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U. S. DEPARTMENT OF AGRICULTURE.
DIVISION OF BOTANY.

INVENTORY NO. 2
OF
FOREIGN SEEDS AND PLANTS
IMPORTED BY THE
SECTION OF SEED AND PLANT INTRODUCTION.
NUMBERS 1001-1900.

INVENTORY OF FOREIGN SEEDS AND PLANTS.

INTRODUCTORY STATEMENT.

The present list concludes the importations secured by Prof. N. E. Hansen in Russia and central Asia. These are followed, in addition to numerous smaller invoices, by material sent by Mr. Walter T. Swingle from various parts of Europe. The results of Professor Knapp's visit to Japan, and of the South American expedition of the Hon. Barbour Lathrop and Mr. David G. Fairchild are scarcely reached in this number, but will appear among the third thousand.

As will be seen from the list of importations, Mr. Swingle has been engaged in a somewhat general survey of the agriculture and horticulture of France, Italy, Sicily, and Algeria, particularly with reference to species or varieties not known or at least not in general use in the United States. It should be remembered that while many south European and north African plants have been previously tested in the United States, the experiments have been largely carried on in parts of the country which did not offer the closest resemblance in climate or other natural conditions. There are now experiment stations and settlers in many of the more arid parts of the country, which a few years since were almost uninhabited, and where the Mediterranean flora may be expected to thrive.

While not so deficient as in the first inventory, it is realized that the data furnished with many of our importations are still far too meager, and every effort is being made to secure and send out with the seeds or plants the information necessary to their proper cultivation and utilization. It is, perhaps, desirable to emphasize some of the points stated in the first inventory. Correspondents are, for instance, requested to bear in mind that imported seeds can not be expected in all cases to excel the well-known varieties. In some lines American agriculture and horticulture are in advance of the rest of the world, and the advantages to be expected from importations apply rather to particular regions than to the country at large. It has been found, for instance, that some of the varieties of forage plants and vegetables obtained by Professor Hansen in central Asia were well adapted to the arid west but could not compete in the more humid east, where the selection of American varieties has been principally carried on. Again, seed from imported stock should be carefully harvested, even if the first crop is not a success. Many plants do not show their better qualities during the first season under new conditions. Where the experiments result favorably this Department may consider options on the purchase of seeds or plants in quantity, it being desired to extend the distribution of all successful novelties.

Some of our correspondents have sent in requests for very long lists of seeds. While there is no desire to limit the number which properly equipped experimenters may receive, persons making such requests

have in some cases been asked to state the facilities and experience which will justify their demands. In all cases, but particularly where a correspondent receives more than one lot of seed of the same kind, it is requested that our numbers be recorded for use in connection with the reports. Our blanks will bear numbers corresponding to those of the inventory list, so that identification will be easy and permanently accessible if the numbers are preserved. Otherwise the reports will have little value and our correspondents will not be able to learn the results secured in other parts of the country with the seeds with which they have experimented.

The number of plants or packages of seed available at the time this list is printed is stated in parenthesis with each item. Where no such note appears it is to be assumed that our stock is exhausted.

O. F. COOK,

Special Agent in Charge of Seed and Plant Introduction.

WASHINGTON, D. C., July 5, 1899.

INVENTORY.

1001. PANICUM MILIACEUM.

Millet.

From Staniza Krasnov on the Uralsk railroad. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Red millet grown especially by the Khirgiz Tartars, but always on new land. With the chaff removed it is used as human food.

1002. TRITICUM VULGARE.

Wheat.

From Samarkand. Received through Prof. N. E. Hansen from Uralsk Agricultural School, May 24, 1898. (1 package.)

Russian spring wheat.

1003. TRITICUM DURUM.

Wheat.

From Uralsk (No. 1). Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Form of degenerate "Kubanka."

1004. RUBUS XANTHOCARPUS.

Chinese raspberry.

From the Botanical Garden, St. Petersburg. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Prof. Hansen writes: "This new species was discovered in 1885 by the celebrated Russian traveler, Grigorii Nikolajewitsch Potanin, in the Chinese province Kansu (latitude about 40°), and in 1890 Bonvalot and Prince Henry of Orleans found it in the mountain range separating the two Chinese provinces Sitschuan (or Sze-chuen) and Yun-nan (latitude about 27°). Bureau and Franchet first described it in 1891. The plants at the Imperial Botanic Gardens at St. Petersburg were grown from seeds sent by Potanin and fruited for the first time in July, 1891. The above was translated for me from a Russian bulletin of the Botanic Gardens. I saw these plants in heavy bearing August 15, 1897, on the grounds of the Botanic Gardens, and of Mr. Kesselring, a relative of the late Dr. Regel. The plant is trailing in habit, and the vines die off every fall after the ripening of the fruit, in the same manner as *Rubus arcticus* L. The fruit is ovate, bright yellow, large, fragrant, sweet; quality good. The calyx is persistent on the ripe fruit. The plant is hardy at St. Petersburg, but the heavy snowfall may help it. At the South Dakota Experiment Station the past season (1898) the plants grew readily from root-cuttings, and showed a decided sprouting tendency. The leaves endured severe frosts in the fall. If this plant proves to be of any value for general cultivation, probably Chinese raspberry will be a good common name for it."

1005. CITRULLUS VULGARIS.

Watermelon.

From Uralsk, Russia. Received through Prof. N. E. Hansen, May, 1898. (3 packages.)

"Chemkent." Flesh red.

1006. CUCURBITA.

Pumpkin.

From Odessa, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

Prolific Greek "kabackee" (small pumpkin). Edible when small. Evidently from Greece.

When the pumpkin is about 10 inches long the interior is scooped out, then it is filled with hashed meat and butter-sauce, etc., and the whole is cooked.

Also cut in pieces and cooked like asparagus. Called also "Spargel Kurbiss" (asparagus pumpkin).

- 1007. CUCUMIS MELO. Muskmelon.**
 From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 The "Spanish winter-melon," supposed to have been introduced into Russia from Spain by Dr. Dieck. The fruit is green and about a foot in length.
- 1008. CUCUMIS MELO. Muskmelon.**
 From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
 Variety "Lida Lesevitzka." Flesh whitish green.
- 1009. SPIRAEA CRENIFOLIA. Spiraea.**
 From Russia. Received through Prof. N. E. Hansen, May 24, 1898. Growing wild at Rovna, Samara government (province), Russia. (2 packages.)
- 1010. AGROPYRON CRISTATUM. Wheat grass.**
 From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
 Wild growth. A steppe grass native at the Valujka Experiment Station in the Samara province east of Rovna; deemed promising by Director Bogdan.
- 1011. GLYCYRRHIZA GLABRA. Wild licorice.**
 From Uralsk, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
 Native on the steppes at Uralsk on the Ural River; the roots are gathered for licorice and the tops are relished by cattle.
- 1012. AGROPYRON CRISTATUM. Wheat grass.**
 From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898.
 The same as No. 1010. (2 packages.)
- 1013. PHLEUM PRATENSE (?). Timothy.**
 From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
- 1014. CUCUMIS MELO. Muskmelon.**
 From Kazan, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
 Variety "Summer Bokhara."
- 1015. AGROPYRON REPENS. Couch grass.**
 From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 Director Bogdan informed Prof. N. E. Hansen that this quack or couch grass was native of the driest steppes at Valujka and was cut for hay.
- 1016. CUCUMIS MELO. Muskmelon.**
 From Saratof, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)
 "Bokhara" winter variety. Green-netted and white-fleshed; 12 by 8 inches in diameter, not fully ripe when secured; ripens best off the vine.
- 1017. CUCUMIS MELO. Muskmelon.**
 From Saratof, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (10 packages.)
 "Kalmuck summer." Oval, brownish-yellow, netted, flesh white; diameter, 11 by 7½ inches.

1018. TRIFOLIUM FRAGIFERUM.**Clover.**

From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898.
(1 package.)

Native of the steppes.

1019. CUCUMIS MELO.**Muskmelon.**

From Saratof, Russia. Received through Prof. N. E. Hansen, May 24, 1898.
(4 packages.)

A Kalmuck Tartar winter variety, with black irregular striping and white netting; flesh white; $11\frac{1}{2}$ by 8 inches in diameter.

1020. PHLEUM BOEHMERI.**Boehmer's timothy.**

From the Botanic Gardens at Kazan, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Professor Williams, of Moscow, thinks this species promising for dry climates as a fodder grass. (*Professor Hansen.*)

1021. CUCUMIS MELO.**Muskmelon.**

From Saratof, Russia. Received through Prof. N. E. Hansen, May 24, 1898.
(4 packages.)

"Bokhara" yellow summer muskmelon. Flesh delicious, white. Largest specimen weighing 14.4 pounds. Thirty-four and one-half by $27\frac{1}{2}$ inches in circumference, 9 by 13 inches in diameter. Grown at Astrakhan, Russia, and shipped by boat up the Volga River.

1022. TRIFOLIUM FRAGIFERUM.**Clover.**

From Valujka, near Rovna, Russia. Received through Prof. N. E. Hansen, May 24, 1898. Same as No. 1018. (1 package.)

1023. CUCUMIS MELO.**Muskmelon.**

From Paris. Sent by James H. Kyle to the Secretary of Agriculture. (2 packages.)

Said by Mr. Kyle to be from fruit of superior quality.

1024. TRITICUM VULGARE.**Wheat.**

From the Marinskii Agricultural School and Experiment Station, near Saratof, Russia. Received through Prof. N. E. Hansen, May 24, 1898.

"Ghirka" (a south Russian spring variety), soft, medium, and hard.

1025. PISUM SATIVUM.**Pea.**

From Kief, Russia. Received through Prof. N. E. Hansen, May 24, 1898. Bought at the Kief Agricultural Exposition, September, 1897. (1 package.)

1026. CUCUMIS MELO.**Muskmelon.**

From Samara, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)

Yellow, medium size, delicious.

1027. PRUNUS.

From Kharkof, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

From original tree.

1028. NITRARIA SCHOBERI.**Salt peter bush.**

From Sarepta, southern Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

A desert shrub native to the salt steppes near Sarepta and the salt or alkali steppes to the east and southeast, extending into Siberia and China and to the vicinity of the Caspian Sea. "Alexander Becker informed me that the berries were sometimes eaten by the natives in China. Koehne (Deutsche Dendrologie, p. 345) and Dippel (Handbuch der Laubholzkunde, Vol. II, p. 359) do not mention China as part of its habitat. The statement is on the authority of Alexander Becker of Sarepta, who collected the present sample and who has collected for many years for the St. Petersburg Botanic Gardens. The name 'salt peter bush' is that given by Dippel and Koehne." (*Professor Hansen.*)

1029. COLUTEA CRUENTA.

From Sarepta, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

Originally brought from Transcaucasia. A beautiful ornamental bush.

1030. CUCUMIS MELO.**Muskmelon.**

From Kazan, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (10 packages.)

A Kalmuck variety. Flesh yellow.

1031. TRIFOLIUM PRATENSE.**Red clover.**

From the experiment station at Valujka, province of Samara, Russia. Received through Prof. N. E. Hansen, May 24, 1898. Seed of 1897. (1 package.)

"Variety *pallida*."

1032. CUCUMIS MELO.**Muskmelon.**

From Saratof, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (10 packages.)

Variety "Bokhara;" white-fleshed, oval, yellow, smooth, 12 by 8 inches in diameter; seed very small; further described as early and delicious.

1033. MEDICAGO SATIVA.**Alfalfa.**

From the experiment station at Valujka, Samara province, Russia. Received through Prof. N. E. Hansen. (1 package.)

1034. MEDICAGO SATIVA × FALCATA.**Alfalfa.**

From the experiment station at Valujka, near Rovna, Samara province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Natural hybrid of French and native yellow-flowered lucern (*M. falcata*) originated on the station grounds; the two species show a tendency to mix. Mari-laun (in Pflanzenleben, Vol. II, p. 558) calls such hybrids *M. media*."

1035. CUCUMIS MELO.**Muskmelon.**

From Kazan, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

"Bokhara," white-fleshed; obtained from a Tartar vender.

1036. ASTRAGALUS ONOBRYCHIS.

From the Experiment Station at Valujka, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

The native esparsette. Closely related to the ground plum of the western prairies.

1037. APOCYNUM VENETUM.

From Department of Agriculture at St. Petersburg. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

A fiber plant.

1038. CUCUMIS MELO.**Muskmelon.**

From Kazan, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (12 packages.)

"Winter Bokhara." Sold by a Tartar fruit vender. Does not ripen fully on vines. Dark, very large, oval; 15 by 18 inches in diameter.

1039. CLEMATIS.**Clematis.**

From Nerchinsk, Transbaikalia, Siberia. Received through Prof. N. E. Hansen, May 24, 1898.

1040. RIBES GROSSULARIA.**Gooseberry.**

Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Russian variety, originated by Yaroslav Niemetz from English gooseberry seed.

1041. RHODODENDRON.**Rhododendron.**

From Nerchinsk, Transbaikalia, Siberia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

1042. LEONTOPODIUM LEONTOPODIUM.**Edelweiss.**

From the Ural Mountains, Siberia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

1042a. LEONTOPODIUM ALPINUM.**Edelweiss.**

From the mountains of Siberia. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)

1043. PYRUS.**Apple.**

From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

1044. RIBES (?).**Currant.**

From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
Prolific.

1045. PAEONIA.**Peony.**

From Nerchinsk, Siberia. Received through Prof. N. E. Hansen, May 24, 1898, under the name *Paeonia cileri*, which we are unable to verify. (1 package.)

1046. PANICUM MILIACEUM.**Millet.**

From Orenburg, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Best for dry sections."

1047. VICIA VILLOSA.**Sand vetch.**

From Kief, Russia. Obtained at the Kief Agricultural Exposition, September, 1897. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

1048. CITRULLUS VULGARIS.**Watermelon.**

From Uman Horticultural School, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

A yellow-skinned variety exhibited at Kief fair, September, 1897. Seed given by Yaroslav Niemetz, Vinnitza, Podolia.

1049. CERATONIA SILIQUA.**St. John's Bread.**

From Nizhni Novgorod, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.) Bought from a Persian merchant at Nizhni Novgorod fair.

The carob. The sweet-fleshed pods are used for food in Italy and the Orient, and are supposed by some to have been used by John the Baptist. Often called Turkish or Persian locusts, or locust beans.

1050. CONRINGIA ORIENTALIS.**Hare's-ear mustard.**

From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898.

"Wild oil plant," collected by the peasants for the extraction of oil.

1051. KOELERIA CRISTATA.**Prairie June grass.**

From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Wild steppe grass." Cattle like it best mown; grass small; seed germinates slowly; perennial.

1052. FESTUCA ELATIOR.**Meadow fescue.**

From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Grows wild in Valujka.

1053. TRITICUM VULGARE.**Wheat.**

From Uralsk, on the Ural River, Russia. Received through Prof. N. E. Hansen, May 24, 1898.

Turkestan variety.

1054. LATHYRUS TUBEROSUS.

From Rovnaya, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

Grows wild at Rovnaya.

1055. ELYMUS SABULOSUS.**Lyme grass.**

From Valujka, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Grows wild in Valujka. Very like *E. condensatus* of the Pacific slope.

1056. ASTRAGALUS.**Milk vetch.**

From St. Petersburg. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Not yet determined at St. Petersburg. Grows wild on sandy soil, and cattle like it. Hairy when old, but herbaceous when very young.

1057. VITIS VINIFERA.**Grape.**

From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898.

Professor Hansen writes: "Mixed cuttings from a Chinese vineyard. I grew a few plants from these cuttings, which I carried with me in the overland journey."

1058. TRITICUM VULGARE.**Wheat.**

Received through Prof. N. E. Hansen, May 24, 1898.

1059. ONOBRYCHIS ONOBRYCHIS.**Sainfoin.**

From Akmolinsk, Siberia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Wild in Siberia.

1060. APOCYNUM VENETUM.

From the Experiment Station at Valujka, near Rovnaya, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

A fiber plant.

1061. AGROPYRON.**Wheat grass.**

From the Experiment Station at Valujka, near Rovnaya, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Grows wild in Valujka.

1062. PANICULARIA.**Manna grass.**

From the Experiment Station at Valujka, near Rovnaya, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Only grass on wet saline soil at that locality.

1063. MELILOTUS OFFICINALIS.**Yellow melilot.**

From the Experiment Station at Valujka, near Rovnaya, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898.

Wild at Valujka, flowers yellow, good on saline soils; used for cheese flavor; very woody, strongly aromatic, resembling *Trigonella caerulea*.

1064. MEDICAGO LUPULINA.**Black medic.**

From the Experiment Station at Valujka, near Rovnaya, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

As found wild.

1065. LOTUS CORNICULATUS.**Bird's-foot trefoil.**

From the Valujka Experiment Station, Samara Province, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Variety tennifolia." Growing on saline soils.

1066. CICER ARIETINUM.**Chick pea.**

From the Agricultural school at Uralsk, on the Ural River, Russia. Received through Prof. N. E. Hansen, May 24, 1898.

"Schaferbse" (sheep pea). Originally from Turkestan. Used for fodder.

1067. LAGENARIA VULGARIS (?).**Bottle gourd.**

From Asia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

From a Cossack captain with the Przhevalsky expedition in Asia, requested by Yaroslav Niemetz to collect seeds.

1068. HELIANTHUS.**Sunflower.**

From Kief Agricultural Exposition, September, 1897. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

1069. TRITICUM DURUM.**Wheat.**

From Saratof, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Beloturka spring wheat;" genuine, hard; grows best on new land. Prof. Hansen writes: "The best hard wheat in the Volga River region. Extensively shipped to Italy, where it is used for the manufacture of macaroni. In Russia it is mixed with softer wheats for making the highest grade of flour. Does not make good bread alone. On the English markets it sells lower than the softer American and European wheats; hence it finds its chief market in Italy."

1070. CITRULLUS VULGARIS.**Watermelon.**

From Agricultural Fair, Kief, September, 1897. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)

"Monastery." So named because it was cultivated and selected for many years at a monastery.

1071. CUCUMIS MELO.**Muskmelon.**

From Caucasus. Received through Prof. N. E. Hansen from Yaroslav Niemetz, May 24, 1898. (3 packages.)

