernacular name, *Kollu-Karoopoo niram.* A black-seeded variety from Madras province.

21286. DOLICHOS BIFLORUS. **Kulthi.**

Vernacular name, *Kollu-Samhal niram.* A gray-seeded variety from Madras province.

21287. PANICUM COLONUM.

Vernacular name, *Swank.* From Pimjale province.

21288. PISUM ARVENSE. **Field pea.**

Bangalia. Vernacular name, *Mattar.* From Agricultural Department, United Provinces, Cawnpore, India.

21289. PISUM ARVENSE. **Field pea.**

Desi. Vernacular name, *Mattar.* From Agricultural Department, United Provinces, Cawnpore, India.

21290. PISUM ARVENSE. **Field pea.**

Kabilya. Vernacular name, *Mattar.* From Agricultural Department, United Provinces, Cawnpore, India.

21291. PHASEOLUS CALCARATUS.

Lobiya. From Department of Land Records and Agriculture, Rangoon district, Burma, India.

21292. VIGNA CATJANG. **Cowpea.**

Vernacular name, *Lal-rawani.* A reddish variety.

21293. VIGNA CATJANG. **Cowpea.**

Vernacular name, *Rawan.* A white and brown mixture from Pimjale province.

21285 to 21297—Continued.

21294. VIGNA UNGUICULATA. **Cowpea.**

Vernacular name, *Carramunny-pyre.* From Madras province.

21295. VIGNA UNGUICULATA. **Cowpea.**

Vernacular names, *Harwanh chata, Naki rawani,* and *Gungi rawani.* From Pimjale province.

21296. VIGNA CATJANG. **Cowpea.**

Chowlee. From Department of Land Records and Agriculture, Rangoon district, Burma, India.

21297. VIGNA UNGUICULATA. **Cowpea.**

Vernacular names, *Lobia, Rawan,* and *Rawang.* From Pimjale province.

21298. MELOCANNA BAMBUSOIDES. (?) **Bamboo.**

From Darjeeling, Bengal, British India. Presented by Mr. W. A. Kennedy, curator, Lloyd Botanic Garden, through the Bengal Forest Department. Received September 5, 1907.

(See description under S. P. I. No. 21347 for comparison.)

21299 and 21300.

From Piracicaba, São Paulo, Brazil. Received from Dr. J. William Hart, director of the Agricultural College, through Prof. C. V. Piper, August 31, 1907.

21299. VIGNA UNGUICULATA. **Cowpea.**

Macassar or *Blue* cowpea. "Less vigorous at first, but ultimately outclasses other varieties in vigor and productiveness. Locally known as *Feijão macassar.*" (*Hart.*) (See also S. P. I. No. 21006.)

21300. MUCUNA GIGANTEA. **Velvet bean.**

"Ripens one month later than the ordinary velvet bean." (*Hart.*)

21302. DAUCUS CAROTA. **Carrot.**

From Soochow, China. Presented by Dr. W. H. Park, of the Soochow Hospital, through Mr. F. N. Meyer, agricultural explorer. Received August 29, 1907.

"Found on inquiry not to grow in this part of China, but in the northern part of this province in the deep, loose soil of the Yellow River. Original seed bought from a peddler and planted in the garden, and these seeds were collected from two plants grown from them. On account of its great length of over a foot or more it needs deep soil. *Yellow River* carrot or *Chinese Wonder* suggested as varietal names." (*Park.*)

"There are several varieties of carrot which might come under this description, but probably those sent are what are known as *Yellow Belgium* in this country. There is another called *Long Lemon-Colored.* I don't think any of them are very desirable, at least here where a darker colored sort is preferred." (*W. W. Tracy, sr.*)

21306 and 21307.

From Wellington Point, Brisbane, Queensland, Australia. Presented by Mr. James Pink. Received September 9, 1907.

21306. CITRUS AUSTRALASICA. **Finger lime.**

"This citrus is very local in its distribution and, so far as I know, is found only on the slopes of Tambourine Mountain, about 80 miles south from Brisbane." (*Pink.*) (See also S. P. I. Nos. 14993 and 18550.)

21307. RUBUS sp. **Raspberry.**

Federal.

21308 to 21310. GLADIOLUS sp. **Gladiolus.**

From Nylstroom (Waterberg), Transvaal. Received from Barlow, Chandler & Co., Eden Nurseries, September 10, 1907.

The following gladioli were procured for Mr. T. H. Kearney's cytological work: 21308 (B., C. & Co. No. 1); 21309 (B., C. & Co. No. 2); 21310 (B., C. & Co. No. 3.).

21311. ZEA MAYS. **Corn.**

From Bloemfontein, Orange River Colony. Presented by Mr. S. Galbraith, government agronomist, through Prof. C. V. Piper. Received September 11, 1907.

Apache. "The *Apache* corn from Central America promises to revolutionize our mealie (corn) production. This year I had only one-twentieth acre growing and the yields are very great, being 7,660 pounds (cobs and grain) per acre, a marvelous yield for this country, since the average yield is about 3 to 10 sacks (203 pounds) per morgen. Should the *Apache* mealie continue to yield as at present I will have some satisfaction after so much disappointment from drought and locusts. I might state that the weights quoted are those of the newly harvested cobs." (*Galbraith.*)

21312 to 21316.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, agrostologist and botanist, Transvaal Department of Agriculture, through Prof. C. V. Piper. Received September 9, 1907.

21312. CHLORIS VIRGATA.

21313. ERAGROSTIS CURVULA.

21314. CHAETOCHLOA NIGRIROSTRIS.

21315. CHLORIS GAYANA.

21316. PASPALUM SCROBICULATUM.

21317. BAMBUSA ARUNDINACEA. **Bamboo.**

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden, through Mr. David Fairchild. Received September 13, 1907.

"This plant is found growing throughout India, Burma, and Ceylon, except in the Himalayan and sub-Himalayan tract and the valleys of the Ganges and the Indus; often cultivated and very ornamental.

"A magnificent species, at once recognized by its thorns and its peculiar culm sheaths. The culms are rather soft wooded though stout, and are bright green. They reach 80 to 100 feet in height and 6 to 7 inches in diameter, and have cavities in diameter nearly one-third of that of the culms. The forests are difficult to work because the culms interlace so much and are so much mixed up with thorny branchlets that they can not easily be extracted singly. They are used for building, mats, baskets, and all sorts of purposes. Flowering years occur at intervals of about thirty years in any given locality, and the seed is eagerly sought for as food. The leaves are sometimes attacked by an aphid, *Oregma bambusae*, which covers them with a black, sticky gum. Weight of wood, 45 to 50 pounds per cubic foot." (*Gamble, Manual of Indian Timbers.*)

"This bamboo certainly endures a temperature of 40° F. and it is believed that it would stand a few degrees of frost, as it grows well at Dehre Dun, where a slight frost is occasionally experienced." (*W. W. Smith, of the Royal Botanic Garden.*)

21318. GREIGIA SPHACELATA. **Chupon.**

From Coronel, Chile. Presented by Mr. Teodoro Finger. Received September 12, 1907.

"'Chupon de Chile.' Fruit edible and odorous; people are very fond of it. Prefers wet soil, not too poor, and not too cold or hot." (*Finger.*)

21318—Continued.

"Highly recommended as a decorative plant for the hothouse. It can not compare with other Bromeliads for its flowers, but is a handsome plant for its foliage. Leaves crowded into a head, at first erect then gracefully drooping, of leathery texture, barely an inch wide and 3 feet in length. Flowers borne on spikes in the axils of the lower leaves." (*Gartenflora, Vol. XIV, p. 137, 1865.*) (See also S. P. I. No. 3361.)

21319 and 21320.

From Ichang, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received September 18 and 19, 1907.

21319. RHEUM sp. **Rhubarb.**

"(No. 101.) The medicinal rhubarb of western Hupeh. It occurs wild in woods above 7,000 feet, but is now extremely rare. It is sparingly cultivated by the peasants in the mountains at altitudes between 6,000 and 8,000 feet. The seeds sent are from plants cultivated at 6,500 feet in the Hsing-shan district. The quality of this Hupeh rhubarb is poor and its market value low as compared with the Szechuan drug." (*Wilson.*)

21320. FRAGARIA DUCHESNE. **Strawberry.**

"(No. 102.) There are two strawberries in the mountains here above 4,000 feet altitude—one the common *Hautboney* (*Fragaria elatior*); the other a red-fruited woodland variety of good flavor. The seeds sent are in all probability of the latter species, but since I did not gather them myself, I am not absolutely certain." (*Wilson.*)

21321. PANICUM SPECTABILE.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College, through Prof. C. V. Piper. Received July 19, 1907.

21322 to 21327.

From Georgetown, British Guiana. Presented by Prof. A. W. Bartlett, government botanist, Botanic Gardens, through Prof. C. V. Piper. Received August 12, 1907.

21322. PACHIRA INSIGNIS.

21323. PACHIRA AQUATICA.

21324. SOPHORA TOMENTOSA.

21325. INDIGOFERA ANIL.

21326. CROTALARIA INCANA.

21327. CLITORIA ARBORESCENS.

21329 to 21346.

From Richmond, New South Wales, Australia. Presented by Mr. H. W. Potts, principal, Hawkesbury Agricultural College. Received July 13, 1907.

21329. ANDROPOGON AFFINIS.

21330. ANDROPOGON INTERMEDIUS.

21331. ANDROPOGON PERTUSUS.

21332. CHLORIS TRUNCATA.

21333. DANTHONIA PENICILLATA.

21334. ERAGROSTIS PILOSA.

21335. ERAGROSTIS PILOSA (?). (Perennial variety.)

21336. ERAGROSTIS LEPTOSTACHYA.

21337. ERAGROSTIS BROWNEI.

21338. MICROLAENA STIPOIDES.

21339. PANICUM DECOMPOSITUM.

21340. PANICUM EFFUSUM.

21341. PANICUM FLAVIDUM.

21342. PANICUM GRACILE.

21343. PANICUM TRACHYRHACHIS.

21344. PASPALUM BREVIFOLIUM.

21345. PASPALUM SCROBICULATUM.

21346. ANDROPOGON AUSTRALIS. From Inverill, New South Wales.

21347. MELOCANNA BAMBUSOIDES. **Muli bamboo.**

From Chittagong, British India. Presented by Deputy Conservator of Forests, Chittagong division, through Mr. W. F. L. Tottenham, Conservator of Forests, Bengal, India. Received September 20, 1907.

"The culms reach a height of 50 to 70 feet, with a circumference of 12 to 13 inches at the base.

"It has been stated that *M. bambusoides* dies immediately after fruiting, but Doctor Anderson, superintendent of the botanic gardens at Calcutta, states that in no case of which he was aware during the flowering period of 1857–58 did a general death of the bamboo follow. The foliage almost entirely disappeared during the flowering, and the flowering shoots died, but they were replaced by young shoots.