Mixed varieties.

1072. ZEA MAYS.**Maize.**

From Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)

New sweet "amber corn" of the Pyatigorsk farm.

1073. TRITICUM VULGARE.**Wheat.**

From Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Variety "Szul-Bugh-Dai." Endures severe drought and makes excellent flour. (See No. 1174.)

1074. RUBUS.**Blackberry.**

From Uralsk, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

Grows wild in Uralsk, on the Ural River.

1075. CITRULLUS VULGARIS.**Watermelon.**

From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

"Christmas melon." Flesh red, lasting till January.

1076. CUCUMIS MELO.**Muskmelon.**

From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Marusja Lesevitzky." Flesh greenish.

1077. CUCURBITA.**Squash.**

From China. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Red Chinese squash No. 2." Brought by the great traveler G. N. Botaniin from China.

1078. HELIANTHUS.**Sunflower.**

From Kief fair, September, 1897. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

Seeds used by the peasants much as we use peanuts.

1079. CUCUMIS MELO.**Muskmelon.**

From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
 "Triumph of the Pyatigorsk farm." Long, with solid orange-colored flesh.

1080. CUCURBITA.**Squash or pumpkin.**

From China. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
 Variety "Chinese rose."

1081. CUCUMIS MELO.**Muskmelon.**

From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)
 "Lida Lesevitzky." Cantaloupe, with thick very juicy orange-colored flesh.

1082. CUCUMIS MELO.**Muskmelon.**

From Erivan, Transcaucasia. Received through Prof. N. E. Hansen, May 24, 1898.
 (1 package.)
 "Dutma" earth melon, from the immediate vicinity of Mount Ararat. The Dutma melons are covered with earth at a certain time during the period of their growth; this process increases the delicacy of flavor. Some varieties are late keepers.

1083. CUCUMIS MELO.**Muskmelon.**

From Transcaucasia. Received through Prof. N. E. Hansen, May 24, 1898. (7 packages.)

1084. CUCUMIS MELO.**Muskmelon.**

From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 "Spanish winter." Collected by Dr. Dieck in his Spanish travels. Fruit round, green.

1085. CUCUMIS MELO.**Muskmelon.**

From Erivan, Transcaucasia, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
 "Yellow muskmelons," grown near Mount Ararat.

1086. CUCUMIS SATIVUS.**Cucumber.**

From Caucasus, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 A climbing cucumber.

1087. CUCUMIS MELO.**Muskmelon.**

From Asia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

1088. CUCUMIS SATIVUS.**Cucumber.**

From Kashgar, Kafiristan, Asia. Received through Prof. N. E. Hansen, May 24, 1898, from Yaroslav Niemetz. (1 package.)
 "Schlinggurke" (climbing cucumber).

1089. CITRULLUS VULGARIS.**Watermelon.**

From Odessa, Russia. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
 Crimean variety suitable for preserving in sugar.

- 1090. CUCUMIS SATIVUS. Cucumber.**
 From Batum, Transcaucasia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 A climbing cucumber.
- 1091. CUCUMIS MELO. Muskmelon.**
 From Bokhara, Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
- 1092. CUCUMIS SATIVUS. Cucumber.**
 From Tsian Sin, China. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 Chinese long variety.
- 1093. LAGENARIA VULGARIS. Bottle gourd.**
 From Erivan, near Mount Ararat, Transcaucasia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 Pear-shaped ornamental variety.
- 1094. CUCUMIS SATIVUS. Cucumber.**
 From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 Chinese climbing variety.
- 1095. CUCUMIS MELO. Muskmelon.**
 From the Imperial Gardens at Nikita, near Yalta, in the Crimea. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
- 1096. CUCUMIS SATIVUS. Cucumber.**
 From Russia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 "Huaig groo."
- 1097. CUCURBITA. Squash.**
 From China, via Nerchinsk, Siberia. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 "Chinese squash." Originally from Tyand, China.
- 1098. ARTEMISIA. Wormwood.**
 From Tashkend, Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
- 1099. SORGHUM HALEPENSE. Johnson grass.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 The native variety.
- 1100. PHASEOLUS. Bean.**
 From Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)
 "Naish." The native Sarts use it for food, and the hay makes good winter fodder for cattle.

1101. MEDICAGO SATIVA.**Turkestan alfalfa.**

From Tashkend, Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Variety "*turkestanica*." (See No. 1159.)

1102. CUCUMIS MELO.**Muskmelon.**

From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

1103. CUCUMIS MELO.**Muskmelon.**

From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

1104. PYRUS BACCATA.**Crabapple.**

From Vernoe, Semiretchinsk Province, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

1105.

From Djarkent, Russian Turkestan (formerly a part of Chinese Turkestan). Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

Chinese fruits from a rich Tarantin (native Mohammedan) merchant's house.

1106. APOCYNUM VENETUM.

From Djarkent, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

"Kasil kindyr" (red kindyr, Kirghiz name). A fiber plant much used for ropes and matting.

1107. PYRUS MALUS.**Apple.**

From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

1108. PYRUS COMMUNIS.**Pear.**

From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)

1109. PYRUS MALUS.**Apple.**

From Djarkent, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

Red-fleshed small sweet apple. Professor Hansen writes: "This section was formerly a part of Chinese Turkestan, and red-fleshed apples are common. These apples, with blood-red flesh, are interesting, although none that I saw were of any special value for the American market. I secured many scions of these and other fruits in Chinese Turkestan, but lost all but some grape cuttings in a blizzard while endeavoring to reach Omsk, the nearest station on the Siberian railway. One of this race of apples, with the wood, cambium layer, bark, flowers, and skin and flesh of fruit red, has been introduced under the name of *Pyrus malus niedzetzkyana* Dieck. It is about the size of the Whitney crab, and is worthy of attention, at least as a curiosity."

1110. VITIS VINIFERA.**Grape.**

From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Large white grape, very sweet. Vines covered in winter with earth.

- 1111. PYRUS COMMUNIS. Pear.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
- 1112. PYRUS COMMUNIS. Pear.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
- 1113. PYRUS COMMUNIS. Pear.**
From Djarkent, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
- 1114. ELAEAGNUS ANGUSTIFOLIA. Oleaster.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (2 packages.)
Form known as *E. hortensis*. Fruit 1 to 1½ inches long, edible, and much eaten by the natives of Turkestan and western China. A nutritious meal is made from the dried berries, but it will scarcely find favor as a food plant in America (*Professor Hansen's notes*).
- 1115.**
From China. Received through Prof. N. E. Hansen May 24, 1898. (2 packages.)
Thorny leguminous bush on low steppes between the Chinese boundary and Kuldja.
- 1116. PYRUS COMMUNIS. Pear.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
- 1117. CUCUMIS MELO. Muskmelon.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (6 packages.)
Small melon; very early.
- 1118. CUCUMIS MELO. Muskmelon.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
- 1119. CUCUMIS MELO. Muskmelon.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
"Bel-za-seh." Large and sweet.
- 1120. PYRUS MALUS. Apple.**
From Kuldja, China. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
Size of the Whitney crab; yellow, blushed, flesh very red throughout. (See No. 1109.)
- 1121. GLYCYRRHIZA GLABRA. Licorice.**
Received through Prof. N. E. Hansen, May 24, 1898. (See No. 1011.)
- 1122. TRITICUM VULGARE. Wheat.**
From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898.
Spring variety from Aulie-ata (latitude 43°), about 188 miles northeast of Tashkend.

1123. PYRUS CYDONIA.**Quince.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

Large, yellow, sweetish.

1124. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (10 packages.)

1125. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (28 packages.)

1126. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)

Variety "Kok-cha-tack" (yellow stone). Oval, flesh white, sweet; keeps all winter.

1127. CITRULLUS VULGARIS.**Watermelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)

"Pear-shaped."

1128. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)

1129. CUCUMIS MELO.**Muskmelon.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)

Variety "Boz-si-aol-se." Large, oblong, dark green, netted, with white flesh.

1130. CUCUMIS MELO.**Muskmelon.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (14 packages.)

Variety "Karakan." Large black-green melon.

1131. PYRUS CYDONIA.**Quince.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)

A very large and very downy quince.

1132. PHYSALIS ALKEKENGI.**Strawberry tomato.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (6 packages.)

The sack and fruit red.

1133. CUCUMIS MELO.**Muskmelon.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (6 packages.)

Long, oval, dark green melon.

- 1134. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (6 packages.)
 Variety "Ak-ei-ruk" (white-seeded). Heavily netted, oval, yellow-green melon with white flesh; $37\frac{1}{2}$ inches by 28 inches in circumference.
- 1135. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)
 Same as No. 1136 except that the flesh is white.
- 1136. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (16 packages.)
- 1137. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)
- 1138. PYRUS CYDONIA. Quince.**
 From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (12 packages.)
 Sour; of regular shape, broadly ovate, very pubescent.
- 1139. PRUNUS. Cherry.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.) From General Korockoff of Tashkend, Turkestan.
- 1140. CUCUMIS MELO. Muskmelon.**
 From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (4 packages.)
 One 25 by 20 inches in circumference. Yellowish green with dark green spots; very sweet. Flesh greenish.
- 1141. CUCUMIS MELO. Muskmelon.**
 From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)
 "Koo-toor." Round, dark green, netted, flesh white.
- 1142. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)
- 1143. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (20 packages.)
- 1144. CUCUMIS MELO. Muskmelon.**
 From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (6 packages.)
 Variety "Bargana." Light greenish yellow, with white flesh.
- 1145. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)

1146. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (8 packages.)

Variety "Ak-ko-eon" (white melon). Size, 25 by 36 inches, whitish green turning to white, netted; flesh white and very tender, delicious. A Sart variety. Very choice.

1147. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (16 packages.)

1148. CUCUMIS MELO.**Muskmelon.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (3 packages.)

A remarkable melon, oval, yellowish with some green marbling, flesh green, melting, and very delicious, tender quite to the skin.

1149. PYRUS MALUS.**Apple.**

From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, May 24, 1898. (1 package.)

Large red apple.

1150. MEDICAGO SATIVA.**Turkestan alfalfa.**

From Djarkent, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898.

Variety "*turkestanica*." Obtained in the overland journey. (See No. 1159.)

1151. MEDICAGO SATIVA.**Turkestan alfalfa.**

From Djarkent, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898.

Variety "*turkestanica*." Obtained in the overland journey. (See No. 1159.)

1152. MEDICAGO SATIVA.**Alfalfa.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898.

1153. TRITICUM DURUM.**Wheat.**

From Semipalatinsk, Siberia. Received through Prof. N. E. Hansen, June 4, 1898. (9 packages.)

"Arnautka" or "Beloturka," a hard, white wheat. Somewhat degenerated. Originally from the Volga River provinces. Interesting as showing the effect of cultivation in another locality. (See No. 1156.)

1154. TRITICUM VULGARE.**Wheat.**

From Semipalatinsk, Siberia. Received from Prof. N. E. Hansen, June 4, 1898. (7 packages.)

A Chinese variety.

1155. RUBUS.**Raspberry.**

From the Altai Mountains, Siberia. Received through Prof. N. E. Hansen, June 4, 1898. (12 packages.)

Wild raspberry from the Altai Mountains, near Semipalatinsk (latitude 50°).

1156. TRITICUM DURUM.**Wheat.**

From Semipalatinsk, Siberia. Received through Prof. N. E. Hansen, June 4, 1898. (5 packages.)

"Arnautka," a hard-white wheat, first quality; a spring variety. (See No. 1153.)

1157. TRITICUM VULGARE.**Wheat.**

From Semipalatinsk, Siberia. Received through Prof. N. E. Hansen, June 4, 1898. (10 packages.)

Chinese; a spring variety.

1158. ELAEAGNUS ANGUSTIFOLIA.**Oleaster.**

From Djarkent, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898. (6 packages.)

The form called *E. hortensis*. An edible market fruit. (See No. 1114.)

1159. MEDICAGO SATIVA.**Turkestan alfalfa.**

From Kopal, Siberia. Received through Prof. N. E. Hansen, June 4, 1898.

Variety "*turkestanica*." Originally from Abakumovsky, near Kopal, Semiretchinsk Province, Siberia, N. lat. 46°. Professor Hansen writes:

"I followed this plant from the cotton-growing sections of Bokhara and other parts of Russian Turkestan into western China and to its northern limits near Kopal, Siberia.

"A large quantity of seed was obtained, but mostly from the cotton-growing sections (Bokhara, Samarkand, and Tashkend). The other five places were Sairam, about 80 miles north of Tashkend; 150 miles north of Merke (Merke is in lat. 43° and long. 73° east of Greenwich), in the Kirghiz Tartar steppes; Kuldja, China (lat. 43° 50', long. 81° 20' east), the farthest point east in my journey; Djarkent, lat. 44° 10', long. 80° east, and Kopal, lat. 45° 10', long. 79° east. These various importations should be kept separate, as the plants will probably differ in hardiness. The last five places are north of the cotton belt. From the last four places only a small quantity of seed could be taken along in a rough adventuresome overland journey of over 2,000 miles. That from Merke and Kopal will probably be the hardiest.

"Prince Massalski of the department of agriculture at St. Petersburg, writes (in *The Industries of Russia*, Vol. III, p. 459):

"'Lucern-clover, *Medicago sativa*, var. *turkestanica*, is the chief forage in use throughout Central Asia, and to the settled population of Turkestan is of the highest importance, since during the summer it forms the chief, and in winter, prepared in the shape of hay, the only fodder for cattle. It is of all the greater importance because within the region populated by settled inhabitants there are no meadows. Soft herbs and other grasses that grow up in the early spring in certain parts of the steppes are quickly dried up by the hot rays of the sun, and give place to coarse, prickly stubble, or in any case to less nutritive grasses that are in general unfitted for sheep, camels, or steppe cattle, and still less fitted for horses or the cattle of those who are settled in the oases, and are thus closely confined to the forelands or rivers, and in most cases are far removed from the steppes.' Prince Massalski describes the native methods of cultivation and irrigation and continues: 'The native lucern would seem to be a cattle fodder that can not be replaced in countries so dry and so hot as Turkestan and the Transcaspian Province. Parallel experiments that have been made in the Merv oases, in the Transcaspian Province, in sowing native and French lucern, under widely different conditions of water supply, have shown that the native lucern, particularly where there is a lack of water, is vastly superior to the French in the crops it yields, and that it is able to grow satisfactorily with a minimum supply of water, a supply so small that European lucern would perish from drought. This peculiarity of the native lucern is to be explained by its peculiar structure. It possesses a very large root system, and its leaves are covered with thick down; this, in conjunction with a deep-cut orifice on the leaf, enables the plant on the one hand to imbibe the moisture from the deeper layers of the soil, and on the other hand to exhale it in very small quantity.'" (See Nos. 1101, 1150, 1151, 1169.)

1160. CUCUMIS MELO.**Muskmelon.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (20 packages.)

Variety "Ak-na-waht" (white sugar).

1161. PHASEOLUS MUNGO.**Green gram.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (16 packages.)

Variety "*subtrilobata*." First soaked in warm water for one day, then soaked in cold water six days, the water being changed twice a day. In a wooden vessel in a warm room it germinates several inches, and these sprouts are then used as a salad.

This is the process as noted in a Chinese mill, where the seed was obtained, by the aid of two interpreters. (*Professor Hansen's notes.*)

1162. TRITICUM VULGARE.**Wheat.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (21 packages.)

From the mountains; not irrigated. Obtained in the same Chinese mill as No. 1161.

1163. TRITICUM VULGARE.**Wheat.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (17 packages.)

Spring variety; irrigated. Obtained same place as No. 1161.

1164. ZIZYPHUS SATIVA (?)**Jujube.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (6 packages.)

According to Mr. Okohira, of the Japanese Legation, this is used extensively in North China as a medicine, especially as a base for cough sirups, and also for food as an inferior date. The Chinese name is "Tsao-tze," and it is frequently called the Chinese date.

1165. PHASEOLUS.**Bean.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (6 packages.)

"Hwang-tow" (yellow bean). From this is made a bean cheese, which is cut in slices and roasted with meat. Obtained in the same place as No. 1161. A mineral from the mountains, which has not yet been analyzed, was used in the manufacture.

Also extensively used in Japan, where it is cooked with soja beans, according to Mr. Okohira.

1166. PISUM.**Pea.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

The peas are ground into flour for macaroni, as per sample 1167. Obtained in the same Chinese mill as No. 1161. The process of manufacture was noted, but it was all by cheap labor.

1167. PISUM.**Pea.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Flour for pea macaroni. (See No. 1166.)

1168. PISUM.**Pea.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (12 packages.)

Macaroni is made from the peas. Obtained in the same Chinese mill as No. 1161.

1169. MEDICAGO SATIVA.**Turkestan alfalfa.**

From Merke, northern Turkestan. Received through Prof. N. E. Hansen, June 4, 1898. (40 packages.)

Variety "*turkestanica*." (See No. 1159.)

1170. ZEA MAYS.**Maize.**

From Peru. Sent by a friend of the Assistant Secretary of War, Hon. G. L. Meiklejohn, and presented by him to this Department, June 25, 1898. (70 packages.)

Yellow.

1171. ZEA MAYS.**Maize.**

From Peru. Sent by a friend of the Assistant Secretary of War, Hon. G. L. Meiklejohn, and presented by him to this Department, June 25, 1898. (40 packages.)

Red-striped, with yellow ground.

1172. ZEA MAYS.**Maize.**

From Peru. Sent by a friend of the Assistant Secretary of War, Hon. G. L. Meiklejohn, and presented by him to this Department, June 25, 1898. (2 packages.)

White.

1173. PISUM.**Pea.**

From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898. (150 packages.)

Large Victoria field variety. Said to have been originally English, but selected for many years in Russia.

1174. TRITICUM VULGARE.**Wheat.**

From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898. (90 packages.)

"A fine native variety of Turkestan and a drought resister. Will stand intense heat, and I trust that western Kansas, Nebraska, and the South will find it useful." (*Professor Hansen.*) The native name is "Szul-bugh-dai." (See No. 1073.)

1175. LATHYRUS SATIVUS.**Bitter vetch.**

From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898. (360 packages.)

"The peasant name is 'tre-gramni' (three-sided). Much cultivated in the Volga River provinces of Samara and Saratof, where the common field peas do not do well. It stands severe droughts and is much used for stock. The peasants use it for the table, but only in sections where the common field peas fail, as it is of poorer quality. Too free use of this pea has resulted in cases of a peculiar paralysis, both in man and beast (leguminosis). Good stockmen feed it in moderation with coarse fodder." (*Professor Hansen.*) Also referred to as the "Tschina" pea.

1176. TRITICUM VULGARE.**Wheat.**

From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898. (190 packages.)

Winter variety.

1177. ONOBRYCHIS ONOBRYCHIS.**Esparssette.**

From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898. (10 packages.)

1178. AVENA SATIVA.**Oat.**

From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898. (1,200 packages.)

Shatilof oat.

- 1179. VICIA VILLOSA. Sand vetch.**
From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898.
(610 packages.)
- 1180. FESTUCA ELATIOR. Meadow fescue.**
From Moscow, Russia. Received through Prof. N. E. Hansen, June 4, 1898.
(48 packages.)
- 1181. TRITICUM VULGARE. Wheat.**
From Samarkand, Turkestan, *via* Odessa, Russia. Sent by Prof. N. E. Hansen, through the American minister, June 30, 1898. (60 packages.)
- 1182. CUCUMIS MELO. Muskmelon.**
From South Persia. Donated to the Department by Mr. C. Ahuger, of Askabad, Transcaspia, July 18, 1898. (4 packages.)
- 1183. ERVUM LENS. Lentil.**
From Calcutta, India. Sent by R. F. Patterson, consul-general U. S. A., Calcutta, and received July 27, 1898. (10 packages.)
- 1184. PUNICA GRANATUM. Pomegranate.**
From Tashkend, Turkestan. Received through Prof. N. E. Hansen, July 28, 1898.
(32 packages.)
This should be given careful attention, as it will probably prove hardier than the varieties now cultivated in the United States. (*Professor Hansen's notes.*)
- 1185. MORUS. Mulberry.**
From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (20 packages.)
- 1186. CUCUMIS MELO. Muskmelon.**
From Tashkend, Turkestan. Received through Prof. N. E. Hansen, July 28, 1898.
(6 packages.)
Variety "Tschuk kari." Dried in the flesh.
- 1187. PYRUS CYDONIA (?). Quince.**
From Tashkend, Turkestan. Received through Prof. N. E. Hansen, July 28, 1898.
(20 packages.)
A native variety from a choice of the best specimens weighing as much as 1 pound. Sent without notes by a collector.
- 1188. CUCUMIS MELO. Muskmelon.**
From Tashkend, Turkestan. Received through Prof. N. E. Hansen, July 28, 1898.
(6 packages.)
"Kisil uruk." Red-fruited.
- 1189. RAPHANUS SATIVUS. Radish.**
From Tashkend, Turkestan. Received through Prof. N. E. Hansen, July 28, 1898.
(14 packages.)
Long red.
- 1190. BETA VULGARIS. Beet.**
From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (3 packages.)
Sart variety; light rose color.

- 1191. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (6 packages.)
 Variety "A-la-putshak."
- 1192. CUCUMIS SATIVUS. Cucumber.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (33 packages.)
 Turkestan green, medium long.
- 1193. CITRULLUS VULGARIS. Watermelon.**
 From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (28 packages.)
 Large, pear-shaped, white-seeded.
- 1194. CITRULLUS VULGARIS. Watermelon.**
 From Samarkand, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (18 packages.)
- 1195. ZIZYPHUS. Jujube.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (10 packages.)
 Professor Hansen states that the fruit is much eaten in Turkestan.
- 1196. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (17 packages.)
 Variety "Gul-abi." Originally from China.
- 1197. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (20 packages.)
 Variety "Zamtscha," originally from China.
- 1198. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (40 packages.)
 "Kari-kis," a Chinese variety.
- 1199. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (50 packages.)
 Mixed Chinese varieties.
- 1200. ELAEAGNUS. Oleaster.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (2 packages.)
 Its fruit is edible and sold in the market, according to Professor Hansen's notes. (See No. 1114.)
- 1201. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (144 packages.)
 "Kok-tscha," a cantaloupe variety.

- 1202. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (50 packages.)
 A Chinese variety called "Tschikiu" and "Patscha."
- 1203. ZIZYPHUS. Jujube.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen July 28, 1898. (2 packages.)
 "A market fruit in Turkestan."
- 1204. CORIANDRUM SATIVUM. Coriander.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (2 packages.)
 Used as a condiment in soups, under the name "Kaschnutsch."
- 1205. DAUCUS CAROTA. Carrot.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (6 packages.)
 Sart variety; light yellow.
- 1206. CUCURBITA PEPO. Pumpkin.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (2 packages.)
 Used by the natives as substitute for carrots, under the name "Palaw."
- 1207. BRASSICA. Turnip.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (10 packages.)
- 1208. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (10 packages.)
 Variety "A-lek-ke." Originally from China.
- 1209. ALLIUM CEPA. Onion.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (13 packages.)
 A table variety. Turkestan white fancy onion; a good keeper.
- 1210. CUCURBITA (?).**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (1 package.)
 A squash or gourd; the original label is missing.
- 1211. CUCURBITA (?).**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (5 packages.)
 Probably a gourd; original label missing.
- 1212. CUCUMIS MELO. Muskmelon.**
 From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (20 packages.)
 "Ak-ka-in." A white variety.

1213. BERBERIS VULGARIS.**Tartarian barberry.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (10 packages.)

"An edible market berry in Turkestan" (*Professor Hansen*). Form called *B. heteropoda*. Native of Turkestan and Tartary.

1214. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (204 packages.)

Variety "Akitschick." Extra fine-looking seed.

1215. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (132 packages.)

Variety "Bassu-alde." Seed unusually fine-looking.

1216. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (192 packages.)

A cantaloupe; the seed unusually fine-looking.

1217. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (60 packages.)

"Kasak." "A cantaloupe variety; the earliest of all the white-fleshed muskmelons from Russian Turkestan."

1218. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (96 packages.)

Variety "Tschirin Beschek." Originally from China.

1219. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (128 packages.)

"Koi-casch" (a native Sart name, meaning "sheep's head.")

1220. CITRULLUS VULGARIS.**Watermelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (64 packages.)

A Sart variety of the largest size; skin black.

"None of the Turkestan watermelons were especially valuable as far as I noted, but the muskmelons were far better than any we have. They are mostly from the cotton-growing sections, so will probably be valuable only in the South." (*Professor Hansen*.)

1221. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (16 packages.)

Variety "Bassu-alde." Supposed to be a hybrid cantaloupe.

1222. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (128 packages.)

Variety "Ak-uruk."

1223. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (128 packages.)

Variety "Gur-beeh." Originally from China.

1224. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (128 packages.)

"Beschek." A Chinese variety.

1225. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (288 packages.)

"Ak-ka-yur." A white variety.

1226. CUCUMIS MELO.**Muskmelon.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (618 packages.)

A mixture of native Turkestan varieties.

1227. ZIZYPHUS.**Jujube.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, July 28, 1898. (8 packages.)

"Brought from Chodschent to Tashkend; an edible market fruit."

1228. CUCUMIS SATIVUS.**Cucumber.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (20 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1229. BRASSICA.

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (8 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener, under the name "Burkar."

1230. BETA VULGARIS.**Beet.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Red. Grown by a Dungan (Chinese Mohammedan) gardener.

1231. RAPHANUS SATIVUS.**Radish.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (6 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1232. PHASEOLUS.**Bean.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1233. RAPHANUS SATIVUS.**Radish.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (6 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener, as "Pekin."

1234. RAPHANUS SATIVUS.**Radish.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (6 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1235. BRASSICA OLERACEA.**Cabbage.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (10 packages.)

Probably not a leading variety, but to be eaten for greens. Grown by a Dungan (Chinese Mohammedan) gardener, and called "psee sai."

1236. APIUM GRAVEOLENS.**Celery.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

For soups. Grown by a Dungan (Chinese Mohammedan) gardener, as "ching she."

1237. RAPHANUS SATIVUS.**Radish.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (8 packages.)

Winter variety. Grown by a Dungan (Chinese Mohammedan) gardener.

1238. ALLIUM CEPA.**Onion.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

"Soo shai." "Schnitt Zwiebel." Grown by a Dungan (Chinese Mohammedan) gardener.

1239. LACTUCA SATIVA.**Lettuce.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (3 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener, and called "oysun."

1240. ALLIUM CEPA.**Onion.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1241. CAPSICUM.**Red pepper.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1242. NICOTIANA.**Tobacco.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener, as "khi yung."

1243. ANETHUM GRAVEOLENS.**Dill.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener as "khuk chang."

1244. SOLANUM.

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener, as "cheesa."

1245. ISATIS TINCTORIA.**Dyer's woad.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

"Ching sin." Grown for soups by a Dungan (Chinese Mohammedan) gardener.

1246.

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (5 packages.)

"Khi bah," a salad plant. Grown by a Dungan (Chinese Mohammedan) gardener.

1247. PHASEOLUS.**Bean.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Red variety. Used in confections and jellies with sugar; also cooked with meat for cakes, as we use mince-meat.

Grown by a Dungan (Chinese Mohammedan) gardener.

1248. ALLIUM CEPA.**Onion.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

"Lou soong," long onion. Grown by a Dungan (Chinese Mohammedan) gardener.

1249. LACTUCA SATIVA.**Lettuce.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

For soups. Grown by a Dungan (Chinese Mohammedan) gardener, as "ye-sur-sur."

1250. RAPHANUS SATIVUS.**Radish.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

Yellow variety. Grown by a Dungan (Chinese Mohammedan) gardener.

1251. BRASSICA.

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (6 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener, and called "che leb."

1252. CORIANDRUM SATIVUM.**Coriander.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener, as "yea swee."

1253. RAPHANUS.**Radish.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (2 packages.)

Native names "hwang nee" and "pasa lok boh."

1254. DAUCUS CAROTA.**Carrot.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (8 packages.)

"Chung la bon." Grown by a Dungan (Chinese Mohammedan) gardener.

1255. BRASSICA OLERACEA.**Cabbage.**

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (8 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1256.

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (10 packages.)

Grown by a Dungan (Chinese Mohammedan) gardener.

1257. CUCURBITA.

From Kuldja, China. Received through Prof. N. E. Hansen, June 4, 1898. (4 packages.)

So-called "white melon" of China. It is grown for the seeds, which are eaten out of hand. Callers are regaled with these while they wait. Grown by a Dungan (Chinese Mohammedan) gardener.

1258. RUBUS STELLATUS.**Knesheneka.**

From Cook Inlet, near Sitka, Alaska. Received through Walter H. Evans, September 2, 1898.

According to Mr. Evans's report, a most excellent berry, representing the best from that region. Also called "morong."

1259. RIBES.**Currant.**

From Cook Inlet, Alaska. Received through Walter H. Evans, September, 1898.

"The currants are the finest I have ever seen anywhere." (*Evans.*)

1260. LINUM USITATISSIMUM.**Flax.**

Received from the Fiber Investigation Division through Mr. Chas. R. Dodge, September 12, 1898. (450 packages.)

1261. VITIS HYPOGLAUCA.**Grape.**

From East Australia. Received through Jared G. Smith of the Division of Agrostology, September 17, 1898.

Evergreen climber of enormous length, forming stout stem. Berries black, size of cherries. Bears slight frost, but should be sheltered from it for two or three years.

1262. MUCUNA UTILIS.**Velvet bean.**

From Florida. Received September 21, 1898. (24 packages.)

An annual leguminous plant, useful for grazing or for hay, but probably most valuable as a soil renovator. The plant starts slowly, but when once established it makes a rank growth of vines 4 to 10 feet in length, forming an excellent mulch for winter and a large amount of vegetable matter to plow under in spring.

Sow when the soil has become warm, just after the time for corn planting, in drills 3 to 5 feet apart, 6 to 12 inches apart in the row, or three or four seeds in a hill in checks like corn—about 1½ to 2 pecks of seed per acre. It is advisable to cultivate the land once or twice after the plants are up. (*L. H. Dewey.*)

1263-1282.

From Russia. Received from J. Niemetz, Vinnitza, through Prof. N. E. Hansen, September, 1898.

A collection of unnamed samples of seeds of shrubs and trees.

1283. PINUS CEMBRA (?)**Pine.**

From Russia. Received from J. Niemetz, Vinnitza, through Prof. N. E. Hansen, September, 1898.

1284. PINUS.**Pine.**

From Russia. Received from J. Niemetz, Vinnitza, through Prof. N. E. Hansen, September, 1898.

1285. PYRUS.

From Russia. Received from J. Niemetz, Vinnitza, through Prof. N. E. Hansen, September, 1898.

1286.**Yeast.**

From Hefe-Reinzucht Station, Geisenheim, Germany. Received through Mr. W. T. Swingle, November, 1898.

"Ay" yeast for the production of champagne.

1287.**Yeast.**

From Germany. Received through W. T. Swingle, November, 1898.

"Bordeaux" for red wine.

1288.**Yeast.**

From Germany. Received through W. T. Swingle, November, 1898.

"Assmanshausen" (Rheingau) for red wine.

1289.**Yeast.**

From Germany. Received through W. T. Swingle, November, 1898.

"Steinberg" 93 (Rheingau) for white wine and cider.

1290.**Yeast.**

From Germany. Received through W. T. Swingle, November, 1898.

"Zeltinger" (Mosel) for white wine and cider.

1291.**Yeast.**

From Portugal. Received through W. T. Swingle, November, 1898.

"Loureiro" for port wine and pineapple cider.

1292. OROXYLON INDICUM.

From Cawnpore, India. Received through Geo. W. S. Mayer.

So-called "Palega pajaretic" of Rheede. "The bark and fruits are used as a mordant in dyeing and tanning. A tree found throughout India up to altitudes of 3,000 feet." (Watt.)

1293. ELAEAGNUS.**Oleaster.**

From Paris. Received through W. T. Swingle.

Narrow gray foliage, effect of willow or olive. Extraordinary abundance of yellow-red fruits gives curious tone to bushes from a distance. Hardier than olive and grows on drier soil than the willow.

1294. BUPHTHALMUM SPECIOSUM.

From Botanic Garden, Leipzig, Germany. Received through W. T. Swingle.

A composite, with large crisped leaves and sunflower-like heads with numerous slender rays 1 inch long.

1295. MEDICAGO SATIVA.**Alfalfa.**

From Samarkand. Received through Prof. N. E. Hansen, September, 1898. (30 packages.)

1296. PHASEOLUS SEMIERECTUS.**Phasemy.**

From British Guiana. Received through Government Botanic Gardens. (4 packages.)

A highly valuable leguminous fodder plant, 6 to 10 feet high.

1297. ACTINOTUS HELIANTHI.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Gardens, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

An "everlasting" flower.

1298. FIGUS RUBIGINOSA.**Port Jackson fig.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A beautiful evergreen shade-tree, quite hardy.

1299. EUGENIA.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A tree with edible fruit received as "*Eugenia brachyandra*."

1300. CRYPTOCARYA TRIPLINERVIS.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1301. CUPANIA SERRATA.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1302. GREVILLEA ASPLENIFOLIA.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (2 packages.)

1303. CRATAEGUS SPATHULATA.**Hawthorn.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1304. CASUARINA TORULOSA.**Forest oak.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A tree 70 feet high; wood tough and durable. (*Von Mueller*.)

1305. STERCULIA ACERIFOLIA.**Flame tree.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1306. HELICHRYSUM BRACTEATUM.**Everlasting.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

An "everlasting" flower.

1307. CLEMATIS ARISTATA.**Clematis.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1308. DRACAENA FRAGRANS.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1309. CURTISIA FAGINEA.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A tree 40 feet high; wood tough, heavy, durable; good for tools and furniture. Native of South Africa.

1310. HYMENOSPORUM FLAVUM.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1311. STERCULIA QUADRIFIDA.**Kurrajong.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1312. PANAX ELEGANS.**Laurel.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1313. STENOCARPUS SALIGNUS.**Silky oak.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1314. PULTENAEA LINOPHYLLA.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1315. RICINOCARPUS PINIFOLIUS.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1316. CASSINIA LONGIFOLIA.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1317. TECOMA STANS.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A beautiful ornamental flowering shrub, received as "*Tecoma velutina hort.*"

1318. GREVILLEA PUNICEA.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1319. MORINDA JASMINOIDES.

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1320. EUCALYPTUS SALIGNA.**Gray gum.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A tree often 100 feet high and 6 to 8 feet in diameter. Wood valuable, very durable. Grows in rich bottom lands. Quite hardy.

1321. ABERIA CAFFRA.**Kei apple.**

From Sydney, Australia. Received through J. H. Maiden, director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A tall shrub. "The best South African hedge plant." (*MacOwan.*)

1322. TABERNAEMONTANA ORIENTALIS.**Bitter bark.**

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1323. RULINGIA PANNOSA.**Black kurrajong.**

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1324. PETROPHILA PULCHELLA.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1325. EUCALYPTUS OBCORDATA.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1326. CALLITRIS ARBOREA.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

A South African conifer, growing at from 3,000 to 4,000 feet altitude. Trunks often 8 to 12 feet in diameter.

1327. HEDYSCEPE CANTERBURYANA.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (2 packages.)

An ornamental palm.

1328. HEDYSCEPE CANTERBURYANA.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (2 packages.)

1329. PTYCHOSPERMA ELEGANS.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (3 packages.)

An ornamental palm.

1330. HOWEA FORSTERIANA.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (3 packages.)

An ornamental palm.

1331. DIOSCOREA TRANSVERSA.

Long yam.

From Sydney, Australia. Received through J. H. Maiden, Director Botanic Garden, October 17, 1898. Communicated by Division of Agrostology. (1 package.)

1332. ANANAS SATIVUS.

Pineapple.

From West Palm Beach, Florida. Received through G. C. Matthams, October 17, 1898. Originally from Puerto Rico. Plants.

1333. ANANAS SATIVUS.

Pineapple.

From West Palm Beach, Florida. Received through G. C. Matthams, October 17, 1898. "Abraka." Plants.