"The fruit is very curious in form and size as compared with other bamboos. The true seed inside the pericarp, about the size and shape of a betel nut (small pear), is very pleasant eating and not at all austere, though without much flavor. The natives declare the whole fruit is edible after baking." (*Theobald. From Colonel Munro's monograph of the Bambusaceae.*)

21349. BAMBUSA VULGARIS. **Bamboo.**

From Cannes, France. Received from M. Jh. Augier Gerant, Villa les Cocotiers. Received September 23, 1907.

"The Bamboo *thouarsii* sprouts only in winter—at the end of September. The cold freezes the new stems rather frequently. The old stems can resist a temperature of —6° C., while the new stems have been known to freeze at —3° C." (*Gerant.*)

21350 to 21356.

From Teyhampett, Madras, India. Presented by Mr. B. F. Cavanagh superintendent of the Agri-Horticultural Society, through Prof. C. V. Piper. Received July 13, 1907.

The following seeds, with Tamil names in italic:

21350. CAJANUS INDICUS. **Pigeon pea.**
Thovvaroc.

21351. CICER ARIETINUM. **Chick pea.**
Kadalai.

21352. DOLICHOS LABLAB. **Hyacinth bean.**
Mockakottac. White seeded.

21353. DOLICHOS BIFLORUS. **Kulthi.**
Karapa kollu. Black seeded.

21354. DOLICHOS BIFLORUS. **Kulthi.**
Kollu-sambal. Gray seeded.

21355. PHASEOLUS VULGARIS. **Bean.**
Nattu. The brown bean of the country.

21356. PHASEOLUS VULGARIS. **Bean.**
Vallay. White bean.

21357 to 21360. ALOCASIA CUCULLATA. **Taro.**

From Island of Guam. Presented by Mr. H. L. W. Costenoble, superintendent, Agricultural Experiment Station, U. S. Naval Station, through Mr. O. W. Barrett. Received September 26, 1907.

A collection of taros, or "sunes," by which latter name they are known in the island of Guam. The local varietal name by which they are grown in that island is given under each number. Plants received under synonym of *Caladium colocasia.*

21357. *Visaya apaka.*

21358. *Visaya* sp.

21359. *Mamla atilon.*

21360. *Panemia agaga.*

21361. PANICUM MOLLE. **Para grass.**

From Santos, Brazil. Presented by Mr. W. H. Lawrence, American vice-consul, through Prof. C. V. Piper. Received September 25, 1907.

21364 to 21367.

From Sydney, New South Wales. Received from Messrs. Anderson & Co., 399 George street, San Francisco, Cal., October 1, 1907.

21364. BROMUS UNIOLOIDES. **Rescue grass.**

South coast of New South Wales—dairying districts between Sydney and the Victorian border.

21365. DACTYLIS GLOMERATA. **Orchard grass.**

New Zealand, Canterbury district.

21366. PHLEUM PRATENSE. **Timothy.**

New Zealand grown.

21367. FESTUCA PRATENSIS. **Meadow fescue.**

European.

21368. SESBANIA ACULEATA.

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden. Received September 27, 1907.

"The *Danchi.* Intra-tropical and subtropical Asia, Africa, and Australia. This tall annual plant has proved adapted even for desert regions. Has grown very vigorously in the dry Wimmera region without application of water." (*St. Eloy D'Alton.*)

"Easily grown; the produce heavy. It yields a tough fiber for ropes, nets, and cordage, valued at from 30 pounds to 40 pounds per ton. Indian experiments showed the strength 50 per cent more than the government standard there requires. A rope of 3½ inches thickness broke only at 75 hundredweight. Stem and branches sought for the best gunpowder coal." (*De Rinzi.*)

"The foliage serves as fodder. Several congeneric plants can be equally well utilized." (*F. von Mueller.*)

Introduced to compare with *Sesbania macrocarpa* as a cover and green manure crop and for the purpose of breeding with it.

21371. CUCURBITA MAXIMA. **Squash.**

From Victoria, Mexico. Collected by Dr. Edward Palmer and presented to the Department October 1, 1907.

"'Calabaza de Castilla' (*Castile* squash.) In warm latitudes the plants hold over three or four years and are often pruned of old branches, when their productiveness is equal to that of a new plant. The young fruits, eaten as a vegetable and put into soups, are superior to summer squash. Old fruits are baked and, with a sirup of brown sugar, are used as a dessert for dinner. In its mature state the fruit is cut up into three-cornered pieces and candied, when it forms one of Mexico's finest sweets. The seeds when parched are shelled, and, with the addition of brown sugar, are made into candy, or, pulverized, are added to the stuffing of cooked chicken or turkey, and are much eaten in the manner of peanuts. The flowers (male) are put into soups or are often made into a very toothsome dish by themselves." (*Palmer.*)

21372 to 21393.

From Wagga-Wagga, New South Wales, Australia. Presented by Mr. G. Maurice McKeown, manager, Wagga Experimental Farm. Received October 4, 1907.

A collection of wheats, with some pedigreed oats and barleys.

21372 to 21376. TRITICUM VULGARE. **Wheat.**

21372. *Silver King.*

21373. *Hudson's Early Purple Straw.*

21374. *Farmers' Friend.*

21375. *Marshall's No. 3.*

21376. *White Essex.*

21372 to 21393—Continued.

21377 to 21383. HORDEUM VULGARE. **Barley.**

21377. *Standwell.*

Standwell.[a] { *Fan.* / *Golden Melon.*

21378. *Maltster.*

Maltster.[a] { ——— { *Jewel.* / *Italian.* } / ——— { *Chevalier.* / *Invincible.* }

21379. *Brewers' Favorite.*

Brewers' Favorite.[a] { ——— { *Standwell.* { *Fan.* / *Golden Melon.* } / *Chevalier.* } / *Chevalier.* }

21380. *Kinver.*

21381. *Golden Grain.*

21382. *Hallett's Chevalier.*

21383. *Invincible.*

Invincible.[a] { ——— { *Chevalier.* / *Golden Melon.* } / *Standwell.* }

21384 to 21393. AVENA SATIVA. **Oats.**

21384. *Danish Island.*

21385. *Silver Mine.*

21386. *Big Four.*

21387. *Storm King.*

Storm King.[a] { ——— { *White August.* / *White Swedish.* } / *Scotch Potato.* { *White Tartarian.* / *Abundance.* } }

21388. *Tartar King.*

21389. *Great Northern.*

21390. *Ligowo White.*

21391. *Goldfinder.*

Goldfinder.[a] { ——— { *White Canadian.* / *Yellow Poland.* } / *Winter.* }

21392. *Abundance.*

Abundance.[a] { *White August.* / *White Swedish.* }

21393. *Colossal.*

Colossal.[a] { ——— { *White August.* / *White Swedish.* } / ——— { *Flanders' Yellow.* / *Waterloo.* } }

[a] Genealogical chart showing pedigree.

21394. EUCALYPTUS ALBA.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received October 4, 1907.

"Timor and North Australia; also New Guinea. This species proved well adapted for the lowland clime of Ceylon, growing fast and seeding freely." (*Dr. Henry Trimeen.*)

For experiments on the Canal Zone.

21395 to 21471. ORYZA SATIVA. **Rice.**

From Honolulu, Hawaii. Received through Mr. F. G. Krauss, in charge of Hawaii rice investigations, Hawaii Agricultural Experiment Station, October 1, 1907.

The rice seed bearing the following numbers was raised at the Hawaii Agricultural Experiment Station in 1906 from seed furnished by this office, and in each case the original S. P. I. number of the seed from which these samples were selected is given. According to Mr. Krauss the seed is considerably improved by selection over the original stock sent to Hawaii, which was of mixed strains and of weak germination.

21395. *Sunkhavel.*

Grown from S. P. I. No. 8689. Original seed from India.

21396. *Ambamore.*

Grown from S. P. I. No. 8690. Original seed from India.

21397. *Arong* paddy.

Grown from S. P. I. No. 12479. Original seed from Straits Settlements.

21398 to 21413.

Original samples from British Guiana. They are distinguished by numbers only.

21398. Grown from S. P. I. No. 12490.
21399. Grown from S. P. I. No. 12491.
21400. Grown from S. P. I. No. 12492.
21401. Grown from S. P. I. No. 12493.
21402. Grown from S. P. I. No. 12494.
21403. Grown from S. P. I. No. 12495.
21404. Grown from S. P. I. No. 12496.
21405. Grown from S. P. I. No. 12498.
21406. Grown from S. P. I. No. 12499.
21407. Grown from S. P. I. No. 12500.
21408. Grown from S. P. I. No. 12501.
21409. Grown from S. P. I. No. 12502.
21410. Grown from S. P. I. No. 12504.
21411. Grown from S. P. I. No. 12507.
21412. Grown from S. P. I. No. 12508.
21413. Grown from S. P. I. No. 12510.

21414 and 21415.

Original seed from Egypt.

21414. *Soultani* (or *Sultani*) paddy.
Grown from S. P. I. No. 12514 A.

21415. *Soultani* (or *Sultani*) paddy.
Grown from S. P. I. No. 12514 B.

21395 to 21471—Continued.

21416 to 21420.

Original seed from Java.

21416. *Magetan* paddy.

Grown from S. P. I. No. 12541 A.

21417. *Magetan* paddy.

Grown from S. P. I. No. 12541 B.

21418. *Pekalongan* paddy.

Grown from S. P. I. No. 12542.

21419. *Pekalongan* paddy.

Grown from S. P. I. No. 12543 A.

21420. *Pekalongan* paddy.

Grown from S. P. I. No. 12543 B.

21421.

Grown from S. P. I. No. 12766. Original seed from Korea.

21422 to 21428.

Original seed from India.

21422. *Masiua ghaiya.*

Grown from S. P. I. No. 12865.

21423. *Bhadai ghaiya.*

Grown from S. P. I. No. 12866.

21424. *Thosar Bhadai ghaiya.*

Grown from S. P. I. No. 12867.

21425. *Pakhasali Bhadai.*

Grown from S. P. I. No. 12868.

21426. *Augua Bhadai.*

Grown from S. P. I. No. 12869.

21427. Grown from S. P. I. No. 12870.

21428. *Takmaroo ghaiya.*

Grown from S. P. I. No. 12871.

21429 to 21431.

Original seed from China.

21429. *Shie-Miu.*

Grown from S. P. I. No. 12874.

21430. *Ai-Miu.*

Grown from S. P. I. No. 12875.

21431. *Lacr-Chap.*

Grown from S. P. I. No. 12876.

21432 to 21442.

Original seed from Formosa.

21432. *Chieng Yu.*

Grown from S. P. I. No. 13035.

21433. *Pei Cham.*

Grown from S. P. I. No. 13036.

21395 to 21471—Continued.

21432 to 21442—Continued.

Original seed from Formosa—Continued.

21434. *Chieng Yu.*
Grown from S. P. I. No. 13037.

21435. *Kuai Kau Otowa.*
Grown from S. P. I. No. 13041.

21436. *O Cham Ko.*
Grown from S. P. I. No. 13044.

21437. *Pa Chiam.*
Grown from S. P. I. No. 13056.

21438. *O Kaku.*
Grown from S. P. I. No. 13057.

21439. *O Kaku.*
Grown from S. P. I. No. 13060.

21440. *Shun Tsui Ban.*
Grown from S. P. I. No. 13062.

21441. *Chino.*
Grown from S. P. I. No. 13064.

21442. *O Ka Hoe Rai.*
Grown from S. P. I. No. 13065.

21443 to 21447.

Original seed from India.

21443. *Badshah Bhog.*
Grown from S. P. I. No. 14779.

21444. *Kamod.*
Grown from S. P. I. No. 14781.

21445. *Basmati.*
Grown from S. P. I. No. 14782.

21446. *Dad Khani.*
Grown from S. P. I. No. 14783.

21447. *Ambe Mohr.*
Grown from S. P. I. No. 14784.

21448 to 21452.

Original seed from India.

21448. *Jeeragasamba.*
Grown from S. P. I. No. 16980.

21449. *Varikarudan.*
Grown from S. P. I. No. 16981.

21450. *Milagi.*
Grown from S. P. I. No. 16982.

21451. *Vellakattai*, or *Sirumanian.*
Grown from S. P. I. No. 16983.

21452. *Erangal*, or *Naryan.*
Grown from S. P. I. No. 16984.

21453.

Original seed from Texas. Grown from S. P. I. No. 17144.

21395 to 21471—Continued.

21454 to 21456.

Original seed from China.

21454. Grown from S. P. I. No. 17915.

21455. Grown from S. P. I. No. 17916.

21456. Grown from S. P. I. No. 17917.

21457 to 21468.

"Grown from stock seed received from Prof. Wm. S. Lyon, horticulturist in charge of Seed and Plant Introduction, Bureau of Agriculture, Manila, P. I." (*Krauss.*)

21457. *Binalayang.*

21458. *Bencaruy.*

21459. *Kirikiri.*

21460. *Makalit.*

21461. *Continido.*

21462. *Diketalacay.*

21463. *Mantica.*

21464. *Cavitena.*

21465. *Mormoray.*

21466. *Enero.*

21467. *Ganado.*

21468. *Ay-yr-jip.* (Krauss's No. 152.)

21469 to 21471.

Hawaiian grown seed.

21469. Select Hawaiian rice. (Krauss's No. 150.)

21470. Hawaiian Gold Seed. (Krauss's No. 151.)

21471. Japan seed rice. (Krauss's No. 153.)

21472. COSTUS sp. (?) **Spiral flag.**

From Princestown, Trinidad, British West Indies. Received through Mr. O. W. Barrett, Port of Spain, Trinidad, October 7, 1907.

"This scitamine produces a white flower about 3 inches in diameter; the spikelike head of bracts is dull crimson. Habitat wet soil, perferably along streams." (*Barrett.*)

"More or less fleshy plants, prized in warm houses and grown in the open in southern Florida. They thrive in any rich, moist soil, but luxuriate in that of a gravelly or sandy character when under a partial shade. The plants are readily propagated by short cuttings of the stalk planted in sifted peat or fine moss and sand. Rather high temperature is required to bring out the rich colors of the leaves." (*Bailey.*)

21473. FURCRAEA sp.

From Nice, France. Presented by Dr. A. Robertson Proschowsky, through Mr. O. W. Barrett. Received October 4, 1907.

"A kind of Furcraea very hardy at Nice and having strong fibers in the leaves." (*Proschowsky.*)

21474. CAPSICUM FRUTESCENS. **Bird-pepper.**

From South America. Presented by Mr. Alva A. Adee, Second Assistant Secretary, Department of State, Washington, D. C. Received October 7, 1907.

"*Chile piquin* in Mexico, where it is native." (*C. F. Wheeler.*)

21474—Continued.

"They were given to me some two years ago by a multimillionaire fellow-voyager on the *Deutschland*, who used to crumble two or three of them into his soup as an agreeable condiment. He said they were sent to him from some South American country—Bolivia, I think. I enjoyed their pleasant flavor." (*Adec.*)

21475. Brassica sp. Cabbage.

From northern Manchuria. Presented by the Yokohama Nursery Company (Limited), Yokohama, Japan. Received October 10, 1907.

Kaijo white cabbage.

21476 and 21477. Cyperus spp.

From near Honolulu, Oahu, Hawaii. Collected by Mr. F. G. Krauss, in charge of Hawaii rice investigations, Hawaii Agricultural Experiment Station, in 1907, at the request of Mr. David Fairchild. Received October 1, 1907.

21476. Cyperus laevigatus.

"*Ehuawa.* In and near sweet or brackish water, plentiful near Honolulu. A common plant in many tropical countries of the New and the Old World, extending also to the Cape of Good Hope and the Mediterranean region. The fine and highly prized Niihau mats are made of this plant." (*Hillebrand.*)

21477. Cyperus pennatus.

"*Molokai.* The plant grows quite abundantly along the shores of brackish marshes in the neighborhood of Honolulu and elsewhere in Hawaii." (*Krauss.*)

"In the lower regions; sometimes gregarious. The species extends from the Mascarene Islands and India through Malaysia, Australia, and south China to the Philippines and most of the Pacific Islands." (*Hillebrand.*)

21478. Panicum molle. Para grass.

From São Paulo, Brazil. Presented by Dr. H. M. Lane, president, Mackenzie College, through Mr. C. V. Piper. Received June 12, 1907.

"This very coarse grass is from Africa and is known here as 'Capim de Angola.' It is the *Panicum scabrum* of Lam. and the *Oplismenus spectabilis* of Kunth. Its chief value is to cut for green forage. It is almost impossible to cure it, and it is of little value for pasture." (*Lane.*)

21481 and 21482.

From New York, N. Y. Received through Messrs. Parke, Davis & Co. Received October 15 and 16, 1907.

21481. Physostigma venenosum. Calabar bean.

"A perennial climber, resembling the common scarlet runner, growing along the Gulf of Guinea, used there by pagan tribes in ordeal trial in witchcraft. It acts as a powerful depressant, poisonous in overdoses. The seeds from the article known on the crude drug market as Calabar bean." (*R. H. True.*)

21482. Strychnos ignatii. St. Ignatius bean.

"A large climbing shrub of the Visayan group of the Philippines. The large fruit contains several pebble-like seeds, going on the crude drug market as St. Ignatius beans. They contain the alkaloids strychnine and brucine, for the manufacture of which they are used to some extent." (*R. H. True.*)

21483 to 21485. JUGLANS REGIA. Persian walnut.

From Breslau, Germany. Presented by Mr. Julius Monhaupt's Successor. Received October 16, 1907.

21483. *Paper.*

"A small-sized nut, with shell of medium thickness and nearly smooth." (*Fischer.*)

21484. *Giant.*

"A very large sized nut with thick, rough shell." (*Fischer.*)

21485.

"Nut not quite so large as S. P. I. No. 21484; shell thick and less rough." (*Fischer.*)

21488 to 21499.

From M'lanje, British Central Africa. Presented by Mr. Henry Brown, Thornwood estate, through Mr. O. W. Barrett. Received August 19, 1907.

21488. ANDROPOGON sp.
21489. ERAGROSTIS sp.
21490. ERAGROSTIS sp.
21491. ERAGROSTIS sp.
21492. PANICUM (?).
21493. PENNISETUM sp.
21494. PENNISETUM sp.
21495. CHAETOCHLOA AUREA.
21496. SPOROBOLUS sp.
21497. ANTHISTIRIA IMBERBIS.
21498. TRICHOPTERYX ELEGANS.
21499. XYRIS sp.

21504. LYGEUM SPARTUM.

From Paris, France. Received from Messrs. Vilmorin-Andrieux & Co., October 14, 1907.

"Has a creeping rhizome and stiff, rush-like, convolute leaves; in rocky soil on the high plains of the countries bordering the Mediterranean, especially of Spain and Algeria. A part of the Esparto (see *Stipa tenacissima*) is furnished by this plant." (*Hackel's translation from "Die Nat. Pflanzenf."*)

"Will probably be adapted to California and the Southwestern States." (*C. V. Piper.*)

(See S. P. I. No. 3334.)

21505. CITRUS DECUMANA. Pomelo.

From "La Vega" estate, Brasso, Trinidad, British West Indies. Presented by Mr. Robert de Verteuil through Mr. O. W. Barrett. Received October 22, 1907.

"A pomelo with pinkish colored pericarp." (*Barrett.*)

21507. PIMENTA OFFICINALIS. Allspice.

From Kingston, Jamaica. Presented by Mr. William Fawcett, director, Hope Botanic Gardens. Received October 18, 1907.

Procured for experimental purposes at the request of Mr. J. G. Smith, of the Hawaii Agricultural Experiment Station.

21508 to 21511. VIGNA spp. Cowpea.

From Arlington Farm, Rosslyn, Va. Grown during the season of 1907. Received October 31, 1907.

21508.

"Grown from seed received from the Tokyo Botanical Gardens, May, 1907. An erect, bushy, small-seeded cowpea, representing a species (?) not received from any other source. The seeds of this variety are black. Grown under the temporary No. .0512." (*C. V. Piper.*)

21508 to 21511—Continued.

21509.

"From the same source as S. P. I. No. 21508 and of similar habit. Seeds dark clay color. Grown under the temporary No. .0514." (*C. V. Piper.*)

21510.

"From the same source as S. P. I. No. 21509 and very similar in habit. Seeds small white, with large black eye. Grown under the temporary No. .0515." (*C. V. Piper.*)

21511.

"Grown from seed received from Dr. S. P. Barchett, Shanghai, China, June, 1907. A black-seeded variety related to the above (S. P. I. No. 21510). Grown under the temporary No. .0521." (*C. V. Piper.*)

21513. SECALE CEREALE. **Rye.**

From estate "Petkus," Baruth, Brandenburg, Germany. Received from Herr F. von Lochow, October 29, 1907.

Petkuser. "A pedigreed rye, produced by selection carried on for the last twenty-six years under the direction of Herr von Lochow, Petkus estate, Brandenburg, Germany, combining the best averages in the following quantities: Wintering, size and stiffness of straw, erectness of head, shape, color and plumpness of kernel, stooling, earliness of ripening, productiveness." (*Illus. Landwirtschaftliche Zeitung, April 7, 1906.*)

21514. AVENA SATIVA. **Oat.**

From Orebro, Sweden. Presented by Mr. C. A. Hagendahl's son, through Hon. Edward L. Adams, American consul-general, Stockholm, Sweden, at the request of Mr. A. J. Pieters. Received October 29, 1907.

Red Rustproof.

21515 to 21518. MANGIFERA INDICA. **Mango.**

From Port of Spain, Trinidad. Procured by Mr. O. W. Barrett. Received October 31, 1907.

21515. *Julie.*
21516. *Divine.*
21517. *Martin.*
21518. (Label indistinct.)

21520. BERBERIS THUNBERGII × VULGARIS PURPUREA. **Barberry.**

From Ottawa, Ontario, Canada. Presented by Mr. William Saunders, director of experimental farms, Central Experimental Farm. Received November 2, 1907.