1334. VICIA VILLOSA.

Sand vetch.

From Russia. Received through Prof. N. E. Hansen, February, 1898.

1335. BROMUS INERMIS.

Smooth brome-grass.

From Russia. Received through Prof. N. E. Hansen, February, 1898.

This lot of seed consisted of 12 tons from the Penza province, in the Volga River region of Russia (latitude 53°). Professor Hansen writes: "It appears to me to be time to quit calling this species Austrian or Hungarian brome grass. Awnless or smooth brome grass is a much better name. It is native to most, if not all, parts of European Russia and extends far into Siberia and Turkestan. Dr. Regel (in 'Descriptiones Plantarum Novarum et Minus Cognitarum,' Fasciculus VIII, St. Petersburg, 1881, p. 57) gives its distribution in detail in Central Asia near Tashkend, the capital of Russian Turkestan, and in the high Thian Schan (or Tien-shan) Mountains separating Turkestan from western China, usually known as Chinese Turkestan. The distribution in central Asia is given as traced by the explorers Krause, A. Regel, Schrenck, Karelin, Kirilow, Fetisow, and Semenow, mostly or all sent out by the St. Petersburg Botanic Gardens. Aitchison, an English explorer, is also mentioned as having found it at a height of 11,000 to 12,000 feet in the mountains of Afghanistan.

At the agricultural school at Uralsk, on the Ural River (annual rainfall 12.6 inches), in extreme eastern European Russia, *Bromus inermis* and *Triticum ramosum* were native and regarded as their best grasses for the steppes. At the Marinskii Agri-

cultural School and Experiment Farm near Saratof, on the Volga (annual rainfall 17.6 inches), *Bromus inermis* was native and regarded as their best grass, having survived on dry hills where timothy and red and white clover failed.

The best Russian authorities do not think this grass equal to timothy in feeding value, but it flourishes in sections where timothy is an utter failure. Its chief value will probably be in dry regions.

It may appear that this grass as cultivated hitherto in America really came to us largely from Russia by way of Austria and Hungary. The seed is largely sold in Russia for home sowing and for export.

At the experiment station at Ames, Iowa, this species produced under very favorable conditions a ton and a half of cured hay per acre the first season. The seed was planted about April 1 and the crop cut in August. A strong leafy aftergrowth followed. This is as personally reported by Prof. James Atkinson. (*Professor Hansen.*)

1336. PANICUM MILIACEUM.

Millet.

From Russia. Received through Prof. N. E. Hansen, February, 1898. (10 packages.)

From Orenburg, Russia, on the boundary between European Russia and Siberia. Endures very severe drought. The seed is large and is much used, when hulled, for food by the peasants and the Kirghiz Tartars. "Red lump variety."

1337. FESTUCA OVINA (?).

Sheep's fescue.

From Russia. Received through Prof. N. E. Hansen, February, 1898. (50 packages.)

1338. HELIANTHUS ANNUUS.

Sunflower.

From Russia. Received through Prof. N. E. Hansen, February. (24 packages.)

Gray Russian variety.

Sunflowers are an important crop in the southern and southeastern provinces of European Russia, and the acreage has steadily increased since the thirties, when the peasant Bokarev discovered that a good table oil could be made from the seeds. A striped variety is grown for the seeds, which form a cheap dainty for the peasants, who eat the kernels as a nut. The gray variety is used for oil. In 1888 the crop was over 5,000,000 bushels. The average crop is 361 pounds per acre from favorable soils, although crops of over 900 pounds per acre are raised some years. More than 80 per cent of all the mills are concentrated in the provinces of Voronezh and Saratof, and the value of the oil in 1889 was 2,188,700 rubles. The oil cake or residue left after the oil is pressed out finds ready sale for cattle feed in foreign markets, the export in 1891 amounting to 1,852,000 rubles. The husks, stalks, and heads are used for fuel, which is a great help in the dry, forestless steppe provinces. Nikiforov says: "On the whole, the sunflower is an extremely useful plant and a valuable aid in the rural economy of the southeastern zone of Russia, especially in the years of scarcity in the cereal crops." (*Professor Hansen.*)

1339. PISUM SATIVUM.

Pea.

From Russia. Received through Prof. N. E. Hansen, February, 1898. "Rostof sugar."

In the district of Rostof, 150 miles northeast of Moscow, dried-green peas are produced in great quantity for market, and the Rostof sugar is the best variety for this purpose.

1340. PISUM ARVENSE (?).

Field pea.

From Russia. Received through Prof. N. E. Hansen, February, 1898.

1341. TRITICUM VULGARE.

Wheat.

From Russia. Received through Prof. N. E. Hansen, February, 1898. (1 package.)

"Summer Romanof." Largely grown in northern Russia.

1342. SECALE CEREALE.**Rye.**

From Russia. Received through Prof. N. E. Hansen, February, 1898. (600 packages.)

Variety "Winter Ivanof;" largely grown in northern Russia.

1343. FAGOPYRUM FAGOPYRUM.**Buckwheat.**

From Russia. Received through Prof. N. E. Hansen, February, 1898.

"Siberian." A recent introduction in European Russia from Siberia, and promising for cold regions.—(*Professor Hansen.*)

1344. CARAGANA ARBORESCENS.**Siberian pea tree.**

From Russia. Received through Prof. N. E. Hansen, February, 1898. (40 packages.)

This shrub is very extensively grown in Russia as a hedge plant. If not trimmed, it attains a height of 15 to 18 feet, but it can be kept trimmed low. Also used for a nurse tree in the Government timber plantations east of the Volga, as it endures extreme drought. This species has proved hardy in Manitoba and Assiniboia, Canada, and should be much more extensively grown.—(*Professor Hansen.*)

1345. CARTHAMUS TINCTORIUS.**Safflower.**

From Russia. Received through Prof. N. E. Hansen, February, 1898. (40 packages.)

"Hitherto grown for its red dye stuff, but recently has come into prominence in the Volga River region for the oil extracted from the seeds. The oil is said to approach olive oil for table use, but does not keep as well. Professor Williams, of the Agricultural Academy at Moscow, said it was a good drier for paints. At the experiment stations along the Volga I found it under trial with a view to replacing the sunflower as an oil plant, as the sunflower has been attacked by insect pests in the last few years. The many church fasts create a large demand for table oils. Careful selection was being practiced at one station to eliminate the thorns by saving seed from the few thornless plants. It endures very severe drought. With cotton-seed oil so cheap I do not think the plant will have special value in the United States, and the many thorns make it unpleasant to handle."—(*Professor Hansen's notes.*)

1346. ERVUM LENS.**Lentil.**

From Russia. Received through Prof. N. E. Hansen, February, 1898. (2 packages.)

Russian variety. Much grown along the Volga River. Does well in dry regions.

1347. SALSOLA.

From Russia. Received through Prof. N. E. Hansen, February, 1898. (10 packages.)

Sand binders.

1348. LUFFA (?).**Gourd.**

From Pern. Received through Victor Eguiguren, Peruvian minister to the United States. October 19, 1898.

A cucurbitaceous plant similar to *Luffa cylindrica* and used for a similar purpose, i. e., for scrubbing sponges. Also employed in the manufacture of delicate boxes and toy baskets. The Peruvian name is "jabonillo" (little soap).

1349. CORYLUS AVELLANA.**Filbert.**

From Gand, Belgium. Received through W. T. Swingle, October 29, 1898. "Aveline de Brunswick."

- 1350. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Aveline grosse longue."
- 1351. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Aveline grosse ronde."
- 1352. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Aveline à feuilles pourpres."
- 1353. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Aveline des Anglais."
- 1354. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Emperor."
- 1355. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Garibaldi."
- 1356. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Imperial."
- 1357. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Imperatrice Eugenie."
- 1358. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Merveille de Bollwiller."
- 1359. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Prolifique à coque service."
- 1360. CORYLUS AVELLANA. Filbert.**
From Gand, Belgium. Received through W. T. Swingle, October 29, 1898.
"Louise."
- 1361. HELIANTHUS ANNUUS. Sunflower.**
From Russia. Received through Prof. N. E. Hansen. (8 packages.)
White variety.
- 1362. TRITICUM. Wheat.**
From Cawker City, Kans. Received from C. H. Hawkins, November 2, 1898.
(1 package.)
"‘Moscow’ wheat is a hard, bearded, winter wheat grown from seed procured in Russia in January, 1896. It is a prolific stooler and very hardy, yielding from 5 to 20 bushels more to the acre than the ‘Turkey,’ used here for the last eighteen years. The largest yield this year was 42 bushels per acre, measured, weighed, and ground product, and it was the only wheat that escaped rust."

1363. GOSSYPIUM.**Cotton.**

From Peru. Received through Hon. Victor Eguiguren, Peruvian minister to the United States, October 19, 1898.

Piura or Peruvian cotton (tawny) from Piura River, Peru. It is sometimes known as vegetable wool, and has attracted considerable attention in Liverpool. "Possibly *Gossypium religiosum* L."

1364. CYNARA SCOLYMUS.**Artichoke.**

From Paris. Received through W. T. Swingle, November 3, 1898. (100 packages.)
"Large Laon or Paris."

1365. CYNARA SCOLYMUS.**Artichoke.**

From Paris. Received through W. T. Swingle, November 3, 1898. (10 packages.)
"Green Provence or Globe."

1366. CYNARA SCOLYMUS.**Artichoke.**

From Paris. Received through W. T. Swingle, November 3, 1898. (10 packages.)
Variety "Gros camus de Bretagne" (large flat Brittany).

1367. CYNARA SCOLYMUS.**Artichoke.**

From Paris. Received through W. T. Swingle, November 3, 1898. (10 packages.)
Variety "Violet hatif" (early purple).

1368.**Yeast.**

From Geisenheim on the Rhein, Germany. Received direct from Dr. Julius Wortmann, November 4, 1898. "Steinberg, 1893."

1369.**Yeast.**

From Geisenheim on the Rhein, Germany. Received direct from Dr. Julius Wortmann, November 4, 1898. "Zeltinger, 1895."

1370. VACCINIUM.**Cranberry.**

From the neighborhood of Sitka, Alaska. Received through Prof. C. C. Georgeson, October 20, 1898.

Plants growing in moss.

1371. VACCINIUM.**Cranberry.**

From the neighborhood of Sitka, Alaska. Received through Prof. C. C. Georgeson, October 20, 1898.

1372. VIBURNUM PAUCIFLOSUM.**High-bush cranberry.**

From Upper Cook Inlet region, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (8 packages.)

"It is abundant everywhere on the high ground in open woods. It is generally associated with poplar and birch, and in many places forms thickets of underbrush among these. The berry is red, very acid, the size of a large red currant, and contains a single flat seed. It ripens in the latter part of August and beginning of September. While it is not palatable raw because of its acidity, it can be made into a palatable dish when cooked or made into jelly, but it can scarcely be recommended for culture. The bush is often 8 to 10 feet high, with slender branches, long internodes, and opposite leaves."

1373. PYRUS SAMBUCIFOLIA.**Mountain ash.**

From Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (4 packages.)

"A highly ornamental tree when loaded with berries in fall and winter. It is not abundant. These berries were gathered from trees which had been transplanted from the woods to a yard for ornament."

1374. VICIA.**Vetch.**

From Upper Cook Inlet region, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (1 package.)

"A promising forage plant for Alaska. Abundant in many places on good soil along the seacoast. Collected in the latter part of August when only a few pods were ripe."

1375. ECHINOPANAX HORRIDUM.**Devil's club.**

From Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (1 package.)

"Abundant everywhere in the woods, especially under spruce timber. It produces tall, slender, simple stems, 6 to 12 feet high, covered thickly with slender, sharp prickles from the ground to the top and crowned with a thick cluster of large palmate leaves, reminding one of an ifealia. The seeds were brought as a curiosity. It has no economic value."

1376. VACCINIUM PARVIFLORUM.**Red huckleberry.**

From the mountains about Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (2 packages.)

"Small bush with glossy, oblong leaves. Grows wherever the blue huckleberry is found, but not so abundant. The berry is bright red, rich, sprightly vinous in flavor. Professor Georgeson thinks it one of the best berries to be found anywhere. Jelly can be made from it much superior to red currant jelly."

1377. RUBUS CHAMAEMORUS.**Cloudberry.**

From Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (2 packages.)

Quite abundant in open woods and in clearings where the sun can reach it. Plant very small, only a few inches high. Berry yellow, consisting of a few large drupes, each with a large seed. The berries are gathered and eaten by the Indians, also sold by them when they can find a market. Ripe in July and August. They make a most delicious jam, common on the table of white housekeepers in their season. The large size of the seeds is the chief objection to the berry. Also called "squawberry" and "moroshka."

1378. VACCINIUM OVALIFOLIUM.**Huckleberry.**

From Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (6 packages.)

"There are several abundant species in Alaska, of which the largest is *Vaccinium ovalifolium*. This produces very large berries of excellent flavor which do not mature until September. They are gathered and sold by the Indian women, and also eaten constantly by the Indians. The chief drawback to their use is that the berries are frequently wormy. The sample received was mostly of the large, late berries."

1379. RUBUS SPECTABILIS.**Salmon berry.**

From Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (6 packages.)

"A species of raspberry of very robust growth. Found everywhere in openings, especially on rich soil. The berries vary in color between yellow and red. They are sometimes of extraordinary size. Professor Georgeson saw some as large as Seckel pears. In taste they are insipid, but make good jam and preserves. They ripen early in July. They may be useful for crossing with the cultured raspberry to get a larger berry and hardier plant. It is found chiefly in southeastern Alaska."

1380. RIBES BRACTEOSA.**Currant.**

From Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (14 packages.)

"A vigorous bush abundant only in certain localities. It has long, loose racemes with few berries. The berries are covered with a thick, white bloom which is not

removed by handling. They have a disagreeable odor, and a strong, slightly bitter taste. They make good jam and are a specific for sore throat, and strengthen the vocal organs in a remarkable manner. Used both by white people and Indians. Ripe in the fall. Mr. Walter Evans says that the bloom is rubbed off by the Indians in order that they may be mixed with the more valuable fruits of *Vaccinium ovalifolium*."

1381. RIBES RUBRUM.

Red currant.

From Upper Cook Inlet region, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (26 packages.)

Professor Georgeson does not know if it is the same species as the cultivated red currant. It looks like it except that many of the bushes bear pear-shaped berries. Found quite abundant in the upper Cook Inlet region, where it grows in open woods associated mostly with deciduous trees. Some bushes were unusually large and loaded with berries. The latter were ripe in the latter part of August and were gathered by both Indians and prospectors. They are acid, with possibly a little less of the ribes flavor than the cultivated. It is worthy of cultivation as it is.

1382. PICEA CANADENSIS.

Spruce.

From Tyonek, Cook Inlet. Received through Prof. C. C. Georgeson, November 18, 1898. (2 packages.)

1383. VACCINIUM PARVIFOLIUM.

Red huckleberry.

From Sitka, Alaska. Received through Prof. C. C. Georgeson, November 18, 1898. (18 packages.)

Small bush with glossy, oblong leaves. Grows wherever the blue huckleberry is found, but not so abundantly. The berry is bright red, rich, sprightly, vinous in flavor. Professor Georgeson thinks it one of the best berries to be found anywhere. Jelly made from it is much superior to red currant jelly.

1384. PANICUM MILIACEUM.

Millet.

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898. From Mr. Durrschmidt. (30 packages.)

Native red variety.

1385. PHASEOLUS MUNGO.

Green gram.

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898. From Mr. Durrschmidt. (40 packages.)

A native forage plant.

1386. SESAMUM INDICUM.

Sesame.

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898. From Mr. Durrschmidt. (72 packages.)

"Prince Massalski, of the Agricultural Department at St. Petersburg, in describing the rural industries of Turkestan, writes: 'Among oil plants are grown sesame (*Sesamum indicum*), flax, saffron (*Carthamus tinctorius*), garden cress (*Camelina sativa*), the castor bean (*Ricinus communis*), the cotton shrub and the poppy, the sesame being the most important of them all; it is generally sown as the second sowing after the winter wheat crop has been gathered, requires but little water, and yields on an average from 533 to 809 pounds per acre, and under favorable circumstances twice as much. Oil is pressed from the seeds of the sesame, and its stalks are used for fuel. The natives scarcely ever prepare pure sesame oil, but generally a mixture of sesame, garden cress, and cotton seed, so that if badly refined the oil gives any dish seasoned with it that peculiar odor with which every traveler in the East is so well acquainted, but when properly prepared it has rare qualities.' " (Professor Hansen's notes.)

1387. PANICUM MILIACEUM.

Millet.

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898, from Mr. Durrschmidt. (30 packages.)

White native variety.

1388. PANICUM MILIACEUM.**Millet.**

From Tashkend, Russian Turkestan. Received through Prof. N. E. Hansen, June 4, 1898. From Mr. Durrschmidt. (10 packages.)

Black native variety.

1389. GOSSYPIUM.**Cotton.**

From Paita, Department of Piura, Peru. Furnished by Mr. Edward Fowks; transmitted through Hon. Irving B. Dudley, Legation of the United States, Lima, Peru. Received November 25, 1898. (10 packages.)

Variety "Egypto;" Peruvian seed.

1390. GOSSYPIUM.**Cotton.**

From Paita, Department of Piura, Peru. Furnished by Mr. Edward Fowks; transmitted through Hon. Irving B. Dudley, Legation of the United States, Lima, Peru. Received November 25, 1898. (10 packages.)

Variety "Peruano."

1391. SOLANUM TUBEROSUM.**Potato.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

Wild.

1392. SOLANUM TUBEROSUM.**Potato.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

Wild.

1393. CRATAEGUS.**Hawthorn.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

1394. FIGUS CARICA.**Fig.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

"Panas."

1395. PHYSALIS.**Ground cherry.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

The numerous species of *Physalis* are known to the Mexicans as "tomato."

1396. PHYSALIS.**Ground cherry.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

1397. PHYSALIS.**Ground cherry.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

1398. PHYSALIS.**Ground cherry.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

1399. PHYSALIS.**Ground cherry.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

1400. PHYSALIS.**Ground cherry.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

1401. SECHIUUM EDULE.**Chayota plant.**

From Zacatecas, Mexico. Received through Dr. Edward Palmer, December 1, 1898.