21521. DIANTHUS CARYOPHYLLUS × BARBATUS. **Carnation.**

From Miami, Fla. Procured by Mr. P. J. Wester, Subtropical Laboratory and Garden. Received November 4, 1907.

"This variety, which I found growing in a back yard a few miles out of Miami, was blooming very profusely in July, and on that account its vigor attracted my attention. A few cuttings were secured, from which several propagations have been made. The plant is exceedingly vigorous and blooms well throughout the year and does not seem to be subject to any diseases so far. The flowers are dark red. It has been distributed during the past year and a half to several people in Florida under the name *Augusta*, Lab. No. 272. All who have received it are pleased with it." (*Wester.*)

21522 to 21529. MANIHOT spp. **Cassava.**

From Port of Spain, Trinidad. Presented by Mr. E. André. Received October 31, 1907.

21522 to 21525. MANIHOT PALMATA. **Sweet cassava.**

21522. *Butter Sticks.*
21523. *Boujon Bleu.*
21524. *Cammanioc Blanc.*
21525. *Cammanioc Rouge.*

21522 to 21529—Continued.

21526 to 21528. MANIHOT UTILISSIMA. Bitter cassava.

21526. *Vioux Biwai.* 21528. *Mataoutel.*

21527. *Manioc Six Mois.*

21529. MANIHOT sp. Cassava.

"Bitter kinds are always designated as *Manioc;* sweet as *Cammanioc,* Of the sweet kinds sent *Butter Sticks* is considered a very good table variety.

"Neither in Venezuela nor here are the sweet kinds grown for starch, cassava bread, or farina; they are used only as a vegetable, being boiled and buttered. Those who make a business of cassava products say that it does not pay to grow the sweet kinds." (*André.*)

21532 to 21540.

From Nagpur, Central Provinces, India. Presented by Mr. F. Fletcher, deputy director of agriculture, Bombay. Received October 28 and November 5, 1907.

21532. PANICUM PSILOPODIUM. Millet.

Kutki Raipur.

21533. PANICUM PSILOPODIUM. Millet.

Kutki.

21534. PISUM ARVENSE. Field pea.

Mattar.

21535. VIGNA CATJANG. Catjang.

Burbudi.

21536. VIGNA CATJANG. Catjang.

Burbadi.

21537. VIGNA UNGUICULATA. Cowpea.

Jhunga.

21538. VIGNA CATJANG (?). Catjang.

Jhunga.

21539. VIGNA CATJANG (?). Catjang.

Khed Jhunga.

21540. PANICUM FRUMENTACEUM. Millet.

Sawan or *Sanwa.*

21542. SESBANIA AEGYPTIACA.

From Saharanpur, India. Presented by Mr. J. H. Maiden, director, Botanic Gardens, Sydney, New South Wales, through Mr. David Fairchild. Received November 7, 1907.

"Africa, southern Asia, northern and central Australia, ranging to 33° north in Afghanistan and 33° south on the Darling River, ascending to 4,000 feet in the Himalayas. By Australian pasturalists called 'pea bush.' The foliage of this tall perennial herb and of the allied annual *S. brachycarpa* serves as fodder, which cattle are ravenously fond of. According to Mr. T. Gulliver, the green pods, as well as the seeds, are nutritious, wholesome, and of pleasant taste." (*F. von Mueller.*)

21543 to 21545.

From São Paulo, Brazil. Presented by Mr. T. Julius Schalch. Received November 5, 1907.

21543. MANIHOT UTILISSIMA. **Bitter cassava.**

"Manioc, a Brazilian plant growing in the Temperate Zone; produces roots 2 to 3 feet long, 3 to 4 inches in diameter; used exactly as Irish potatoes; can be boiled, baked, or fried, and is of very fine flavor. All the starch made down in that country is made of Manioc. Tapioca is also made from Manioc. It is planted on the same kind of soil as potatoes. Cut every stick in two or three pieces, 6 or 8 inches long, plant slanting on the hill about 3 or 4 feet apart. It will grow 7 to 10 feet high." (*Schalch.*)

21544. HAEMANTHUS MULTIFLORUS. **Imperial crown.**

"A beautiful, delicate flower growing in the Temperate Zone. To be planted the same as any bulb. Grows very easily if the temperature is right." (*Schalch.*)

21545. PISUM sp. **Pea.**

"Crooked pea is the name given in São Paulo for this kind of pea. It is a very tender, stringless variety, and can be cooked with the pods, for it is very sweet and extremely tender and makes a very palatable dish. It is planted the same as any pea and has always been raised in the Temperate Zone." (*Schalch.*)

21547. PYRUS POLLVERIA.

From Christiania, Norway. Presented by Prof. N. Wille. Received November 8, 1907.

In Gartenflora, of January 15, 1905, there is an article entitled "An Account of a Supposed Graft-Hybrid Between the Pear and the Hawthorn," in which the author, von Jens Holmboe, gives a good description of this tree and attempts to clear up the mystery of its probable origin.

The tree is located in the Manor of Torp, Parish Borge, in Smaalenene, between the towns of Fredrikstad and Sarpsborg, and was planted some time in the early seventies and discovered by an apothecary late in the eighties. It was grafted on *C. oxyacantha* but has characters intermediate between those of Pyrus and Crataegus. The fruit is small and pear shaped, but red like that of Crataegus. The taste is insipid and also intermediate between that of the pear and the hawthorn.

To the author it seemed that this curious hybrid resembled in most of its characters *Pyrus pollveria* L. (*P. communis* L.×*Sorbus aria* Crantz), and he states that it would be hard to separate it specifically from that species (or hybrid) on morphological characters only.

Since the foliage of some of the seedlings grown from the "Torp" tree could hardly be distinguished from that of the pear, and that of others resembled so closely that of *C. monogyna*, this form might again be considered a hybrid between *P. communis* and some species of Crataegus and the appearance of two distinct types in its progeny be perfectly natural. But here, too, it is mentioned that Crataegus-like foliage is in rare cases found among seedlings of both *P. communis* and *P. malus* and also that no Crataegus grew in the neighborhood which might have taken part in the cross-pollination of the flowers which gave rise to these seedlings.

Hence, according to the author, there are but two alternatives: The tree whose hybrid character admits of no doubt is either the rare *Pyrus pollvera*, which is not found anywhere outside of the Christiania Botanic Gardens, but found its way in some inexplicable manner, through a nursery located in Sarpsborg, into this garden; that the Crataegus-like foliage of the second hybrid generation, which in Norway has never before been observed in *P. communis* and its relatives, is due to a mutation; or that some until now entirely unknown hybrid of *P. communis*×*Crataegus* sp. existed in this same nursery and was unintentionally grafted upon the *Crataegus oxyacantha* stock.

In concluding, the author contends that it would require an extraordinary combination of circumstances to bring either of these alternatives about and

21547—Continued.

that after weighing all the evidence, both for and against them, he, personally, is of the opinion that the tree in question is probably a graft-hybrid, this being the easiest way to explain its origin, since so many years have passed since the graft was made. (*Abstracted and translated from the German by W. Fischer.*)

"The tree (in the Botanic Gardens in Christiania) from which these fruits were obtained stands in the vicinity of several varieties. Cross-fertilization is thus not excluded." (*Wille.*)

21548. DENDROCALAMUS STRICTUS. **Bamboo.**

From Sibpur, Calcutta, India. Presented by Mr. A. T. Gage, superintendent, Royal Botanic Garden, through Mr. David Fairchild. Received November 11, 1907.

"A very useful and strong bamboo of India, formerly used universally for spear staffs. The plant flowers frequently and does not die down after flowering, as is the case with so many bamboos. The culms are said sometimes to reach a height of 100 feet in the valleys and 40 feet on the hills." (*From Colonel Munro's Monograph of the Bambusaceae.*)

"This bamboo is common in parts of the province of Punjab, India, where the climate is very dry in summer and quite cool in winter, the temperature occasionally falling below freezing." (*Fairchild.*)

21551. CITRUS NOBILIS. **Mandarin.**

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, botanist, Transvaal Department of Agriculture. Received November 18, 1907.

"*Naartje.* This is a kind of mandarin which to my mind has a much better flavor than the ordinary tangerine of the Mediterranean; the fruit is larger and the skin can be removed quite as easily. I am under the impression that it comes fairly true to seed, but even if this should prove not to be the case, you may find the stocks of some use and the drought and frost resistance of the plant may render it useful for hybridizing or grafting purposes." (*Davy.*)

"The naartje has been produced in Cape Colony for the last two hundred years or more. It is difficult to say whence it came originally, but more than likely from the Dutch East Indies. I do not know of any orange under cultivation either in Florida or California which is the exact counterpart to the fruit which we grow here.

"We have introduced most of the varieties grown in America, and up to the present time none of them, with the exception of Satsuma, have shown the same hardiness and drought-resisting qualities as the original varieties in Cape Colony.

"With regard to their resistant powers against frost, I have seen old trees which have stood 15 degrees of frost with very little injury either to the tree or to the crop, and I consider for our purposes that they are the best fruits of the kind which we can grow in this colony. The trees as seedlings attain large sizes—from 16 to 18, and sometimes 20, feet—and they bear a striking resemblance to an ordinary seedling orange in growth. The two varieties are named locally the *Platskill* and *Grocnskil.* The meaning of the first word is 'flat or smooth skin,' and it 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.

"The word *Grocnskil* 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.*" (*R. A. David, Transvaal Department of Agriculture.*)

21552 to 21557. DAHLIA spp. **Dahlia.**

From Mexico City, Mexico. Collected by Prof. C. G. Pringle on Sierra de Ajusco, a mountain on the south side of the Valley of Mexico, at an altitude of 8,500 feet, by request of Mr. David Fairchild. Received November 16 and 19, 1907.

Seeds and plants secured for hybridizing purposes.

21552 to 21557—Continued.

21552 and 21553. DAHLIA COCCINEA. **Dahlia.**

"This species varies in color from lemon yellow to brick red." (*Pringle.*)

21554 and 21555. DAHLIA MERCKII. **Dahlia.**

"This species varies in color from white to purplish." (*Pringle.*)

21556 and 21557. DAHLIA VARIABILIS. **Dahlia.**

"This species varies in color from deep purple to yellow with light purple tips." (*Pringle.*)

"The last three species were found growing in profusion on a lava field." (*Pringle.*)

"It appears as if *Dahlia coccinea* and *Dahlia merckii* have never been improved by crossing or even crossed on other species." (*G. W. Oliver.*)

21558 to 21565. VIGNA spp.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received November, 1907.

The Malay names and descriptions accompanied the seeds.

21558. VIGNA SESQUIPEDALUS.

Katjang pandjang. Striped seeds.

21559. VIGNA SESQUIPEDALUS.

Katjang Dadap. Uniform seeds.

21560. VIGNA SESQUIPEDALUS.

Katjang Belact. Striped seeds, brown colored.

21561. VIGNA SESQUIPEDALUS.

Katjang Dadap. Uniform brown seeds.

21562. VIGNA SESQUIPEDALUS (?).

Katjang Dadap. Brown speckled seeds.

21563. VIGNA CATJANG.

Katjang Roedji. Brown seeds.

21564. VIGNA CATJANG.

Katjang Roedji. Uniform light green color.

21565. VIGNA CATJANG.

Katjang Landes.

21566 and 21567. MUCUNA spp.

From Kingston, Jamaica. Presented by Dr. William Fawcett, director, Hope Botanic Gardens. Received Nov. 18, 1907.

21566. MUCUNA PRURIENS. **Cow-itch bean.**

21567. MUCUNA URENS. **Horse-eye bean.**

21568 and 21569. VIGNA SESQUIPEDALUS (?).

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received Nov. 21, 1907. (See Nos. 21558 to 21565.)

21568. *Katjang Belact.* Brown speckled seeds.

21569. *Katjang Dadap.* Light speckled seeds.

21570 and 21571. Rubus spp. Raspberry.

From Shanghai, China. Presented by Rev. J. M. W. Farnham, D. D., Chinese Tract Society. Received Oct. 23, 1907.

21570.

"Native wild black raspberry from Mokunshan, China." (*Farnham.*)

21571.

"Seeds of a wild raspberry." (*Farnham.*)

21572. Jacquemontia pentantha.

From Miami, Fla. Collected by Mr. P. J. Wester, special agent, Subtropical Laboratory and Garden. Received Nov. 23, 1907.

"Lab. No. 500. This plant is a perennial vine, moderately vigorous, and is native to the Florida Keys. The leaves are dark green, the flowers bright blue, about 2 centimeters in diameter, and one of the most dainty flowers I have ever seen. One to four flowers at a time open on the cyme, which contains several dozen flower buds. The plant is exceedingly floriferous, and I am sure that, being so distinct from all other flowers on climbing plants, it will prove an interesting acquisition to ornamental climbers." (*Wester.*)

21573. Anona sp.

From Toco, Trinidad, British West Indies. Received through Mr. O. W. Barrett, Port of Spain, Trinidad, Nov. 25, 1907.

"Seeds of an Anona nearly related to *Anona squamosa;* fair fruit." (*Barrett.*)

21574 to 21582.

From Alexandretta, Turkey. A collection of seeds of leguminous plants made by Mrs. F. A. Shepard, American Medical Mission, Aintab, Turkey, at the request of Mr. David Fairchild. Received Oct. 18, 1907.

"The following are seeds of plants that grow on our arid hills and that the animals eat with avidity." (*Shepard.*)

21574. Medicago tribuloides.

21575. Medicago lupulina.

21576. Medicago tuberculata (?).

21577. Trigonella radiata.

21578. Trigonella crassipes.

21579. Trigonella monantha.

"The following seeds I found at a village near the Amanus Mountains. These are used as fodder by the villagers in that region. They are dried for the animals for winter, and the peas are ground up and fed to cattle." (*Shepard.*)

21580. Vicia sp.

Yonja.

21581. Vicia sp.

Kushne.

21582. Vicia sp.

Pakla.

21583. Citrus limonum. Lemon.

From Riverside, Cal. Presented by Mr. James Mills, superintendent, Arlington Heights Fruit Company. Received November 25, 1907.

Villa Franca. The above cuttings were procured for Mr. D. W. May, Porto Rico Agricultural Experiment Station, Mayaguez, Porto Rico.

21584 to 21593.

From Bodoe, Tromsoë, Norway. Received from Mr. L. P. Nilssen, director of the agricultural school and experiment station, through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., as agricultural explorer for the Department of Agriculture, November 23, 1907.

21534 to 21593—Continued.

21584 to 21591. SOLANUM TUBEROSUM. **Potato.**

Grown at the agricultural school farm, Bodoe.

21584. *Flekket.*

"(No. 282.) From Loedingen, 68° 30′ N. lat., where it has been raised for a series of years." (*Hansen.*)

21585. *Flairball.*

"(No. 283.) Grown for a succession of years at the agricultural school at Bodoe, 67° 20′ N. lat." (*Hansen.*)

21586. *Russe.*

"(No. 284.) Cultivated for ten years at the agricultural school at Bodoe after having been raised for many years in Loedingen. Originally the stock came from Archangel, on the Arctic Ocean coast of European Russia." (*Hansen.*)

21587. *Swensk.*

"(No. 285.) Grown for six years on the agricultural school farm at Bodoe, after having been cultivated for many years at Tana, 70° 25′, Swedish Lapland." (*Hansen.*)

21588. *Tana*, white.

"(No. 286.) Cultivated for six years at the agricultural school at Bodoe, after being cultivated many years in Tana, Swedish Lapland." (*Hansen.*)

21589. *Loeding.*

"(No. 287.) Grown for a succession of years in Loedingen, northern Norway." (*Hansen.*)

21590. *Hoeyer.*

"(No. 288.) Grown for a succession of years in Loedingen, northern Norway." (*Hansen.*)

21591. *Svensk*, potato seeds.

"(No. 289.) Raised in 1907 at the agricultural school, Bodoe. The parent is described under S. P. I. No. 21587." (*Hansen.*)

21592 and 21593. HORDEUM VULGARE. **Barley.**

21592. *Finne.*

"(No. 290.) From Skjaerstad, 67° 15′, northern Norway." (*Hansen.*)

21593.

"(No. 291.) Barley of 1907 from Haarvik, in Loedingen, 68° 30′, northern Norway." (*Hansen.*)

21594 to 21598. CITRUS spp.

From Glen St. Mary, Fla. Propagated by Mr. G. L. Taber for distribution by the Office of Seed and Plant Introduction. Numbered November 26, 1907.

Hybrid citrus fruits developed by Dr. H. J. Webber, in charge of the Department Plant Breeding Laboratory.

21594. CITRUS TRIFOLIATA × AURANTIUM. **Citrange.**

Savage. (P. B. No. 779.) Budded on *trifoliata* stock.

21595. CITRUS NOBILIS × AURANTIUM.

Thornton. (P. B. No. 5.) Budded on sour stock.

21594 to 21598—Continued.

21596. CITRUS NOBILIS × DECUMANA. **Tangelo.**

Sampson. (P. B. No. 1316.) Budded on rough lemon stock.

21597. CITRUS NOBILIS × AURANTIUM. **Tangerine orange.**

Trimble. (P. B. No. 627.) Budded on rough lemon stock.

21598. CITRUS NOBILIS × AURANTIUM. **Tangerine orange.**

Weshart. (P. B. No. 628.) Budded on rough lemon stock.

21599. VIGNA UNGUICULATA. Cowpea.

From Olar, S. C. Received from Mr. A. W. Brabham, through Prof. C. V. Piper, November 26, 1907.

"*Brabham.* A variety originated by A. W. Brabham, Olar, S. C., which appeared as a natural hybrid in a field planted to alternate plants of Iron and Whippoorwill. The spotted seeds are quite intermediate between the Iron and the Whippoorwill. The plant has the erect habit of the Whippoorwill, holds its leaves satisfactorily as the Iron, and is remarkably prolific." (*Piper.*)

21600 to 21605.

From Poona, Bombay, India. Presented by Mr. F. Fletcher, Deputy Director of Agriculture.. Received November 26, 1907.

21600. PHASEOLUS ACONITIFOLIUS. **Moth bean.**

Math. From agricultural station, Dhulia.

21601. PANICUM FRUMENTACEUM. **Millet.**

Banti. From agricultural station, Nadiad.

21602. VIGNA CATJANG. **Catjang.**

Chavali. From agricultural station, Nadiad.

21603. VIGNA CATJANG. **Catjang.**

Chola. From Katargam district, Surat.

21604. PANICUM FRUMENTACEUM. **Millet.**

Banti. From agricultural station, Surat.

21605. PISUM ARVENSE. **Field pea.**

Watana. From Walod district, Surat.

21606. ANONA CHERIMOLIA. Cherimoyer.

From Portici, Italy. Presented by Prof. L. Savastano, Royal School of Agriculture, through Mr. David Fairchild. Received November 29, 1907.

"*Anona cherimolia* is propagated exclusively by seed in Calabria. Varieties of it are not distinguished, which means that there are no varieties." (*Savastano.*)

21608. THESPESIA POPULNEA.

From Miami, Fla. Collected by Mr. P. J. Wester, special agent, Subtropical Laboratory and Garden. Received November 29, 1907.

"A tree native to the Florida Keys. It is quite attractive on account of its abundance of foliage, and, the leaves being somewhat thick and leathery, it might be well adapted for an avenue tree in cities. The flowers very closely resemble those of the cotton plant. The tree is apparently a very rapid grower and seems to transplant easily." (*Wester.*)

The same as No. 11768, inventory No. 11.

21609. CANAVALIA ENSIFORMIS. **Knife bean.**

From Piracicaba, Brazil. Presented by Dr. J. William Hart, director, Agricultural College, through Prof. C. V. Piper. Received November 30, 1907.

A bush form.

21610. SESBANIA AEGYPTIACA.

From India. Presented by Mr. W. R. Guilfoyle, director, Botanic Gardens, Melbourne, Australia. Received December 2, 1907.

(See S. P. I. No. 21542 for description.)

21611. PLOCAMA PENDULA.

From Monte, Grand Canary, Canary Islands. Presented by Mr. Alaricus Delmard. Received December 2, 1907.

"Seeds of a species of low-growing shrub which grows on the slopes of the arid hillsides in the Canary Islands. It has a most beautiful weeping habit, giving the plants the appearance of tiny weeping willows, not over 2½ to 3 feet high. This would be very beautiful as a cover for dry hillsides overlooking the sea. It has already been brought into culture. Will probably withstand severe drought." (*Fairchild.*)

21612. JUGLANS NIGRA × REGIA. **Walnut.**

From Pasadena, Cal. Presented by Mr. J. B. Wagner. Received December 4, 1907.

"Wagner's *Giant Hybrid*. This is a cross between Eastern Black and Santa Barbara Soft Shell. It is now about 20 inches in diameter—6 years from seed—while neither of its parents at same age, grown within 50 feet of it under same conditions, is over 5 inches in diameter. This, I believe, and Burbank says, is the most rapid growing hardwood tree in existence and a boon as wood and lumber." (*Wagner.*) (See also Nos. 19261 and 21710.)

21613. MUCUNA FAWCETTII.

From Kingston, Jamaica. Presented by Dr. William Fawcett, director, Hope Botanic Gardens. Received December 5, 1907.

21616 to 21639.

From Peking, Chi-li, China. Received through Mr. Frank N. Meyer, agricultural explorer, December 6 and 9, 1907.