A climbing cucurbit of Mexican origin, grown also in the West Indies and Algiers. The fruit weighs from 1 to 3 pounds. It contains but one seed and should be planted whole. The plant should be experimented with all through the South. See No. 1953.

1402. PHYSALIS FUSCO-MACULATA.**Ground cherry.**

From Jardin des Plantes, Montpellier, France. Received December 5, 1898. (2 packages.)

1403. PHASEOLUS SEMIERECTUS.**Phasemy.**

From the Botanic Gardens, British Guiana. Received December 9, 1898. (2 packages.)

1404. PHASEOLUS SEMIERECTUS.**Phasemy.**

From the Botanic Gardens, British Guiana. Received December 12, 1898. (4 packages.)

1405. CYPHOMANDRA BETACEA.**Tree tomato.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

1406. PSIDIUM GUAJAVA.**Guava.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

A variety cultivated at Quito.

1407. PSIDIUM GUAJAVA.**Guava.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

A variety cultivated at Quito.

1408. PSIDIUM GUAJAVA.**Guava.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

A variety cultivated at Quito.

1409. PSIDIUM GUAJAVA.**Guava.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

The variety sometimes called *P. pyriferum*.

1410. SOLANUM QUITENSE.

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

Valued at Quito, under the name "naranjilla," for its edible acid berries, which are used in making preserves. Father Sodiro mentions also another variety with a sweet fruit growing to the eastward of Quito.

1411. TACSONIA MOLLISSIMA.

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

1412. TACSONIA PINNATISTIPULA.

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

1413. RUBUS GLAUCUS.**Raspberry.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

A native species cultivated in Ecuador.

1414. OPUNTIA TUNA.**Tuna.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

The forms ascribed to this species in different parts of the world differ much in characters. This seed should be tried with reference to possible hardness.

1415. PASSIFLORA LIGULARIS.**Granadilla.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

1416. ANONA CHERIMOLIA.**Cherimoyer.**

From Ecuador. Sent by the Rev. Luis Sodiro, S. J., of the Botanic Garden at Quito, through Señor Perry M. de Leon, American consul at Guayaquil. (2 packages.)

1420. SOLANUM ATROPURPUREUM.

From Santa Barbara, California. Received through Mr. D. G. Fairchild, December, 1898.

1421. PSIDIUM CUNEATUM.**Guava.**

From Santa Barbara, California. Received through Mr. D. G. Fairchild, December, 1898.

1426. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"La France." Novelty of 1896; flowers single, large, and fragrant, with long rigid stems.

[This and the following numbers, to 1444, apply to a collection of violets purchased from Millet, Horticulteur at Bourg-la-Reine, Seine, France, by Mr. W. T. Swingle. On arrival they were turned over to the Division of Vegetable Physiology and Pathology for propagation and experiment, that Division having been long engaged with investigations on this flower crop. Should any prove of special merit they will be announced and distributed later.]

1427. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Princesse de Sumonte." An Italian novelty with single flowers, mauve and white; makes fine perfumery; good for forcing.

1428. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

An ever-bearing variety with single, straw-yellow flowers; very beautiful.

1429. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

Variety "Nana compacta." An ever-bearing variety with very fragrant, single, fine, violet-blue colored flowers; flowers profusely in spring.

1430. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

Variety "Mademoiselle A. Pages." A perpetual-flowering, odorous, delicate rose-colored single flower.

1431. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"R. Augustine." An ever-flowering variety, with dark, single violets and very dark leaves.

1432. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Amiral Avellan." A large rose violet with single flowers; good for bouquets.

1433. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Princesse de Galles." A very large, deep blue, single flower; flowers from September until April.

1434. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Madame E. Arene." Large ever-flowering sort, deep violet.

1435. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Quatre saisons dite." Large single flowers best for winter forcing.

1436. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Brune de Bourg-la-Reine." A late flower; one of the best for bouquets.

1437. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Gloire de Bourg-la-Reine." Very vigorous; flowers single but very large and very odorous; leaves large and dark green.

1438. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Souvenir de Millet Père." A large single, blue flower; very sweet odor: flowers well in winter.

1439. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Patrie." Very double; very odorous; flowers all the year.

1440. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Madame Millet." Double, rose-colored, and very odorous; flowers freely; good for forcing.

1441. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Parme ordinaire." Pale double flowers.

1442. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Parme de Toulouse." Double; leaves and flowers larger than *Parme ordinaire*.

1443. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Parme Marie-Louise." To compare with American strain.

1444. VIOLA ODORATA.**Violet.**

From Bourg-la-Reine, Seine, France. Received through W. T. Swingle, December, 1898.

"Parme sans filet." Double; flower is like *Parme ordinaire*; produced abundantly during the winter; said to require less care because of the absence of runners.

1445. ULEX EUROPAEUS.**Furze.**

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"A perennial leguminous shrub, native of northern Europe, where it is highly esteemed as a forage plant for dry and barren hillsides in places too steep or where the soil is too thin to admit of the cultivation of better ones. In some parts of Ireland and Wales the farm horses are almost entirely maintained upon it during the winter months, the crushed 2-year-old branches being fed at the rate of about 40 pounds per day. Twenty or 25 pounds of seed are required for an acre. It is a valuable forage plant to sow on barren hillsides. Sheep are very fond of it and fatten quickly upon it." (*Jared G. Smith.*)

It may be added that the "crushing" referred to is required on account of the exceedingly spiny nature of this shrub. It will grow in sandy or siliceous soils, but

is said not to thrive in limestone regions. May be employed as a sand binder. It will endure frost, but is injured by very severe temperatures, especially in exposed situations. Should be sown at the time of the early spring crops, either alone or drilled in with a cereal. In the latter case about 15 pounds to the acre is considered sufficient.

Furze is also used in Europe as a hedge plant, and for this purpose is sowed in the row, about 7 pounds to the mile. Also called gorse and whin.

1446. *ULEX EUROPAEUS*.

Foxtail furze.

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

An improved variety of the wild furze, having a somewhat regular pyramidal shape with more crowded branches. The spines are also less rigid, so that they may be grazed without going through the bruising process. The seed is rather difficult to obtain. For an acre 15 or 20 pounds is considered sufficient. It has been suggested that this is a step in the direction of a spineless furze to be obtained by selection.

1447. *ULEX NANUS*.

Dwarf furze.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

A much smaller species than *Ulex europaeus*. It is of spreading habit and thrives in moist situations, even in swampy places, where the other species would not grow. It might prove of use as a winter soiling crop in regions inclined to be barren, but its utility is likely to be local.

1448. *ASTRAGALUS FALCATUS*.

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

A species native to the Caucasus. It should be tried as a forage plant in the Rocky Mountain region.

1449. *BRASSICA NAPUS*.

March rape.

From France. Received through Mr. W. T. Swingle, December, 1898. (18 packages.)

This is a quick-growing form of the winter rape and may be sown either in the fall or spring for producing a very early crop of forage. In Europe it is valued for reseeding deficient places in fields of winter rape. Uses and methods of cultivation follow those of the regular winter rape, of which Mr. Jared G. Smith writes briefly as follows:

"A succulent and nutritious forage plant, closely related to the Swede turnips. It is adapted to deep, rich, and warm loams and sandy soils. It has been widely cultivated in the northern United States and Canada, and succeeds on any rich and well-drained soil, provided the summers are not too hot and dry. If the ground is in good condition and free from weeds it may be sown broadcast at the rate of 3 to 5 pounds of seed per acre. If the land is wet, however, rape should be sown in raised drills, when 1 or 2 pounds will be sufficient. The time for sowing the seed will vary with the object sought and the climate. For soiling purposes it may be sown in May in the States bordering on Canada, and cut or eaten off when it is sufficiently advanced. It will grow up again and may be used a second time in the same manner, but ordinarily the best results are obtained when it is sown during the latter part of June or the first half of July. When put in earlier the hot suns of August seem to hasten its maturity, and the yield is not satisfactory. If sown in drills, it should be cultivated as long as a horse can be driven between the rows. Sheep may be pastured upon a field of rape by cutting it up into small pens by means of movable hurdles, so that the different parts of the field may be depastured in rotation. Cattle should not be turned into a field, because they will trample and destroy much more than they eat. Rape fed to cows increases the flow of milk, and there is less danger of the milk being tainted than when turnips or turnip tops are fed. There is considerable danger in turning hungry sheep or cattle into a field, because of a liability to bloat. It is also a good rule never to turn animals into a field in the early morning."

1450. CORONILLA VARIA.**Coronilla.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"*Coronilla bigarrée*" (mottled coronilla).

A perennial leguminous plant, described as having a spreading habit and a pleasing appearance. It will thrive in barren calcareous soils and withstand drought, but the fodder is said not to be wholesome in the green state. To be planted only for experiment.

1451. CORONILLA SCORPIOIDES.**Coronilla.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1452. VICIA ERVILIA.**Black bitter vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (52 packages.)

An annual plant, producing an abundant crop of forage, which must, however, be fed with caution, since in too large quantities both the green fodder and the dried seed are considered heating. A small ration is thought to render horses more spirited. The seed is also fed to pigeons and fowls. Recommended more particularly as a soiling crop. Should be tried in drier regions, as it is popular in Algeria. It might be sown in the fall in warmer latitudes, and in the spring at the North. The estimates of amount of seed necessary per acre vary from 35 to 100 pounds.

1453. VICIA FABA.**Horse bean.**

From France. Received through Mr. W. T. Swingle, December, 1898. (52 packages.)

A variety called in France the "*féverole de Picardie*" or Picardy bean; smaller and earlier than the so-called Lorraine bean (No. 1454).

1454. VICIA FABA.**Horse bean.**

From France. Received through Mr. W. T. Swingle, December, 1898. (42 packages.)

The largest and most vigorous of the French varieties used for spring planting, and called in that country the "Lorraine bean." It is grown especially in the north of France. Reaches a height of 4½ feet and ripens late.

1455. VICIA FABA.**Horse bean.**

From France. Received through Mr. W. T. Swingle, December, 1898. (43 packages.)

The less improved type of this plant, of which Mr. Jared G. Smith says: "A coarse, erect, rank-growing annual, of considerable value as a forage plant, grown in the Eastern United States and more extensively in Europe. The beans, which contain about 33 per cent of starch, are used for fattening cattle, but their use, if long continued without change or without proper admixture of other foods, often results in paralysis, on account of the bitter, poisonous alkaloids which the seeds contain."

In France it is planted in October and November, and resists the cold well. It is also used as a soiling crop, and planted with various climbing species of *Vicia* for them to climb upon. About 150 pounds of seed is required per acre.

1456. GALEGA OFFICINALIS.**Goat's rue.**

From France. Received through Mr. W. T. Swingle, December, 1898. (13 packages.)

"A perennial legume, with erect, branching, leafy stems 1½ to 2 feet high, pinnate leaves and purple flowers borne in a long-stalked spike. A forage plant of value on account of its resistance to drought, which has been recommended for the Northern prairies and central Rocky Mountain districts. It is usually fed green, as it makes a poor quality of hay, and is not readily eaten by stock until they have become accustomed to its taste. The air-dried hay contains 17 per cent of crude protein." (*Jared G. Smith.*)

Said not to be able to withstand severe frosts, especially if immature. The stems contain a fiber, and the use of them in the manufacture of paper has been suggested. For an acre 25 or 30 pounds of seed is required.

1457. CYTISUS SCOPARIUS.

Common broom.

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

A leguminous shrub, recommended for sandy regions. It is evergreen, and the young shoots are browsed by sheep and other animals in winter. In addition, it is noted as a soiling crop, and the stalks have been successfully used in paper making. About 15 pounds of seed is required per acre.

1458. GENISTA TINCTORIA.

Dyer's broom.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Formerly more extensively grown for a yellow coloring matter, which was extracted from the young shoots and flower clusters. For this purpose *Reseda luteola* has largely replaced it. In addition, however, it yields a fiber which in Italy is spun into thread. Ten pounds of seed is required to the acre.

1459. LATHYRUS CICER.

Winter flat pea.

From France. Received through Mr. W. T. Swingle, December, 1898. (43 packages.) "Jarosse." "Gessee chiche." "Jaret."

An annual forage plant, which may be sowed either in the fall or spring. Valued in France and Germany as becoming available very early in the spring. Sheep and cattle eat it with apparent relish, but it is considered too heating for horses. Hardy and resistant to drought and can be grown on barren soils, whether calcareous or sandy. The plants reach a height of about 2 feet, and it is customary to sow with the seed a small quantity of rye or oats for them to climb upon.

"Annual. Forage well liked by sheep and cows; too heating for horses. Seed suspected and even very dangerous as food for mankind; noxious also to most animals; hardy and succeeds very well in all kinds of land, even on bad lands, whether calcareous or siliceous. The usual time for seeding is the autumn, but it may also be done from March to April. It enters sometimes into mixtures for forage plants to be cut green. The custom is to mix with it a little rye and oats to support its almost climbing stalks. It may also be used as green fertilizer to be plowed under." (*Vilmorin*.)

The seed weighs 58 to 62 pounds per bushel; 134 to 223 pounds is generally sown per acre.

1460. LATHYRUS SYLVESTRIS.

Wild everlasting pea.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Gessee sauvage." "Gessee vivace des bois."

"For many years this plant has been untiringly recommended as a very lasting and very productive forage plant, which only the scarcity of its seeds prevented from entering into general use. Some years ago experiments with it were begun again in Germany, and these are conducted with much conviction and ardor. The results published are most encouraging, but the scarcity and the high price of the seed have not decreased. This Lathyrus must be ranged, therefore, rather among the study plants than among those in use and practically adopted." (*Vilmorin*.)

The seed weighs about 66 pounds per bushel.

1461. LATHYRUS SYLVESTRIS WAGNERI.

Flat pea.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Gessee vivace des bois améliorée." (Common everlasting pea, improved.)

"A perennial, native of eastern Europe and northern Asia, which has of recent years been highly recommended as a forage plant on account of its drought-resisting qualities. The plant looks much like the ornamental sweet pea, with many weak leafy stems which interlace in great tangled masses. The handsome rose-colored flowers are borne in loose clusters, and are followed by pods not unlike those of the

field pea. Analyses of the hay made at the Michigan station showed 27 per cent crude protein. The growth of the plant at first is slow, and it is recommended to plant the seeds in beds, from which they may be transplanted at the beginning of the second season to the place they are to occupy in the field. Several cuttings may be taken each season in favorable localities, and the average life of a field is from fifteen to twenty-five years. In this country the best results have been obtained with the flat pea in California, in the arid Southwest, and in the Southern States. The hay is relished by domestic stock of all kinds, and on account of its highly nutritious character it is of much value for soiling purposes. It is of especial importance as a forage plant for arid regions, provided the lands can be irrigated. When once fully established it holds the ground for many years. Its root system is somewhat similar to that of alfalfa, inasmuch as it will not thrive on lands which are undrained or where the ground water stands within less than 10 or 15 feet from the surface. When once its roots have penetrated into the subsoil the plant will withstand the hottest and driest summer. On rich soil the growth is often 4 or 5 feet high." (*Jared G. Smith.*)

1462. LATHYRUS PRATENSIS.

Meadow pea.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"A prostrate perennial, native to and cultivated in the colder portions of Europe and Asia. The yield is quite large. It can be utilized for sheep pasturage, the bitter foliage not being relished by other stock. Suited for cultivation in alpine regions." (*Jared G. Smith.*)

"Perennial, trailing, proposed as forage, nowhere used because of the extreme difficulty of obtaining the seed, which is very scarce and difficult to gather. It succeeds in dry or moist and even in wet soils, but these must be of good quality." (*Vilmorin.*)

The seed weighs 58 pounds per bushel.

1463. INDIGOFERA TINCTORIA.

Indigo.

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

"A leguminous plant, cultivated as an annual for the production of dyestuff. It was grown very extensively in colonial times and early in the present century in Virginia, the Carolinas, Georgia, and Louisiana, and it would doubtless grow well in those States now, but it is not probable that its cultivation would prove successful in competition with the synthetic production of indigo and its production from plants in India and Venezuela, where two or three crops may be cut each year. Seed should be sown in April or early in May, and the plants should be cultivated during the early part of the summer and mowed in August or September." (*L. H. Devey.*)

The seed weighs about 67 pounds per bushel. It is sown in drills at the rate of 3 to 5 pounds per acre or broadcast at the rate of 11 to 14 pounds.

1464. IRIS.

Iris.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Krishum du Kashmyre."

Received as "*Iris pabularia*," a name not yet verified.

"A curious plant, belonging unquestionably by its flowers and seeds to the genus *Iris*, but furnishing a remarkable abundance of delicate green leaves resembling those of a grass. It is used about Kashmyr as a forage, litter, and fiber plant. It does not seem to be an object of culture in the country of its origin any more than in Europe." (*Vilmorin.*)

The seed, which is produced abundantly, weighs 81.2 pounds per bushel.

1465. CENTAUREA JACEA.

Meadow knapweed.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Jacée des prés." "Chevalon."

"Perennial, a suitable plant for aftermath in elevated meadows, suitable to enter into natural and artificial mixtures. Its presence among the herbage is considered an indication of good quality. The stem and leaves contain a yellow coloring

matter. Under this name several species and varieties closely related to it and having nearly the same qualities are frequently confounded in commerce and cultivation." (*Vilmorin.*)

The seed weighs 31 pounds per bushel, and 7 to 10 pounds are sown per acre.

1466. ERVUM LENS.

Lentil.

From France. Received through Mr. W. T. Swingle, December, 1898. (21 packages.)

"Lentille petite à la reine." "Lentillon de Mars." (Small queen or March lentil.)

Variety "*minus*."

"Annual. Cultivated generally for its seed; it gives also a very useful fodder; requires wholesome, dry siliceous or gravelly soils. Seeding takes place in March and April; mixed with a little oats or rye to support it." (*Vilmorin.*)

Weights 62 pounds per bushel; 90 to 107 pounds are sown per acre. In some countries it is sown, especially if for forage, at the rate of 143 pounds per acre.

1467. ERVUM LENS.

Lentil.

From France. Received through Mr. W. T. Swingle, December, 1898. (44 packages.)

"Lentille petite rouge." "Lentillon d'hiver rouge." (Small or winter red lentil.)

Variety "*hiemale*."

"Annual. Employed like *E. lens minus*. It is cultivated principally in northern and eastern France. Sown in September, alone if for the seed, in a mixture with rye or winter oats if for fodder." (*Vilmorin.*)

Ninety to 107 pounds per acre is sown for seed; as high as 143 pounds for forage.

1468. LOTUS ULIGINOSUS.

Bird's-foot trefoil.

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

"Lotier velu" (hairy lotus).

"Perennial; a very good plant for meadows and damp woods, demanding more humidity than *L. corniculatus*; taller and gives more fodder; succeeds quite well in the shade, in peat bogs, heaths, and acid marshes, not calcareous; has been proposed for the formation of artificial prairies and is very suitable for mixtures for meadows and natural pastures. This lotus is a little more prolific in its seeds than *L. corniculatus*. It may be sown from March to May and even in autumn." (*Vilmorin.*)

The seed weighs about 62 pounds per bushel; 7 to 9 pounds are sown per acre.

1469. MEDICAGO SATIVA.

Alfalfa.

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"Luzerne de Provence" (Provence lucern).

"Perennial; root very long, axial; plant early, very productive, and of very long duration. It succeeds in all good wholesome soils, deep, and even damp, but without an excess of humidity. It may be found growing, though less vigorously, on dry, light soils, on slopes and escarpments, even on dunes. It is sown generally in spring with a cereal, but even in summer with flaxseed, buckwheat, or haricot beans. In climates where the winters are mild one may sow at the end of the summer or early in autumn, together with rye or winter barley, but only on dry and light soils. The differences existing between plants springing from Provence seed and those from seed of other localities have been contested, and if they exist at all, they are due perhaps only to the fact that the Provence seed is handsomer, better filled, and more uniformly good, sprouts more thickly, and furnishes more vigorous plants and in greater number upon the same area. Nevertheless, there are places where an absolute preference is given to seed gathered in the north." (*Vilmorin.*)

The seed weighs 58 to 62 pounds per bushel; 18 to 22 pounds is sown per acre.

1470. MEDICAGO SATIVA.

Alfalfa.

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"Luzerne de pays ou de Poitou" (country or Poitou lucern).

1471. MEDICAGO SATIVA.**Alfalfa.**

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"Luzerne rustique" (hardy lucern).

"*Medicago falcata-sativa*."

"Perennial, intermediate between the ordinary lucern and the Swedish lucern (*M. falcata*); very vigorous, very hardy, accommodating itself better than the cultivated or ordinary lucern to mediocre, dry, and shallow soils and to arid lands; but it is somewhat later and does not come up again so quickly; appreciated in certain localities in Germany, where it has begun to spread." (*Vilmorin*.)

The seed weighs 58 to 62 pounds per bushel; 18 to 22 pounds is sown per acre.

1472. MEDICAGO LUPULINA.**Black medic.**

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

"Luzerne lupuline." "Minette."

"An annual or biennial clover, widely grown as a pasture plant in wet meadows and on stiff, clayey soils which are too poor to grow alfalfa or clover. On rich, moist soil it sometimes makes an enormous growth, but ordinarily its growth is in pastures. It is sometimes recommended to be sown mixed with white clover for lawns, as it remains green through the driest summers." (*Jared G. Smith*.)

"Biennial; cultivated alone or mixed with grains, also with clover or other plants. Forage fine, of good quality; used also like clover on lands of mediocre quality, arid, calcareous, chalky, or sandy; pasture early, very good for sheep. It can not be mown, but after pasturing it comes up rapidly under the teeth of the animals. To be sown with the March cereals; in the South it may be sown in September or October." (*Vilmorin*.)

The seed weighs 58 to 62 pounds per bushel; 13 to 18 pounds is required per acre.

1473. MADIA SATIVA.**Madia.**

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"*Madia du Chile*."

"A rank-growing annual, native of both Chile and California, which has been recommended as furnishing an excellent summer sheep forage. The leaves are clammy, with a viscid exudation, and the plant has a rank odor. Its chief merit is its rapid growth. It is cultivated in the arid Southwest and California and makes a palatable and nutritious food for sheep. An excellent lubricating oil is extracted from the seeds." (*Jared G. Smith*.)

"Annual. Very good plant to plow under as green fertilizer. Good pasture for sheep, which accommodate themselves also very well to the dry straw after the removal of the seeds, which are oleaginous.

"The *Madia sativa* is quite hardy, resisting the winter, especially in wholesome and light soils lying southward. It is able to bear drought, but it shuns cold and damp soils. It is an early plant of a rapid growth, productive of seed, not very choice as to the quality of its territory and meriting cultivation in spite of its strong, disagreeable odor and the viscous nature of its leaves, inconveniences of small importance which may even become advantageous in keeping off the insects. To be sown from the middle of March to the beginning of June, or also in autumn, especially in the South." (*Vilmorin*.)

The seed weighs 35 to 39 pounds per bushel; 7 to 9 pounds per acre is required if sown in rows, and 16 to 18 pounds if broadcast.

1474. MELILOTUS OFFICINALIS.**Hungarian melilot.**

From France. Received through Mr. W. T. Swingle, December, 1898. (11 packages.)

"*Méillot grand des bois*" (large wood melilot). "*Méillot de Hongrie*."

"*Melilotus linearis* Poir."

"Biennial, productive, succeeds in poor lands but especially on such as are fertile and humid, along streams and rivers, etc.; quality of forage contested." (*Vilmorin*.)

Twenty-two pounds is generally sown per acre.

1475. ACHILLEA MILLEFOLIUM.**Yarrow.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Millefeuille."

"A perennial composite with simple stems, twice pinnately parted leaves, and white or pink flat-topped flower clusters. Common in old fields and meadows throughout the eastern United States and extending westward through the prairie region. In this country it is usually considered a weed; but in Europe, and especially in England, is held to be a very valuable addition to sheep pastures." *Jared G. Smith.*

"Perennial of long duration, very early, good pasture for sheep alone or mixed in compositions of grasses; can bear drought well even on dry lands. Suitable for hardy turf on meager and dry lands. Sown in spring or at the end of the summer and in autumn." (*Vilmorin.*)

The seed weighs 23 to 27 pounds per bushel; $4\frac{1}{2}$ to $5\frac{1}{2}$ pounds is required per acre.

1476. SINAPIS ALBA.**White mustard.**

From France. Received through Mr. W. T. Swingle, December, 1898. (20 packages.)

"Moutarde blanche."

"Annual, very good forage for cows at the end of summer and in autumn; to be sown for forage in August or September, upon the stubble of a cereal after lightly working the ground; for seed harvesting sow in April. For forage, to be eaten green, alone or in mixture with other plants. It may be sown successively from spring to the end of summer. The seed is oleaginous and serves frequently for the manufacture of the spice of this name, but its most important use is as a medicine for mankind." (*Vilmorin.*)

The seed weighs 50 to 54 pounds per bushel; 11 to 13 pounds per acre is sown for forage, $4\frac{1}{2}$ to $5\frac{1}{2}$ pounds for seed.

1477. BRASSICA NIGRA.**Black mustard.**

From France. Received through Mr. W. T. Swingle, December, 1898. (32 packages.)

"Moutarde noire d'Alsace" (black Alsatian mustard). Large-seeded.

"Annual plant of rapid growth, cultivated more for the sake of its oil and medical properties than for forage. The seed serves for the manufacture of mustard used for seasoning and for the preparation of ground mustard, the basis of sinapisms, but it may also be used as a very quickly developing forage plant.

"Two principal varieties are distinguished in commerce—the Sicilian black mustard, flowering and seeding very early, and the Alsace black mustard, with larger, broader, and more yellowish leaves." (*Vilmorin.*)

The seed weighs 50 to 54 pounds per bushel; $5\frac{1}{2}$ to 7 pounds per acre is required for forage, $2\frac{3}{4}$ pounds per acre for seed production.

1478. BRASSICA NIGRA.**Black mustard.**

From France. Received through Mr. W. T. Swingle, December, 1898. (32 packages.)

"Moutarde noire de Sicile" (black Sicilian mustard).

Small-seeded. (See No. 1477.)

1479. BRASSICA NAPUS.**Summer rape.**

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"Navette d'été ou quarantaine."

Variety "*sylvestris*."

"Used for the same purpose as the winter rape, less productive, but earlier, and preferred for autumn seeding and the production of green spring forage in localities where the winters are mild. For spring and summer seeding, with the purpose of obtaining the product during the same year, this summer rape should be employed to the exclusion of all others." (*Vilmorin.*)

1480. URTICA DIOICA.**Stinging nettle.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

“Ortie dioïque.” “Grande ortie.”

“Perennial, of long duration; gives several cuts of early green forage, of good quality, especially when half-wilted. It is preferred by cows, and much used for mules. The seed, which is oleaginous, is preferred by the fowls and used by horse dealers for the feed of horses. It grows in arid, sandy, and stony land, on dust piles, along the roadside, on the outskirts of the woods, and, finally, also in very dry or very cold places where few other plants would succeed as well. To be sown with but a slight cover over the seed, either in spring or at the end of the summer and in autumn. It frequently does not sprout until the following spring. Stalk textile.” (*Vilmorin.*)

In spite of its various uses the nettle is hardly to be recommended for cultivation. The seed weighs about 15½ pounds per bushel; 9 pounds is required per acre.

1481. ISATIS TINCTORIA.**Dyer's woad.**

From France. Received through Mr. W. T. Swingle, December, 1898. (6 packages.)

“Pastel.” “Vouède.” “Guède.”

“Biennial; forage green, very hardy; will bear frosts and is very early; good winter and spring pasture for sheep, on dry and calcareous lands. It accommodates itself to mediocre, sandy, gravelly, or even calcareous soils. When cultivated for the coloring matter it demands a richer soil than for forage, and must not be acid. The seed, it is said, may be used as feed for cattle.

“This plant, which may render very important services on account of its extreme earliness and the quality of its forage, merits a far more frequent employment on very poor lands. Sown from March to July, sometimes in autumn, in very fertile soils.” (*Vilmorin.*)

The seed weighs about 7½ pounds per bushel; 9 to 11 pounds is sown per acre.

1482. SANGUISORBA SANGUISORBA.**Common field burnet.**

From France. Received through W. T. Swingle, December, 1898. (13 packages.)

“Pimpernelle ordinaire.”

“Perennial; excellent pasture even in winter, especially for sheep and rabbits; soils of the poorest, dry, sandy, or calcareous; it resists the extremes of heat and cold. In some localities the seed is ground to feed cattle. To be sown from March to September, either alone or with esparcet, with white or violet clover, wild chicory, rye grass,” etc. (*Vilmorin.*)

The seed weighs about 23 pounds per bushel; 27 pounds is sown per acre.

1483. VICIA MONANTHA.**One-flowered lentil.**

From France. Received through Mr. W. T. Swingle, December, 1898. (42 packages.)

“Jarosse d'Auvergne,” “Lentille à une fleur.”

“Forage annual of good quality; seeds used like the lentils; excellent for very poor, sandy, siliceous, or schistose soils. To be sown in autumn with a little rye or oats to support it.” (*Vilmorin.*)

The seed weighs 58 to 62 pounds per bushel; 71 to 90 pounds is sown per acre.

1484. RAPHANUS SATIVUS.**Radish.**

From France. Received through Mr. W. T. Swingle, February, 1899. (8 packages.)

“The Ardèche field radish, which is grown in the south of France more for feeding cattle than for table use. It is a very long-rooted and rather late radish, and yields a heavier crop of leaves than of roots. It is a plant of no account for kitchen-garden culture, and even for cattle-feeding purposes neither it nor the corkscrew radish is very extensively grown. Experience has shown, however, that they are not without merit in this respect, and we think that in many cases it would be found advantageous to cultivate some of the larger varieties of radishes for cattle-feeding purposes, as is done in the case of beet roots, carrots, and turnips.”

The seed represents a recently improved strain of this variety, and may prove of interest as a fodder crop.

1485. PISUM ARVENSE.**Field pea.**

From France. Received through Mr. W. T. Swingle, December, 1898. (42 packages.)

"Pois gris de printemps" (gray spring field pea). "Bisaille."

Annual. Plant very vigorous, able to attain about 6 feet in height, with numerous long and slender stems and branches. Seed reddish or slightly bronze. Forage highly esteemed, both green and dry, especially for sheep.

A cereal with a stout stalk, such as rye or oats, is usually sown, at the same time with the pea, to serve as support for it. It enters frequently into mixtures for green fodder. Sown ordinarily in March if for seed, and as late as June if intended for fodder; sown usually broadcast. (*Vilmorin.*)

The different varieties of forage peas weigh 51 to 62 pounds per bushel; 143 to 178 pounds is sown per acre.

1486. PISUM ARVENSE.**Field pea.**

From France. Received through Mr. W. T. Swingle, December, 1898. (44 packages.)

"Pois gris d'hiver" (gray winter field pea).

"More hardy and productive than the preceding (pois gris de printemps); better suited for dry and gravelly lands. Seed usually smaller, rounder, and of a more greenish tint than the spring pea; to be sown in autumn, September or October." (*Vilmorin.*)

1487. PISUM ARVENSE.**Partridge pea.**

From France. Received through Mr. W. T. Swingle, December, 1898. (41 packages.)

"Pois perdrix."

"A more vigorous variety and more productive than the preceding (spring field pea); winter and spring; but it suffers sometimes from frosts in the climate of Paris, and demands a richer soil and a more equable climate. It is cultivated principally in western France. Seed yellow, marbled with brown; quite rare in commerce." (*Vilmorin.*)

1488. RAPHANUS SATIVUS.**Radish.**

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

"Raifort champêtre de l'Ardèche" (Ardèche field radish).

"Large radish, with a root 30 to 40 cm. long; color violet or white, with the neck rose-colored; good feed for cows; sown after the harvest has been gathered in, in July or August, like turnip seed, and sometimes mixed with it; it succeeds better than the turnip in very light and poor soil." (*Vilmorin.*)

The seed weighs 50 to 51 pounds per bushel; 4½ pounds are sown per acre.

1489. GLYCYRRHIZA GLABRA.**Licorice.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Reglisse." "Reglisse officinale."

"Perennial. The subterranean stems or rhizomes and the roots, which furnish the sap known under the name of *licorice*, are also used in the distillery and in the preparation of the drink called *coco*. Land soft, rich, deep, moist, but not wet. Reproduced easily by suckers, stolons from the root, and rhizomes planted in February or March, in rows about 28 inches apart, and about 12 inches apart in the row. Sowing is not customary, because of the scarcity of the seed and the slowness of this mode of propagation. Ten thousand to 11,200 plants are set per acre." (*Vilmorin.*)

1490. SCABIOSA ARVENSIS.**Field scabious.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Scabiense des champs."

"This and *S. succisa* are eaten by animals in pastures. For this reason some authors have advised their cultivation, but they seem to have been adopted nowhere." (*Vilmorin.*)

1491. SCABIOSA SUCCISA.**Scabious.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Scabiense succisee."

See No. 1490.

1492. GLYCINE HISPIDA.**Soy bean.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"An erect annual legume, with hairy stems and leaves, which has been cultivated in China and Japan from remote antiquity. It was long grown in botanic gardens, but when the facts concerning its use as a human food by oriental nations came to light about twenty years ago, it was largely introduced into this country and Europe, where thorough trials of its forage and food value have been made. There are a large number of named varieties, which vary in the color of their seeds and the length of time which the plants require to come to maturity. The seed is planted at the rate of half a bushel to the acre, in drills $2\frac{1}{2}$ to 3 feet apart, and cultivated about the same as Indian corn. In Virginia soy beans are planted between the hills of corn, so that two crops are produced on the same field at the same time. The yields of seed are often enormous. Soy beans are fed to stock green as silage, or as hay. The stems are rather woody and do not make the best quality of hay, but as either ensilage or green forage they are unsurpassed. The hay contains from 14 to 15 per cent crude protein and 3 to 6 per cent of fat. The beans contain from 32 to 42 per cent protein, and from 12 to 21 per cent of fat in fresh material. When fed to milch cows, a ration of soy beans increases the yield of milk, improves the quantity of the butter, and causes the animal to grow rapidly in weight. It is an excellent addition to a ration for feeding cattle. In China and Japan, where the soy bean is an article of diet, substances similar to butter, oil, and cheese, as well as a variety of dishes, are prepared from it. The yield of green forage amounts to from 6 to 8 tons per acre, and the beans from 40 to 100 bushels. The feeding value of the bean has been found to be greater than that of any other known forage plant except the peanut." (*Jared G. Smith.*)

1493. GLYCINE HISPIDA.**Soy bean.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

"Soja hispida à grain noir" (black-seeded *Soja hispida*).

1494. SPERGULA ARVENSIS.**Spurrey.**

From France. Received through Mr. W. T. Swingle, December, 1898. (13 packages.)

"Spergule ordinaire."

"An annual, producing a low tangled mass of succulent stems with numerous whorled linear leaves. It produces a crop in eight or ten weeks, and is valuable as a catch crop in short seasons and for soiling sheep and milch cows. It has been especially recommended as a first crop on the pine barrens of Michigan to turn over for green manure. The air-dried hay contains about 12 per cent of crude protein." (*Jared G. Smith.*)

"Small annual plant of moist and sandy soils; excellent green forage, especially for cows; it is hardly possible to use it in any other than the fresh state. The butter produced from the milk of cows fed on this plant is called 'Spurrey butter,' and is considered in Holland and Belgium of a superior quality. Dry hay is rarely made of it, nevertheless the straw left after beating out the seed forms a good fodder for cows and sheep. May succeed in stubble fields; good vegetable fertilizer to be plowed under green; may be cultivated on moist, light, sandy, or clayey-siliceous soils; it prefers foggy and humid climates. To be sown from March to May, but especially upon stubble after the harvest in August, to obtain one or two cuttings or to plow under as green fertilizer early in the winter. Sometimes the plant is allowed to run to seed, and in this case it may become biennial by reseeding with the seed falling out naturally before or during the harvesting. Spurrey is sometimes used in mixtures for green cutting." (*Vilmorin.*)

The seed weighs about $46\frac{1}{2}$ pounds per bushel; 18 to 27 pounds, or, according to some, 45 to 54 pounds, is to be sown per acre.