21616. DIOSCOREA sp. **Yam.**

From Peking, Chi-li, China. "(No. 741a, Oct. 22, 1907.) A yam grown extensively in northern China, the roots being boiled and eaten; sometimes sugar coated and sold as a sweetmeat. A trifle sharp of taste. Can grow in rather alkaline soil, but loves drainage and deep soil; sometimes the tubers grow to be 4 feet long." (*Meyer.*)

21617. CHIONANTHUS RETUSA (?). **Chinese fringe tree.**

From Boshan, Shantung, China. "(No. 740a, Sept. 19, 1907.) An oleaceous, deciduous tree with Rhamnus-like leaves and bearing in spring a multitude of white, fringed, fragrant flowers, followed in the fall by masses of blue berries, looking like wild grapes. This tree is used by the Chinese to graft their *Olea fragrans* upon. Chinese name *Pai lou pi.*" (*Meyer.*)

21618. ZIZYPHUS SATIVA. **Jujube.**

From Laoling, Shantung, China. "(No. 743a, Sept. 30, 1907.) This variety, called *Chin sze tsao*, is said to be the best variety for the so-called honey jujube manufacture. It is a remarkably sweet variety." (*Meyer.*)

21616 to 21639—Continued.

21619. ZIZYPHUS SATIVA. **Jujube.**

From Hwei-goir, Shantung, China. "(No. 744a, Sept. 27, 1907.) This variety is called *Yuen ling tsao* or *Su hsin tsao*. The fruits are being steamed and smoked and sold as smoked dates, *Ghee tsao*." (*Meyer.*)

21620. ROSA XANTHINA. **Rose.**

From Shushan, Shantung, China. "(No. 745a, Aug. 23, 1907.) This beautiful single yellow rose, *Rosa xanthina*, growing in dry, rocky localities and mostly in sheltered places, produces masses of delicate yellow flowers in early summer. Is used by the Chinese as a grafting stock for the tea varieties of roses." (*Meyer.*)

21621. BRASSICA CHINENSIS. **Chinese turnip.**

From Wei-hsien, Shantung, China. "(No. 746a, Aug. 20, 1907.) A round, white turnip; Chinese name *Yuen man ching*. Said to be a superior variety of turnip, growing well in irrigated soil and attaining its best growth when the cool weather starts." (*Meyer.*)

21622. BRASSICA CHINENSIS. **Chinese turnip.**

From Wei-hsien, Shantung, China. "(No. 747a, Aug. 20, 1907.) A long, white turnip; Chinese name *Chang man ching*. To this variety the same remarks apply as to the preceding number, 746a (S. P. I. No. 21621.)" (*Meyer.*)

21623. RAPHANUS SATIVUS. **Radish.**

From Wei-hsien, Shantung, China. "(No. 748a, Aug. 20, 1907.) Green turnip-radish. Chinese name *Chang lo bo*. A peculiar variety of this group; has excellent stomachic properties, being appetizing and promoting digestion; is always eaten raw, either sliced or shredded. It loves a deep, well-drained soil and must not lack water when becoming mature; otherwise it has a tendency to become pungent." (*Meyer.*)

21624. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Wei-hsien, Shantung, China. "(No. 749a, Aug. 20, 1907.) A large variety of white cabbage; Chinese name *Ta pai tsay*. It requires a rich, well-drained soil and an abundance of water during the whole period of growth; sown in seed beds in the latter half of June or in early July, and planted in its permanent place in the last week of August or in the early days of September at distances varying from $1\frac{1}{2}$ to $2\frac{1}{2}$ feet, according to richness of soil and hardiness of variety." (*Meyer.*)

21625. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Yen-tchou-fu, Shantung, China. "(No. 750a, Sept. 4, 1907.) A white cabbage; Chinese name *Ta pai tsay tsun*. A very large variety of the Chinese cabbage, said to grow up to 40 pounds in weight and to be very solid. This variety is largely exported to the south of China." (*Meyer.*)

21626. BRASSICA PE-TSAI. **Pe-tsai cabbage.**

From Tchang-tchou, Chi-li, China. "(No. 751a, Oct. 2, 1907.) A large, long-headed variety of Chinese cabbage; Chinese name *Ta pai tsay*. This variety is somewhat loose in its make-up, but it is able to stand considerable saline matter in the soil. One excellent feature of these cabbages is that they are far easier to digest than our varieties and never emit unpleasant odors when being boiled. As they also withstand heat and dry air to a much greater degree than our varieties, they will probably grow in regions of the United States where ordinary cabbages do not thrive." (*Meyer.*)

21627. NICOTIANA TABACUM. **Tobacco.**

From Yen-tchou-fu, Shantung, China. "(No. 752a, Sept. 4, 1907.) Chinese name *Yen tsun*. A famous variety of tobacco, being exported

21616 to 21639—Continued.

from here to different cities in China; has rather short, though very broad, leaves; grows best on well-drained, irrigated soil and stands alkali remarkably well. It may be a good crop for the irrigated valleys of southern Utah and New Mexico." (*Meyer.*)

21628. CUCUMIS SATIVUS. **Cucumber.**

From Tchang-tchou, Chi-li, China. "(No. 753a, Oct. 2, 1907.) Chinese name *Whang qua.* Is grown in the fields against sorghum-stem trellises. When sown in succession produces cucumbers until the frost kills them. Loves a well-drained soil." (*Meyer.*)

21629. CITRULLUS VULGARIS. **Watermelon.**

From Tai-an-fu, Shantung, China. "(No. 754a, Sept. 11, 1907.) A fine yellow-meated variety of watermelon, considered by the Chinese far superior to the red-meated varieties. Chinese name *Huang si qua.*" (*Meyer.*)

21630. CITRULLUS VULGARIS. **Watermelon.**

From Chinan-fu, Shantung, China. "(No. 755a, Aug. 27, 1907.) A white-meated variety of watermelon, coming later in the season than the red varieties. It is, however, not as sweet as those." (*Meyer.*)

21631. SOLANUM MELONGENA. **Eggplant.**

From Chang-ho, Shantung, China. "(No. 756a, Sept. 29, 1907.) A large-fruited variety of eggplant of a pale violet color. The fruits weigh as much as 7 or 8 pounds apiece, while the plant can resist alkali very well.

"The Chinese pickle these fruits in brine for winter use. Chinese name *Ta cha tse.*" (*Meyer.*)

21632. CAPSICUM ANNUUM. **Pepper.**

From Hsing-chi, Chi-li, China. "(No. 757a, Oct. 3, 1907.) Chinese name *Teng lung tsiao.* A very large fruited variety of Chili pepper, of round oblong shape, dark-red color, and juicy but pungent. Withstands alkali in soil quite well." (*Meyer.*)

21633. MEDICAGO SATIVA. **Alfalfa.**

From Laoling, Shantung, China. "(No. 759a, Sept. 30, 1907.) Chinese name *Mu su tsun.* A rather short-growing variety; said to draw the alkali away from the land; highly prized as a cattle and mule food; sometimes used as a cover crop in jujube orchards; generally left to occupy the land from four to five years. The Chinese grow alfalfa only as a land improver, not directly as a food for domestic animals; the moment the land is fit again for food crops, the alfalfa is dug up." (*Meyer.*)

21634. ZOYSIA PUNGENS. **Korean lawn grass.**

From Laushan Mountains, Shantung, China. "(No. 760a, Aug. 2 and 3, 1907.) A valuable lawn grass, sent formerly from north Korea under Nos. 470a and 471a (S. P. I. Nos. 19425 and 19426). See remarks with these notes. This grass seems to do better in the elevated altitudes than on the burning plains, as it apparently likes cool nights." (*Meyer.*)

21635. POLIANTHES TUBEROSA. **Tuberose.**

From Tientsin, Chi-li, China. "(No. 765a, Oct. 7, 1907.) A red-flowered tuberose; Chinese name *Wan hsian yu.* It seems to be a pale-red variety of the tuberose. The bulbs are taken up in the early part of October, left on the field several days to ripen off and dry, and are then stored in dry, frostproof storerooms." (*Meyer.*)

21636. ASTRAGALUS sp. (?)

From Mong-tchun, Chi-li, China. "(No. 758a, Oct. 1, 1907.) A leguminous plant; Chinese name *Pou tou chiang.* It is grown by the Chi-

21616 to 21639—Continued.

nese as a land improver when the soil is heavily charged with alkali, growing from five to seven years on the land before it is fit again for sorghum, wheat, or beans. It is not liked by cattle, although it is occasionally fed. When killed by the frost, the stems are cut off, dried and bunched, and utilized as fuel. It is also sometimes grown in pear orchards as a cover crop. May be of extreme value to the arid alkaline regions of the United States." (*Meyer.*)

21637. ANTHISTIRIA CILIATA.

From Lung-tung, Shantung, China. "(No. 763a, Sept. 25, 1907.) A tall-growing grass, covering here and there large areas on Chinese burial grounds. It is carefully cut down in autumn, bunched up, and sold for fuel; is probably too coarse for food, but might be grown for paper manufacture in arid regions of the United States." (*Meyer.*)

21638. AGROPYRON sp.

From Tsingtau, Shantung, China. "(No. 761a, July 31, 1907.) A grass found growing along banks and along roads exposed to the sea wind. It seems to be somewhat soil binding." (*Meyer.*)

21639. SPOROBOLUS ELONGATUS.

From Laushan Mountains, Shantung, China. "(No. 762a, Aug. 3, 1907.) A grass growing here and there in clumps between boulders and along trails." (*Meyer.*)

21641 and 21642. PHOENIX DACTYLIFERA. Date.

From New York, N. Y. Received from Hills Brothers, December 5, 1907.

21641. *Halawi* (?). From Bassorah, Arabia.

21642. *Fard.* From Muscat, Arabia.

"These dates were used by Hills Brothers in the manufacture of the so-called stuffed dates, and were secured for the purpose of originating varieties adapted to the Southwest." (*Fairchild.*)

21643. LAGENARIA VULGARIS. Gourd.

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, Department of Agriculture. Received December 6, 1907.

Pipe calabash. (For description see S. P. I. No. 19616.)

21644 to 21656.

From Yokohama, Japan. Received from Yokohama Nursery Company (Limited), December 9, 1907.

The following collection of tubers is for experiments with wet-land crops in the South:

21644. COLOCASIA sp.

Hasu-imo.

21645. COLOCASIA ANTIQUORUM ESCULENTA.

Sato-imo.

21646. COLOCASIA ANTIQUORUM ESCULENTA.

Yegu-imo.

21647. COLOCASIA ANTIQUORUM.

Mizu-imo.

21648. COLOCASIA ANTIQUORUM.

Tono-imo.

21644 to 21656—Continued.

21649. COLOCASIA ANTIQUORUM.
Hatake-imo.

21650. SAGITTARIA SAGITTAEFOLIA.
Kuwai.

21651. SAGITTARIA SAGITTAEFOLIA.
Suita kuwai.

21652. DIOSCOREA JAPONICA TUBEROSA.
Kashiu-imo.

21653. DIOSCOREA sp.

21654. DIOSCOREA JAPONICA.
Jinenjo.

21655. DIOSCOREA JAPONICA.
Naga-imo.

21656. DIOSCOREA JAPONICA.
Ichinen-imo.

21657. AMYGDALUS ANDERSONII. **Wild peach.**

From Pyramid Lake, Nevada. Presented by Mr. Marsden Manson, C. E., 2010 Gough street, San Francisco, Cal. Received December 10, 1907.

"These seeds I selected from vigorous and large shrubs or small trees growing on the west side of Pyramid Lake.

"Experiments with these should be to develop:

"(1) As a peach.

"(2) As an almond (the kernel is quite edible).

"(3) By hybridization with both the above, (1) and (2).

"(4) As a stock for (1) and (2)." (*Manson.*)

21658. ARALIA RACEMOSA. **Spikenard.**

From North Clarendon, Vt. Presented by Mr. James Barrett, through Mr. O. W. Barrett. Received December 1, 1907.

"Prefers half shade in moist soil along roads or streams in forests; is seldom found in open situations. It reaches a height of from 3 to 5 feet. The roots are perennial, but the stems die back every winter. Decoctions of the thick aromatic bark of the roots with sugar are used as a catarrhal remedy. The bark is gathered late in the autumn." (*Barrett.*)

"This species being closely related to *Aralia cordata*, the Japanese udo, it seems feasible to try hybrids between the two species with the view of creating a more rapid growing form of the Japanese vegetable." (*Fairchild.*)

"A hardy, herbaceous perennial herb, 3 to 6 feet high, with a large and thick, strongly aromatic root. In general appearance it rather closely resembles the Japanese *Aralia cordata*, except that the leaves usually have three leaflets instead of five and the leaflets are broader in proportion to their length and less hairy." (*W. F. Wight.*)

21659. CASSIA ROBUSTA.

From Biloxi, Miss. Presented by Mr. S. M. Tracy, through Prof. C. V. Piper. Received December 5, 1907.

"This is common in central Mississippi, where it grows as an erect, branching annual, 3 to 5 feet high. It is the largest and most vigorous growing of the 'sensitive plants,' and as it reseeds the ground freely it will probably be of value as a cover and restorative crop for citrus groves and other fields where a rank, summer-growing legume is wanted. Being an annual, it can be eradicated easily by a single plowing at any time during the summer.

"Seed may be sown at any time from December to February, and needs no special treatment." (*Tracy.*)

21660 to 21662. TRIFOLIUM ALEXANDRINUM. Berseem.

From Cairo, Egypt. Received from Mr. George P. Foaden, Khedival Agricultural Society, December 10, 1907.

21660. *Muscowi.*

21661. *Fachl.*

21662. *Saidi.*

21663 and 21664.

From Yokohama, Japan. Received from Yokohama Nursery Company (Limited), December, 1907.

21663. EUTREMA HEDERAEFOLIA. Dry-land wasabi.

Yuri-wasabi.

See No. 10579, Inventory No. 11, for description.

21664. DIOSCOREA sp.

21666. MUCUNA sp.

From Gasparee Island, Trinidad. Received through Mr. O. W. Barrett, December 14, 1907.

"Found on the rocky hillsides in virgin forests; possibly a Venezuelan species, not seen on the mainland of Trinidad." (*Barrett.*)

21667 to 21683.

From Ichang, Hupeh, China. Collected by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received in November and December, 1907.

21667. TRITICUM VULGARE. Wheat.

"(No. 207.) *Hsao mesh.* The hairy red wheat, said to be awned; sown ninth to eleventh moon; ripe fourth to fifth moon. Cultivated at Ichang and in the mountains. Used for making flour." (*Wilson.*)

21668. TRITICUM VULGARE. Wheat.

"(No. 208.) *Hsao mesh.* Smooth white wheat, said to be without awns; sown tenth moon (November); ripe fourth and fifth moons (May and early June). Cultivated at Ichang and in the mountains. Used for making flour. This is considered the best wheat in this region." (*Wilson.*)

21669. HORDEUM VULGARE NUDUM. Hull-less barley.

"(No. 209.) *Mc mesh.* Sown ninth moon (October); ripe fourth to fifth moons. Cultivated in the mountain regions. Not used for making flour, but ground into coarse meal and made into cakes." (*Wilson.*)

21670. HORDEUM VULGARE NUDUM. Hull-less barley.

"(No. 210.) *Mc mesh.* Sown ninth moon; ripe fourth and fifth moons. Cultivated around Ichang and in the mountain region. Used in the same way as No. 209 (S. P. I. No. 21669)." (*Wilson.*)

21671. HORDEUM VULGARE. Barley.

"(No. 211.) *Fa mesh.* Sown ninth moon; ripe fourth to fifth moons. Cultivated around Ichang and in the mountains. Used mainly by peasants." (*Wilson.*)

21672. AVENA SATIVA. Oat.

"(No. 212.) *Yen mesh.* Sown eleventh moon (December); ripe fourth and fifth moons. A mountain crop; eaten after the manner of porridge; also used for feeding horses." (*Wilson.*)

"A hull-less variety." (*Carleton.*)

21667 to 21683—Continued.

21673. FAGOPYRUM sp. **Buckwheat.**

"(No. 213, Oct. 4, 1907.) *Ku ch'ao.* A green buckwheat which grows 2½ to 4 feet high; used for making cakes. This buckwheat is an important crop in the higher mountains (5,000 to 8,000 feet), where it is cultivated during the summer months; in the Yangtze Valley and in the mountains up to 3,000 feet. It is sown in the twelfth moon (January) and reaped in the fourth and fifth moons. In the neighborhood of Ichang it is often cultivated as a catch crop in the early autumn." (*Wilson.*)

"Translated the word 'Ku ch'ao' means 'early sown.'" (*Carleton.*)

21674. FAGOPYRUM sp. **Buckwheat.**

"(No. 214.) *Hwa ch'ao.* A red buckwheat which grows 1 to 2 feet high; used for making cakes. Fields of this pink buckwheat scattered over the mountain sides constitute when in flower one of the prettiest sights imaginable." (*Wilson.*)

"The word 'Hwa ch'ao' means 'late sown.'" (*Carleton.*) (For further description, see S. P. I. No. 21673.)

21675. RUBUS INNOMINATUS.

"(No. 92.) Sweet or semisweet bramble, 4 to 12 feet. Stems not very prickly, clothed with short, soft pubescence. Leaves 3 to 5 foliate, terminal leaflet often trilobed; under side pale and clothed with short, soft pubescence. Calyx glandular or eglandular. Fruit paniculate, red, of good size and fine flavor; panicle often a foot long. Common in thickets up to 4,000 feet everywhere in western Hupeh. In fruit very ornamental and should, I think, prove a useful plant to the breeder on account of its immense panicles. It is the same as *Rubus kuntzeanus*, Hemsl." (*Wilson.*)

21676. ANDROPOGON SORGHUM. **Sorghum.**

"(No. 260.) A cereal growing 6 to 12 feet high. Pellicles reddish black. Cultivated in valleys and low hills to the south of Ichang." (*Wilson.*)

21677. ANDROPOGON SORGHUM. **Sorghum.**

"(No. 260a.) A cereal growing 6 to 12 feet high. Pellicles black or nearly so. Commonly cultivated in the valleys around Ichang." (*Wilson.*)

21678. ANDROPOGON SORGHUM. **Sorghum.**

"(No. 202.) A cereal growing 8 to 12 feet high. Pellicles dull red or reddish chestnut. Widely cultivated on the alluvial flats between Shasi and Yochow, and more especially around Shasi. It was from the last-named place that the seeds were obtained.

"In this part of the Yangtze Valley the sole use of sorghum (kao-liang) is for making wine and spirits. I can find no record of its being used for food even by the peasants." (*Wilson.*)

21679. LIGUSTICUM sp. (?)

"(No. 262.) *Tu hoa.* Herb 3 to 5 feet high. Flowers white, in large corymbs. Commonly cultivated in the mountains of western Hupeh above 4,000 feet. Roots used in medicine; said to possess stomachic, tonic, carminative, expectorant, and lenitive properties." (*Wilson.*)

21680. LIGUSTICUM sp. (?)

"(No. 262a.) *Tu hoa.* Similar to No. 262 (S. P. I. No. 21679) but with much smaller corymbs and in all probability a different species. Its properties are the same, and I can not find that any distinction is made in the drug shops here.

"The Imperial maritime customs valuation of *Tu hoa* is 700 haikwan taels per picul. Large quantities are exported down the river from Ichang." (*Wilson.*)

21667 to 21683—Continued.

21681. CODONOPSIS TANGSHEN.

"(No. 269, Oct. 31, 1907.) *T'ang shen*, bastard ginseng. A climbing herb, 3 to 6 feet, with bluish purple flowers, greenish without; very abundant in the margins of thickets (sometimes cultivated also), 4,000 to 7,000 feet. Roots supposed to possess valuable tonic properties. Also considered a mild aphrodisiac. For full details see Kew Bulletin No. 1, 1907.

"Vast quantities are exported from Ichang in three grades, valued, respectively, by the Imperial maritime customs at 20, 15, and 10 haikwan taels." (*Wilson.*)

21682. RHUS VERNICIFERA. **Lacquer tree.**

"(No. 123, Sept. 4, 1907.) A tree 25 to 40 feet high, cultivated around the margins of fields between 3,000 and 7,500 feet and in wild woods above 4,000 feet. Branches more or less whorled, ascending at an angle of about 45°. Leaves unparipinnate, five to many foliate, 1 foot to 2½ feet long, clustered at the ends of the branches. Flowers small, greenish white, borne in large, axillary panicles. Fruit small, flattened, straw colored.

"*Rhus vernicifera*, the *Che shu* of the Chinese, is the source of the well-known 'Ningpo' varnish, at least that of central and western China. What the 'Ningpo' plant may be is a matter of doubt, since no specimens have ever been collected there. It is, however, more than likely that 'Ningpo' is merely a trade name adopted by fruit growers in China to signify this particular varnish. Throughout the mountains south of Hupeh the trees are multitudinous, and enormous quantities of varnish are obtained and exported to all parts of China.

"The trees are first cut when about 6 inches in diameter; if too young the cutting kills. The average age of the trees is said to be above 60 years. The wood is useless save for fuel. In the woods the trees naturally grow taller than in the open. The tree is the property of the owner of the land, not of the tenant, and the varnish belongs to the former.

"Cutting the trees commences at the lower altitudes about the 20th of the fifth moon, but is general during the sixth moon. This is the time when the flowers are just opening. Oblique incisions 4 to 12 inches long and one-half inch to 1 inch wide are made in the trunk and main branches in the early morning and the varnish collected in bamboo tubs, shells, broken basins, etc., in the evening. These incisions are more or less spirally arranged along the stems. The varnish exudes for 7 days and then a thin slice of bark is cut away from the edge of the original incision. This is repeated seven times, the whole operation of collecting the varnish lasting about 50 days. The varnish when it first exudes is whitish, but quickly becomes dark almond on exposure to the air. A large tree yields 5 to 7 catties (6⅔ to 9⅓ pounds). This varnish is fit for use as soon as it is gathered, but there are several grades on the market, and it is probable that it subsequently undergoes some kind of preparation.