1495. TRIFOLIUM PRATENSE.**Brittany red clover.**

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"Trèfle violet de Bretagne." Brittany.

"A variety of *Trifolium*, ordinarily very vigorous and productive, of a luxuriant vegetation, especially suitable and better than the others for making hay, while the clovers of Bordeaux, Beauce, etc., are more frequently reserved for green consumption or for pasturing.

"We devote to the Brittany violet clover a short special note, because, for several years the seed has been found more regularly in the market; one must pay a higher price than for the common clover if he wishes to get the true Brittany violet clover, of which the seed is large and generally of a dark violet color." (*Vilmorin*.)

1496. TRIFOLIUM INCARNATUM.**Crimson clover.**

From France. Received through Mr. W. T. Swingle, December, 1898. (18 packages.)

"Trèfle incarnat hatif" (Early crimson clover).

"An annual, native of the Mediterranean region, which has been long cultivated in the warmer portions of Europe, and is now grown in many of the Eastern and Southern States for an early soiling crop. The stems are erect, tufted, soft-hairy all over, from 1 to 2 feet high, and the bright scarlet flowers are borne in elongated heads. In Virginia and southward it should be sown in autumn to furnish winter and early spring forage. It is susceptible to drought. It is not suited to the Northern and Northwestern States, as it suffers severely from excessive cold. Twenty pounds of seed should be sown per acre. Hay made of crimson clover contains about 13 per cent of crude protein. To make the best hay it must be cut when in full bloom; cut later there is some danger in feeding it, especially to horses, on account of the bristly hairy bracts of the inflorescence, which form hair balls in the stomach. A number of such cases, resulting in considerable loss, have been reported during the past seasons." (*Jared G. Smith*.)

1497. TRIFOLIUM INCARNATUM.**Crimson clover.**

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

"Trèfle incarnat tardif" (late crimson clover).

"Variety of the preceding, from ten to fifteen days later, and which has thus the advantage of following it in fruit." (*Vilmorin*.)

1498. TRIFOLIUM INCARNATUM.**Crimson clover.**

From France. Received through Mr. W. T. Swingle, December, 1898. (18 packages.)

"Trèfle incarnat très tardif à fleur blanche" (crimson clover, very late, with white flowers).

"A variety from eight to ten days later than the preceding, but less hardy; germination capricious and incomplete; suffers from cold and insects, and is very much subject to degeneration; the seed is white, while that of others is yellow." (*Vilmorin*.)

1499. TRIFOLIUM PANNONICUM.**Hungarian clover.**

From France. Received through Mr. W. T. Swingle, December, 1898. (6 packages.)

"Trèfle de Pannonie" (Pannonian clover).

"A perennial species indigenous to southern Europe, closely allied to red clover and much earlier, but less readily eaten by stock." (*Jared G. Smith*.)

1500. TRIFOLIUM ALEXANDRINUM.**Egyptian clover.**

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"Trèfle d'Alexandrie" (Alexandrian clover).

"An erect, annual clover, native of Egypt, which in warm climates and upon rich soils makes an exceedingly rapid growth. Two or three heavy crops may be taken

from a field in one season. Twenty pounds of seed are required for an acre. An excellent species for trial in the Southern States, wherever cane and cotton may be grown." (*Jared G. Smith.*)

1501. TRIFOLIUM HYBRIDUM.

Alsike clover.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"*Trèfle hybride*" (hybrid clover). "*Trèfle d'Alsike.*"

"A perennial, in size and general appearance intermediate between white and red clover. It is better adapted than any other species in general cultivation to wet meadows or marshy lands, but because of its shallow root system will not withstand drought. The branching, leafy stems grow 1 to 3 feet high and the young flower heads are at first white and later become rose-colored. Its leaves are slightly bitter, and on this account the forage is not so well liked by stock as that of red or white clover; but it will grow on lands which are too wet for the other species, thriving even in marshy places where the subsoil is impervious to water and the drainage is bad. It may also be cultivated in the far north and in high altitudes, as it has the power of withstanding severe cold. The forage is succulent and more difficult to cure for hay than red clover. The air-dried hay contains from 10 to 13 per cent of crude protein. It is a very good honey plant for bees. The seed weighs 65 pounds to the bushel, and 12 pounds will sow an acre." (*Jared G. Smith.*)

1502. LESPEDeza STRIATA.

Japan clover.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Trèfle du Japon.*"

"An annual legume, native of China, which was accidentally introduced into South Carolina about thirty-five years ago, and has become naturalized throughout the Southern States as far west as Texas. Because of its many good qualities it is the most highly esteemed of all forage plants for this region. It will grow on worn fields and sterile or exhausted soils, spreading rapidly over the surface, preventing further washing of the land. In such localities it grows prostrate on the surface, forming a dense mat of turf. In rich soils, especially such as are calcareous, it grows 20 or 30 inches high, and when mown, makes an excellent quality of hay, greedily eaten by all kinds of stock. It is distinctively a summer forage, appearing about the first of June, and dying down at the first touch of frost. In sandy soils it suffers greatly from hot weather. The acreage of meadow and pasture lands devoted to this clover is increasing rapidly. Its roots penetrate deeply into the soil and, in common with most other leguminous plants, Japan clover, by means of the tubercles on its roots, collects nitrogen from the air, so that because of its steady and rapid growth it is one of the best crops to turn under as green manure, and is one of the best for renovating old fields. The feeding value is high, though less than that of clover and cowpeas. Seed should be sown broadcast at the rate of half a bushel to the acre, either in autumn with oats or winter rye, or alone in spring." (*Jared G. Smith.*)

1503. ANTHYLLIS VULNERARIA.

Kidney-vetch.

From France. Received through Mr. W. T. Swingle, December, 1898. (18 packages.)

"*Trèfle jaune des sables*" (yellow sand clover).

"A low perennial legume, which is found wild over a large part of Europe. It grows naturally in very dry and sterile soils along the roadsides, wherever the soil is thin and the subsoil calcareous. It is recommended as furnishing a palatable though scant forage on dry, calcareous soils, in places that are too poor to support even white clover. The product of the first year is small, so that it is only a profitable crop when sown with grain. The second year the plant throws up tall stems, often 3 or 4 feet high. It is not recommended to sow this crop in the United States, except experimentally upon such barren soils as have been described, and then only after the better species have been tried and found to be failures." (*Jared G. Smith.*)

1504. VICIA SATIVA.

Vetch.

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

"*Vesce commune de printemps*" (common spring vetch).

"An annual trailing herb, 12 to 20 inches high, with 4 to 5 angled stems, simple or

branched from the base. The leaflets are broadest above the middle, blunt or notched at the end, and tipped with an abrupt point; they number usually from 10 to 14. The rather large purple flowers are borne 1 or 2 together at the base of the leaf. The plant is soft-hairy all over. This native of Europe and Western Asia has been cultivated for upward of twenty centuries, and is considered one of the best soiling crops in cool, moist climates. In the United States it has only proved adaptable to cultivation in the New England States and Canada. Vetches are sown in April or May, at the rate of 2 bushels of seed per acre, and the crop is ready to cut by the middle of June or the first of July. Where they can be grown, they are a very good summer feed for horses, but must not be fed earlier than full bloom, on account of their diuretic action. They are good for soiling sheep and milch cows, and are said to very materially increase the flow of milk. Because of the high price asked for seed, and the extreme susceptibility of vetches to dry hot weather, their cultivation is not recommended. A greater and surer return can always be had from red clover." (*Jared G. Smith.*)

"Annual. Excellent and abundant green forage, to be employed either alone or mixed with various other plants. To be sown with a little barley or oats for support when the seed is well harrowed in, from March to July. The vetch prefers land of quite good quality, a little heavy and moist, though wholesome, to lands too light or too compact and humid." (*Vilmorin.*)

The seed weighs 62 pounds per bushel; 186 pounds is sown per acre.

1505. VICIA SATIVA.

Vetch.

From France. Received through Mr. W. T. Swingle, December, 1898. "Vesce de printemps de Bretagne" (Brittany spring vetch).

1506. VICIA SATIVA.

Vetch.

From France. Received through Mr. W. T. Swingle, December, 1898. (9 packages.)

Variety: "*hyemalis*" (winter).

"A variety of the preceding; requires wholesome land; may be sown from September to the middle of November, either alone or mixed with barley, rye, or winter oats; it forms the basis for mixtures of green forage; to be sown in autumn for spring cutting." (*Vilmorin.*)

The seed weighs 62 pounds per bushel, and 186 pounds is sown per acre.

1507. VICIA SATIVA.

Vetch.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Vesce blanche" (white vetch).

"Annual; not so high as the common vetch; earlier, hardy, cultivated more especially for its seed, which is of a white or whitish color, and is used in some localities for human food. This variety appears to have merit as a forage plant. Flower violet."

The seed weighs about 62 pounds per bushel; 186 pounds is sown per acre.

1508. VICIA MACROCARPA.

Vetch.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Vesce à gros fruit" (large-fruited vetch).

"Annual; distinguished from the common winter vetch by its larger foliage, closer and more numerous leaflets, and especially by its pods, which, when green, are very large, cylindrical, swollen, thick, fleshy, attaining the size of a small finger, and resembling those of a small potage pea. The seed is also very large.

This variety, originally from Algeria, is much preferred by the Arabs, especially at the time when the pods, still green and succulent, have attained their full development. To obtain good results with it, the sowing in the South and in warmer climates should be done in the autumn rather than in the spring; even in the North it will be well to sow in the autumn or at the close of winter, very early, in January or February at latest, without which the result may leave much to be desired. In conclusion, this excellent variety appears to have more interest for the southwestern or southern parts of France than for the climate of Paris." (*Vilmorin.*)

The seed weighs 62 pounds per bushel; 160 to 200 pounds is sown per acre.

1509. VICIA NARBONENSIS.**Narbonne vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (43 packages.)

"Vesce de Narbonne."

"Annual; very vigorous and very early, remarkable in its stalks, its foliage, and its general appearance, which recalls that of a small bean, but earlier. To be sown early in spring in the North. In more temperate climates than ours (latitude of Paris) it may and even should be sown in autumn. This species has been confounded for some time with *V. macrocarpa*, and sold under that name. It is generally sown alone, but it may be found advantageous to have it enter mixtures for green cutting, which are to be sown early in spring, or to mix it with oats or rye or some other cereal grass. (*Vilmorin*.)

The seed, which is very large, weighs about 62 pounds per bushel, and is sown at the rate of 160 to 200 pounds per acre.

1510. VICIA CRACCA.**Cow vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Vesce multiflora" (many-flowered vetch).

"A downy pubescent perennial with compound leaves of 20 to 24 narrowly oblong, abruptly pointed leaflets, and numerous blue or purple reflexed flowers in a one-sided spike. Common in the borders of thickets from New England to the upper prairie region. The species is cultivated in Europe for fodder, and is recommended for cultivation in wet meadows. In the shade it yields a return three times larger than in open places. It would, therefore, be valuable in the woodland pastures and alpine regions." (*Jared G. Smith*.)

"This and *V. tenuifolia*, which have been recommended, are perennial plants, rich in herbage and liked by animals, but the seeds are scarce and the germination is capricious. The vetches require the support of other plants with erect stalks." (*Vilmorin*.)

1511. VICIA ANGUSTIFOLIA.**Vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Vesce a feuille étroite" (narrow-leaved vetch).

1512. VICIA BIENNIS.**Biennial vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Vesce bisannuelle."

"Biennial and perennial, hardy, very large species, yields much fodder, demands the support of some other plant with firm erect stalk; very scanty in seeds." (*Vilmorin*.)

1513. VICIA SEPIUM.**Hedge vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"Vesce des haies."

"Perennial. A common plant [in France] along borders and paths in the woods; it prefers shade and moisture, but succeeds equally well in good wholesome and even dry soils. Seeds scarce." (*Vilmorin*.)

1514. VICIA FULGENS.**Vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (22 packages.)

"Vesce écarlate" (scarlet vetch).

"An annual species recently discovered in Algeria, remarkable for its rapid growth and for the beauty of its bright-red flowers spotted with brown; it is cultivated as an ornamental plant; it merits an equal recommendation as a forage plant." (*Vilmorin*.)

1515. VICIA DUMETORUM.**Vetch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1516. ONOBRYCHIS ONOBRYCHIS.**Common sainfoin.**

From France. Received through Mr. W. T. Swingle, December, 1898. (33 packages.)

"Sainfoin ordinaire." "Bourgogne esparcette."

"A deep-rooting perennial legume, extensively cultivated in the temperate portions of Europe on dry, calcareous soils which are too barren for clover or alfalfa. The stems are erect or ascending, 1 to 2 feet high, ribbed and downy, the leaves unequally pinnate, composed of 6 to 12 pairs of opposite leaflets, with an odd terminal one. The bright pink flowers are numerous in spike-like racemes, borne on a long stalk. A permeable, well-drained subsoil is essential for its growth. Like alfalfa, it is quickly killed whenever the ground becomes saturated with water, and is therefore not suited for growth in wet meadows or in marshy lands. There is no better plant for growing on barren hills, but it does better on the sunny slopes than those facing north. It is rather difficult to establish, as the plants are easily killed when young, but when once well rooted, sainfoin will live from twenty to twenty-five or sometimes a hundred years, provided the soil is rich enough. One crop of hay can be cut each year. It should be cut at the time of full bloom, which in the latitude of Washington, D. C., is about the 1st of May. In England the average yield ranges from 1½ to 2½ tons per acre, and the hay is better and more nutritious than that of red clover. Eighty pounds of seed should be sown per acre, anytime from the middle of May to the end of June, and, unlike alfalfa, it should be covered quite deeply to insure germination. If shelled seed is to be had, half as much will suffice. Fresh seed must always be used, as it loses its vitality if kept a year. It can be grown in any part of the United States, and should be more extensively cultivated, especially in localities where the ground is too dry and too barren for red clover. The yield of seed ranges from 10 to 25 bushels of 40 pounds. Sainfoin should not be pastured closely, as it does not have the same recuperative ability as the clovers." (*Jared G. Smith.*)

1517. ONOBRYCHIS ONOBRYCHIS.**Sainfoin.**

From France. Received through Mr. W. T. Swingle, December, 1898. (23 packages.)

"Sainfoin à deux coupes" (double-cropping sainfoin).

This has been given the varietal name *biferum* (two-cropped).

Perennial, hardy. More vigorous than the preceding, giving ordinarily two cuts, but requiring for this a richer land. Preferred to the preceding in mixtures with clover, lucern, or other plants of which more than one cutting is required." (*Vilmorin.*)

The seed weighs 23 to 25 pounds per bushel, and 125 to 156 pounds is sown per acre.

1518. HEDYSARUM CORONARIUM.**Sulla.**

From France. Received through Mr. W. T. Swingle, December, 1898. (26 packages.)

"Sainfoin d'Espagne" (Spanish sainfoin).

Perennial or biennial, very vigorous and rich in fodder, of doubtful merit; cultivated in Sicily and Calabria; can not bear the winter in the latitude of Paris, but succeeds perfectly in Algiers.

Seed not abundant in commerce, weighing 15½ to 19 pounds per bushel; sown at the rate of 90 pounds per acre.

1519. PHALARIS CANARIENSIS.**Canary grass.**

From France. Received through Mr. W. T. Swingle, December, 1898. (18 packages.)

"Alpiste." "Graine de Canarie."

"Annual. Seed used as bird feed; the straw is very good fodder for horses and horned cattle. It is frequently used in mixtures for forage to be cut green. For the seeds, it is to be sown broadcast on well-worked, wholesome, and well-matured

land; gathered in July and August. For green forage, to be sown from April to July and to be cut three or four months later." (*Vilmorin.*)

The seed weighs about 58 pounds per bushel and is sown 16 to 18 pounds per acre for seed and 22 to 27 pounds per acre for forage.

1520. *LOLIUM PERENNE.*

English rye grass.

From France. Received through Mr. W. T. Swingle, December, 1898. (21 packages.)

"Anglais de Pacey."

"Pacey's English rye grass is a long-enduring perennial variety, with very abundant foliage, with ear and straw shorter, of more robust habits, more resistant and lasting than the ordinary English rye grass, a fact which recommends it particularly and should make it preferable for the formation of turf and lawns; it is less productive of seed than any of the other varieties of rye grass." (*Vilmorin.*)

The seed weighs 26 to 31 pounds per bushel.

1521. *LOLIUM ITALICUM.*

Italian rye grass.

From France. Received through Mr. W. T. Swingle, December, 1898. (42 packages.)

"Rye grass d'Italie."

"Very early; producing seed abundantly during the same year, and even within three or four months after the sowing; very productive, with the leaves larger and stalks higher and more leafy than the English rye grass; hay of very good quality both green and dry; for artificial prairies, meadows, and pastures; not very lasting unless on rich and irrigated lands, where this annual may become biennial and even triennial. It is distinguished by a special disposition to come up again and a remarkable continuity of growth, much greater than in the English rye grass; it gives three to four cuttings in Vendée, Bretagne, and in Normandy, and as many as eight in the rich irrigated soils of Milan. It may be employed alone or mixed with red clover, crimson clover, timothy, etc. It forms a part of various mixtures for green fodder; it is also used to reseed clovers which have become too thin. It is on the whole an excellent grass and one of the most productive ones; not suitable for lawns." (*Vilmorin.*)

The seed weighs 15½ to 19 pounds per bushel and is sown at the rate of 45 to 54 pounds per acre.

1524. *POPULUS TRICHOCARPA.*

Poplar.

From Chatenay, Seine, France. Received through Mr. W. T. Swingle, December, 1898.

New sort; extraordinarily vigorous; resembles Balsam poplar; said to be free from diseases and of great promise for extensive plantations.

1525. *BUXUS MICROPHYLLA.*

Box.

From Chatenay, Seine, France. Received through Mr. W. T. Swingle, December, 1898.

"*Buxus rotundifolia glauca.*"

Hardy; said to be the finest large-leaved box.

1527. *FRAGARIA VESCA.*

Wood strawberry.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

The parent of the four-season ever-bearing strawberries. Seed.