"The fruits when ground up, steamed, and submitted to pressure yield an oil used for culinary purposes, but more so for candle making. This oil is more abundant in the pericarp than in the seed." (*Wilson.*)

21683. ANGELICA sp. (?)

"(No. 201, Oct. 9, 1907.) *T'ang kuei.* An umbelliferous herb 2 to 3 feet high, with fine dissected decompound leaves, white flowers, and some short, thickened roots. This medicine is plentifully cultivated in the mountains of western Szechuan above 5,000 feet and more sparingly in the mountains of Hupeh around 6,500 feet. It requires deep rich loam and a good supply of manure—pig dung by preference. So far wild specimens are unknown.

"This medicine is in great request among the Chinese, especially in the more southern parts of the Empire. It is said to possess valuable but mild tonic properties.

"At Ichang the customs' valuation is 15 haikwan taels per picul, first class; 9 haikwan taels, second class. Large quantities are exported from here. I am not at all sure of the generic name, and it may be a *Ligusticum*." (*Wilson.*)

21684. ZEA MAYS. **Corn.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimental, through Mr. David Fairchild. Received December 12, 1907.

"A red corn used to make the national fermented drink, 'red chicha.' The common corn is used for chicha as well, but the color is about like that of fermented cane juice. The coloring matter in the red chicha is obtained chiefly from the cob. This red chicha is greatly liked by the natives and is sold at most fiestas by the laboring classes. I have never heard of its being used for coloring wine, but it is used in coloring gelatine." (*Sedgwick.*)

21688. CAPSICUM ANNUUM. **Pepper.**

From Chico, Cal. Collected in Mexico and presented by Mr. Edward M. Ehrhorn, First Deputy Commissioner of Horticulture, San Francisco, Cal. Grown at the Plant Introduction Garden, season of 1907. Received December 7, 1907.

21689. CITRUS AURANTIUM. **Orange.**

From Algiers, Algeria. Presented by Dr. L. Trabut, government botanist of Algeria. Received December 16, 1907.

Précoce de Kabylie.

21691 to 21693. CUCURBITA MELANOSPERMA. **Ecuador melon.**

From Quito, Ecuador. Presented by Mr. S. Ordonez M. Received December 14, 1907.

21691. Long green shell.

21692. White shell.

21693. Green shell, striped white. (For description see No. 18328.)

21695 to 21697. CYNARA SCOLYMUS. **Artichoke.**

From Milan, Italy. Received from Fratelli Ingegnoli, December 10, 1907.

21695. *Grosse Italia.*

21696. *Violetto di Provenza.*

21697. *Senza Spine di Venezia.*

21699. PERSEA GRATISSIMA. **Avocado.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimentale, through Mr. O. W. Barrett. Received December 20, 1907.

21700 to 21702.

From Peking, Chi-li, China. Received through Mr. Frank N. Meyer, agricultural explorer, December, 1907.

21700. CHLORIS VIRGATA.

From Tong-kwan-tun, Chi-li. "(No. 764a, Oct. 3, 1907.) A bad grass. Chinese name *Lu pu tun.* This annual grass overruns whole fields and is a great weed, but it resists alkali to a most remarkable degree and is eaten by all domestic animals. Overruns even alfalfa fields. For trial, without taking responsibility upon myself." (*Meyer.*)

21701. CUCUMIS MELO. **Muskmelon.**

From Hanchau, Chekiang. "(No. 826a, June 27, 1907.) A small but sweet melon growing not much larger than a big apple." (*Meyer.*)

21702. STACHYS AFFINIS. **Crosne.**

From Peking, Chi-li. "(No. 23, Nov. 5, 1907.) Chinese name *Kan lo;* used as appetizers by the better classes of Chinese. They pickle them in brine and serve them as they are. Foreigners stew them and eat them with a milk sauce, just like Jerusalem artichokes." (*Meyer.*)

21703. PHOENIX DACTYLIFERA. **Date.**

From New York, N. Y. Received from Messrs. Reiss & Brady, 349 Greenwich street, December 20, 1907.

Fard.—Seed of this variety secured for propagation in seedling date orchards.

21704 and 21705. PHYSALIS spp.

From Pretoria, Transvaal, South Africa. Presented by Mr. R. A. Davis, government horticulturist. Received December 23, 1907.

21704. PHYSALIS FRANCHETI. **Chinese lantern plant.**

"Was formerly considered poisonous, but is now found to be an edible commodity." (*Davis.*)

21705. PHYSALIS PERUVIANA.

"The variety which is most largely grown here." (*Davis.*)

21706. HARPEPHYLLUM CAFFRUM. **Kafir plum.**

From Cape Town, Cape of Good Hope, South Africa. Received from Mr. Charles P. Lounsbury, entomologist, Department of Agriculture, December 24, 1907.

"This tree has shown itself to be a promising shade tree in southern California." (*Fairchild.*) (For description see No. 9616, Inventory No. 9.)

21707 to 21709.

From district Amraoti, Berars, India. Presented by Mr. Anant Sitaram Dhavale, Nimboli, Post Mangrul-Dhavale, through Prof. C. V. Piper. Received December 27, 1907

21707. SESAMUM INDICUM. **Sesame.**

"*Til.* Both rainy and cold season crop, but the rainy season's crop is often plowed in for wheat sowing." (*Dhavale.*)

21708. PHASEOLUS RADIATUS. **Mung bean.**

"*Urid.* An autumn crop, the most leguminous one and the one most generally plowed in for all the cold-weather crops." (*Dhavale.*)

21709. PISUM ARVENSE. **Field pea.**

"*Muter.* A cold-weather leguminous crop, very rarely plowed in—in case of failure only." (*Dhavale.*)

21710. JUGLANS NIGRA × REGIA. **Walnut.**

From Paris, France. Presented by Mr. Philippe L. de Vilmorin. Received December 24, 1907.

"*Juglans vilmoriniana* Carr. These nuts are rare, of course, as in all hybrids, and one big tree nearly 100 years old bears only 12 to 20 every year. Strange to say, one hybrid breeds true. In some hundred seedlings made in the last years, I have noticed only two or three that are not true." (*Vilmorin.*)

(See also Nos. 19261 and 21612; also Garden and Forest, Vol. IV, p. 51, 1891.)

21711 to 21715.

From Bodoe, Tromsoë, Norway. Received from Mr. L. P. Nilssen, director of the agricultural school and experiment station, through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., as agricultural explorer for the Department of Agriculture in 1906. Numbered December, 1907.

21711 to 21715—Continued.

21711. HORDEUM VULGARE. **Barley.**

"(No. 277.) A barley from Ofoton, 68° 20′, north of the Arctic Circle in Norway, from the innermost point of a deep fjord, or arm of the sea, a few meters above sea level, on sandy soil; severe winter, cold, but usually with snow. This is originally from Lyngen in Tromsoe Amt or province; in a deep fjord, 69° 17′ N. lat., and cultivated fifteen years in succession at Elvegaard, a farm belonging to S. Mosling, where it has ripened every year. The present sample raised by S. Mosling, of Elvegaard, at Ofoton." (*Hansen.*)

21712. AVENA SATIVA. **Oat.**

"(No. 278.) Seed of oats from the same place as No. 277 (S. P. I. No. 21711). Cultivated here one year." (*Hansen.*)

21713. HORDEUM VULGARE. **Barley.**

"(No. 279.) Sample of barley from Hans Olsen Misvaer, in Skjaerstad, in 67° 7′ latitude in northern Norway, in a deep fjord, where the winter is uniformly cold and the summer often oppressively warm; sandy soil. This sample was cultivated for a number of years in succession in the same place. Sowing season about May 20; harvest August 24." (*Hansen.*)

21714. SECALE CEREALE. **Rye.**

"(No. 280.) Spring rye from the same locality as No. 279 (S. P. I. No. 21713)." (*Hansen.*)

21715. SECALE CEREALE. **Rye.**

"(No. 281.) Winter rye from Arnoldus Mo, Bodin, 67° 19′ latitude, northern Norway, a locality on the seacoast, where the fields often lie bare in winter. This sample was cultivated over fifty years on the same place." (*Hansen.*)

21716 to 21730.

From Tashkent, Turkestan, Russian Central Asia. Received from Mr. Richard Schroeder, director of the experiment station, through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., as agricultural explorer for the Department of Agriculture in 1906. Numbered December, 1907.

21716. GOSSYPIUM HIRSUTUM. **Cotton.**

"*Bokhara.* (No. 292.) From the bazaar at Tashkent, Turkestan." (*Hansen.*)

21717. MALUS MALUS. **Apple.**

"*Kisyl alma.* (No. 293.) From Samarcand, Russian Turkestan." (*Hansen.*)

21718. BETA VULGARIS. **Beet.**

"*Muschak-dumalak.* (No. 294.) From Tashkent, Russian Turkestan. Seed of native beet." (*Hansen.*)

21719. CUCUMIS SATIVUS. **Cucumber.**

"*Kok-badrin.* (No. 295.) From Tashkent, Russian Turkestan." (*Hansen.*)

21720. PANICUM MILIACEUM. **Broom corn millet.**

"*Ak-kunak.* (No. 296.) From Tashkent, Russian Turkestan. A native millet." (*Hansen.*)

21721. PRUNUS sp. **Cherry.**

"*Kara-alytscha.* (No. 297.) From Tashkent, Russian Turkestan. A native cherry." (*Hansen.*)

21716 to 21730—Continued.

21722. PANICUM MILIACEUM. **Broom corn millet.**

"*Bulbul-kunak.* (No. 298.) From Moha, via Tashkent, Russian Turkestan. A red millet." (*Hansen.*)

21723. PRUNUS sp. **Plum.**

"*Kara-alkhor.* (No. 299.) From Tashkent, Russian Turkestan. A native plum." (*Hansen.*)

21724. PANICUM MILIACEUM. **Broom corn millet.**

"*Tschiljaki-taryk.* (No. 300.) From Tashkent, Russian Turkestan. Seed of a native white millet." (*Hansen.*)

21725. PISTACHIA sp. **Pistache.**

"*Pandi-psta.* No. 301.) From the bazaar at Tashkent, Russian Turkestan. Seeds of a native pistache nut." (*Hansen.*)

21726. ZEA MAYS. **Maize.**

From Kutais, Transcaucasia, Asiatic Russia. "(No. 302.) A hybrid maize." (*Hansen.*)

21727. PRUNUS sp. **Cherry.**

From the bazaar at Bokhara, Russian Turkestan. "(No. 303.) Seeds of the native cherry." (*Hansen.*)

21728. PRUNUS ARMENIACA. **Apricot.**

"*Urjuk.* (No. 304.) From Tashkent, Russian Turkestan. Seeds of native apricot. Very large pits and fruits." (*Hansen.*)

21729. ANDROPOGON SORGHUM. **Sorghum.**

From Tashkent, Russian Turkestan. "(No. 305.) Seed of native forage plant, *Sorghum cernuum*, one of the best native varieties." (*Hansen.*)

21730. CUCUMIS MELO. **Muskmelon.**

"*Bass-waldy.* (No. 306.) From the bazaar at Tashkent, Russian Turkestan. Seed of native muskmelon. The present sample is dried in the flesh. The natives claim this is the only way these muskmelons, which ripen during the winter like winter apples, should be kept." (*Hansen.*)

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131. Miscellaneous Papers. 1908. Price, 10 cents.