1528. *FRAGARIA VESCA.*

Wood strawberry.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Rouge" (red). Seed.

1529. *FRAGARIA VESCA.*

Wood strawberry.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"À fruit blanc" (white-fruited). Seed.

1530. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Rouge amélioré" (improved red). Seed.

1531. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Belle de Meaux." Seed.

1532. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Berger." Seed.

1533. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Janus perfectionné." Seed.

1534. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Sans filets, rouge" (without runners, red). Seed.

1535. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Sans filets, à fruit rouge" (without runners, fruit red). Seed.

1536. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier des 4 saisons, rouge" (ever-bearing, red).

1537. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier des 4 saisons, à fruit rouge amélioré" (ever-bearing, improved red).

1538. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier des 4 saisons, sans filets" (ever-bearing, without runners). "Gaillon rouge."

1539. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier des 4 saisons sans filets" (ever-bearing, without runners). "Gaillon blanc."

1540. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier des 4 saisons" (ever-bearing). "Belle de Meaux."

1541. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier des 4 saisons" (ever-bearing). "Berger."

1542. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier des 4 saisons Janus amélioré" (ever-bearing. Improved Janus).

1543. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier remontant à gros fruit" (perpetual strawberry, large-fruited). "Leon XIII."

The oldest of the large ever-bearing strawberries.

1544. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (Twenty-five plants.)

"Fraisier remontant à gros fruit" (large-fruited perpetual). "St. Joseph" (Jeanne d'Arc?)

The great novelty of 1898; represented as the best ever-bearing strawberry known; best advertised plant in France.

1545. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. Twenty-five plants.

"Fraisier remontant à gros fruit" (large-fruited perpetual strawberry). "Jeanne d'Arc;" probably the same as St. Joseph.

1546. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. Ten plants.

"Fraisier remontant à gros fruit" (large-fruited perpetual strawberry). "St. Antoine de Padoue."

The as yet unannounced novelty for 1899, said to be the best ever-bearing strawberry in existence.

1547. FRAGARIA VESCA.**Wood strawberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. Twenty-five plants.

"Fraisier Louis Gauthier." Not properly an ever-bearing strawberry. The runners produce fruit promptly, yielding thereby a succession throughout the summer, although each stock bears but one stem.

1548. VITIS VINIFERA.**Grape.**

From Bourg-la-Reine, Seine, France. Received through Mr. W. T. Swingle, December, 1898. Four cuttings, 50 cm. ($1\frac{1}{2}$ feet) long.

"Sarfitger." Table grape, Russian variety. Berries white, 1 cm. (two-fifths of an inch) in diameter.

1549. VITIS VINIFERA.**Grape.**

From Bourg-la-Reine, Seine, France. Received through Mr. W. T. Swingle, December, 1898. Four cuttings, 50 cm. ($1\frac{1}{2}$ feet) long.

"Saperawi." Table grape, Russian variety. Fruit black, 1 by 1.5 cm. (.4 by .6 of an inch); stems rosy.

"Has a red juice, and is preferred in Russia to the various *teinturiers*, since, unlike them, it does not injure the wine to which it is added for coloring purposes."

1550. VITIS VINIFERA.**Grape.**

From Bourg-la-Reine, Seine, France. Received through Mr. W. T. Swingle, December, 1898. Four cuttings 50 cm. ($1\frac{1}{2}$ feet) long.

"Salalcanskoi." Table grape, Russian variety. Fruit rosy-white, 2 by 1 cm. (.8 by .4 inch).

1551. VITIS VINIFERA.**Grape.**

From Bourg-la-Reine, Seine, France. Received through Mr. W. T. Swingle, December, 1898. Four cuttings, 50 cm. ($1\frac{1}{2}$ feet) in length. "Carao de Moka."

Table grape, Russian variety. Fruit 2 by 1 cm. (.8 by .4 inch) in diameter.

1553. ROBINIA.**Locust.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

A shrub producing large quantities of large rose-colored flowers, grafted on the ordinary locust.

1554. ROBINIA PSEUDACACIA.**Locust.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Said to be the finest variety of *Robinia pseudacacia*. Should be propagated by grafts.

Variety "*fastigiata*."

1555. ROBINIA PSEUDACACIA.**Locust.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*tortuosa*."

1556. CARAGANA FRUTESCENS.**Pea tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Siberian shrub, 2 m. (6 feet) high, with yellow flowers; hardy.

1557. CARAGANA MICROPHYLLA.**Pea tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1558. PYRUS CHAMAEMESPIUS.**Thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of central Europe; hardy.

1559. AMORPHA FRUTICOSA.**Lead plant.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Amorpha croceo-lanata*."

1560. AMORPHA FRUTICOSA.**Lead plant.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Amorpha lewisii*."

1561. AMORPHA FRUTICOSA.**Lead plant.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Amorpha glabra*."

1562. PIERIS OVALIFOLIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Andromeda japonica*." Erect evergreen shrub which flowers for six months; hardy.

1563. ASIMINA TRILOBA.**Papaw.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Probably "*asimina à trois lobes*."

1564. ARBUTUS UNEDO.**Strawberry tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Native of the Pyrenees, 5 m. (15 feet) high; half-hardy; valuable fruit and ornamental tree; plant for stock.

1565. ARBUTUS ANDRACHNE.

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

1566. ATRIPLEX HALIMUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Mr. Swingle thinks this species is grown on sand dunes and alkali soils. Care must be taken or it may spread and be a bad weed. Half-hardy.

1567. ALNUS CORDIFOLIA.**Alder.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1568. ALNUS OBLONGATA.**Alder.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1569. MELIA FLORIBUNDA.

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Hardy (?) with fragrant white and violet flowers in July.

1570. COLUTEA ARBORESCENS.

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Native of eastern France; grows to a height of 3 m. (9 feet); has yellow flowers; suitable for dry soils; hardy.

1571. CORNUS CAPITATA.**Cornel.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Native of Nepal; 3 to 4 m. (9 to 12 feet) high; flowers with large yellow bracts; fruit like a large strawberry.

1572. BETULA NANA.**Dwarf birch.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Alps to Scandinavia.

1573. ERYTHEA EDULIS.**Fan palm.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1574. BUDDLEIA CURVIFLORA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Half-hardy Chinese shrub; flowers lilac and violet.

1575. BUDDLEIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Buddleia variabilis."

1576. BUDDLEIA GLOBOSA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Hardy ornamental shrub from the Andes of Peru.

1577. BUPLEURUM FRUTICOSUM.

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Shrub of southern France 1½ m. (5 feet) high; tender evergreen shrub for dry soils.

1578. CNEORUM TRICOCCON.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1579. CERATONIA SILIQUA.**St. John's bread.**

From France. Received through Mr. W. T. Swingle, December, 1898. (80 packages.)

Small, tender tree; best varieties must be grafted. Should be planted for stocks.

1580. CEANOTHUS OVATUS.**New Jersey tea.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

"Ceanothus fontaneseanus." Hardest species; origin doubtful, but supposed to be American.

1581. CEANOTHUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Miscellaneous varieties.

1582. PRUNUS AVIUM.**Bird cherry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (20 packages.)

Wild cherry, native of France; grows to a height of 15 m. (45 feet); fruit used in liquors; wood valuable; foliage turns red in autumn; hardy; should be tried for stocks.

1583. PRUNUS LAUROCERASUS.**Cherry laurel.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

From Trebizonde; grows 5 m. (15 feet) high; has large evergreen foliage; tender.

1584. ELAEAGNUS MULTIFLORA.**Oleaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

"*Elaeagnus edulis*."

Cultivated extensively at Pau, southern France, by M. Tourasse, for preserves; half hardy.

1585. QUERCUS ROBUR.**Oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Loamy, calcareous soils of France; used in truffle culture.

1586. QUERCUS COCCIFERA.**Oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Utilized in truffle culture; shrub $\frac{1}{2}$ to 4 m. ($1\frac{1}{2}$ to 12 feet) high; yields kermes, which is like cochineal; evergreen.

1587. ZANTHOXYLUM BUNGEI.**Prickly ash.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of southern China; tender.

1588. ZANTHOXYLUM PIPERITUM.**Prickly ash.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1589. CLETHRA ARBOREA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

An arborescent species from Madeira; tender.

1590. CORNUS MAS.**Cornel.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

One of the improved sorts; yellow-flowered; should be propagated by grafting.

1591. COTONEASTER BUXIFOLIA.**Cotoneaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of mountains of Nepal; tender; evergreen; fruits bright red.

1592. COTONEASTER MICROPHYLLA.**Cotoneaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Cotoneaster thymaeifolia*." A native of mountains of Nepal; evergreen; tender.

1593. COTONEASTER ROTUNDIFOLIA.**Cotoneaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of mountains of Nepal; evergreen; tender.

1594. COTONEASTER MICROPHYLLA.**Cotoneaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of mountains of Nepal; evergreen; tender; branches grow reflexed to the soil; flowers white and fragrant; fruits red.

1595. COTONEASTER HORIZONTALIS.**Cotoneaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

China; prostrate shrub with evergreen leaves and small, bright-orange fruits; hardy; very beautiful species.

1596. COTONEASTER SIMONDSII.**Cotoneaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of mountains of Nepal; half hardy.

1597. COTONEASTER TOMENTOSA.**Cotoneaster.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

European; hardy.

1598. CRYPTOMERIA JAPONICA.**Japanese cedar.**

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

Variety "*lobbii*."

1599. CRATAEGUS CHLOROSARCA.**Thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

Manchuria; fine pyramidal species with black fruits.

1600. CRATAEGUS PYRACANTHA.**Thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

Very ornamental, having bright-orange berries.

Variety "*lalandii*."

1601.

From France. Received through Mr. W. T. Swingle, December, 1898. (24 packages.)

"*Epine sanguine de Siberie*" (Siberian red thorn).

1602. BERBERIS VULGARIS.**Barberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (8 packages.)

"*Berberis heteropoda*."

Turkestan variety; fruit eaten in Russia.

1603. BERBERIS LYCIUM.**Barberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Fine foliage.

1604. EUCALYPTUS ACMENIOIDES.**White mahogany.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1605. EUCALYPTUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Eucalyptus amplifolia*."

Pyramidal tree of rapid growth; very large leaves.

1606. EUCALYPTUS AMYGDALINA.**Peppermint tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

For rich soils; hardy; yields much essential oil.

1607. EUCALYPTUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"*Eucalyptus andreana*."

Very fine weeping species.

1608. EUCALYPTUS INCRASSATA.**Mallee.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1609. EUCALYPTUS LARGIFLORENS.**Bastard box.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Wood valuable; half hardy; dry soil.

1610. EUCALYPTUS BOTRYOIDES.**Swamp mahogany.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

For wet soils.

1611. EUCALYPTUS CALOPHYLLA.**Red gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Very ornamental; slow-growing; will grow on dry soils; good for avenues.

1612. EUCALYPTUS CAPITELLATA.**Stringybark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Very fine tree for avenues.

1613. EUCALYPTUS CITRIODORA.**Lemon-scented gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Yields much essential oil; dry soil.

1614. EUCALYPTUS COCCIFERA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

One of the most hardy.

1615. EUCALYPTUS DIVERSICOLOR.**Karri.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Wood valuable; dry soil.

1616. EUCALYPTUS GLOBULUS.**Fever-tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Very hardy.

1617. EUCALYPTUS PAUCIFLORA.**White gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Hardy.

1618. EUCALYPTUS CORNUTA.**Yate.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Hardy.

1619. EUCALYPTUS CORYMBOSA.**Bloodwood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Dry soil; yields very good firewood; bark used for making filter paper; tree yields gum.

1620. EUCALYPTUS CORYNOCALYX.**Sugar gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Suitable for dry climates.

1621. EUCALYPTUS COSMOPHYLLA.**Scrub gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Fine ornamental tree.

1622. EUCALYPTUS CREBRA.**White ironbark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Wood valuable.

1623. EUCALYPTUS DECIPIENS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1624. EUCALYPTUS EUGENIODES.**White stringybark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1625. EUCALYPTUS EXIMIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1626. EUCALYPTUS FICIFOLIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1627. EUCALYPTUS AMYGDALINA.**Peppermint tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

Resembles *E. goniocalyx*, which attains a large size and has a hard, close-grained wood, but it is less particular about soil.

1628. EUCALYPTUS MARGINATA.**Jarrah.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

The best Australian tree for bridge timbers, railway sleepers, etc.

1629. EUCALYPTUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"Foeld bay."

Fine species with drooping branches like those of the weeping willow.

1630. EUCALYPTUS OBLIQUA.**Stringybark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Handsome species; grows in poor soils; wood hard, close-grained, yields rather poor firewood.

1631. EUCALYPTUS GLOBULUS.**Blue gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Used for firewood; recommended for street paving by Naudin.

1632. EUCALYPTUS GOMPHOCEPHALA.**Touart.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Fond of calcareous soils and wet ground.

1633. EUCALYPTUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"*Eucalyptus gompho-cornuta*."

1634. EUCALYPTUS GONIOCALYX.**Spotted gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Attains a very large size; requires good soils, not wet; wood hard, close-grained.

1635. EUCALYPTUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"*Eucalyptus gracilipes*." Species very close to *E. leucoxylon*, with which it is sometimes confused. It differs chiefly in the young state; in the adult state the chief difference is in its much brighter foliage.

1636. EUCALYPTUS GUNNII.**Cider gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

This and *E. coriacea* are particularly hardy species.

1637. EUCALYPTUS HAEMASTOMA.**Spotted gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Wood rich in resin, and used for torches in New Zealand; good for fuel and for coarse carpentry.

1638. EUCALYPTUS HEMIPHLOIA.**Box.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Tree of medium size; wood hard, excellent for fuel. (*Vilmorin.*)

1639. EUCALYPTUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"*Eucalyptus jugalis.*"

A small tree, 15 to 18 feet high. (*Vilmorin.*)

1640. EUCALYPTUS CORNUTA.**Yate.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1641. EUCALYPTUS LEUCOXYLON.**Ironbark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Yields good firewood, which burns with bright flame. Used for street paving in Melbourne.

1642. EUCALYPTUS LONGIFOLIA.**Woolly butt.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Very good firewood.

1643. EUCALYPTUS MACRANDRA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1644. EUCALYPTUS MACROCARPA.**Morrel.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1645. EUCALYPTUS MACRORRHYNCHA.**Stringybark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1646. EUCALYPTUS MACULATA.**Spotted gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1647. EUCALYPTUS MARGINATA.**Jarrah.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Used for street paving in London and Paris. See No. 1628.

1648. EUCALYPTUS MEGACARPA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1649. EUCALYPTUS MELLIODORA**Yellow box.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1650. EUCALYPTUS MICROCORYS.**Tallow wood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Yields poor firewood.

1651. EUCALYPTUS STELLULATA.**Green gum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1652. EUCALYPTUS INCRASSATA.**Mallee.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1653. EUCALYPTUS OBLIQUA.**Stringybark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Yields poor firewood.

1654. EUCALYPTUS OBTUSIFLORA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1655. EUCALYPTUS OCCIDENTALIS.**Flat-topped yate.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1656. EUCALYPTUS PANICULATA.**Red ironbark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1657. EUCALYPTUS PILULARIS.**Blackbutt.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1658. EUCALYPTUS PIPERITA.**Peppermint tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1659. EUCALYPTUS PLANCHONIANA.

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1660. EUCALYPTUS PREISSIANA.

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1661. EUCALYPTUS PUNCTATA.**Leather-jacket.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1662. EUCALYPTUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

"Eucalyptus quadrialata."

1663. EUCALYPTUS RAVERETIANA.

Gray gum.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1664. EUCALYPTUS REDUNCA.

White gum.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1665. EUCALYPTUS REGNANS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1666. EUCALYPTUS RESINIFERA.

Forest mahogany.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Best known of the resinous sorts. The kino of Botany Bay.

1667. EUCALYPTUS RISDONII.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1668. EUCALYPTUS ROBUSTA.

Swamp mahogany.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1669. EUCALYPTUS ROSTRATA.

Red gum.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Used for telegraph poles, for street paving in Melbourne, and for making filter paper.

1670. EUCALYPTUS ROSTRATA × RESINIFERA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1671. EUCALYPTUS RUDIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1672. EUCALYPTUS RUDIS × ROSTRATA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1673. EUCALYPTUS SALIGNA.

Flooded gum.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1674. EUCALYPTUS SIDEROPHLOEA.

Red iron-bark.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

- 1675. EUCALYPTUS SIEBERIANA. Cabbage gum.**
From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)
- 1676. EUCALYPTUS STUARTIANA. Turpentine tree.**
From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)
Yields poor firewood.
- 1677. EUCALYPTUS TERETICORNIS. Slaty gum.**
From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)
- 1678. EUCALYPTUS BOTRYOIDES × ROSTRATA.**
From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)
“*Eucalyptus trabuti*.”
- 1679. EUCALYPTUS URNIGERA.**
From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)
One of the most hardy species.
- 1680. EUCALYPTUS VIMINALIS. Manna gum.**
From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)
Yields manna; poor firewood.
- 1681. GLEDITSIA MACRACANTHA. Honey locust.**
From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
Variety “*fontanesii*.” From China.
- 1682. GLEDITSIA SINENSIS. Chinese honey locust.**
From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
- 1683. GLEDITSIA CASPICA. Caspian honey locust.**
From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
From the Caspian Sea; not entirely hardy; most beautiful of all the species.
- 1684. GLEDITSIA MACRACANTHA. Honey locust.**
From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
- 1685. PHILLYREA LATIFOLIA.**
From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
Originally from the Mediterranean; tender evergreen shrub 4 m. (12 feet) high.
- 1686. PHILLYREA ANGUSTIFOLIA.**
From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
Originally from the Mediterranean; tender shrub 3 to 4 m. (9 to 12 feet) high.

1687. FONTANESIA PHILLYRAEOIDES.

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

A Syrian shrub 2 to 3 m. (6 to 9 feet) high; half hardy; flowers in spring.

1688. RUSCUS HYPOPHYLLUM.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

An Italian shrub 65 cm. (26 inches) high; evergreen; tender; good for borders.

1689. FRAXINUS OXYPHYLLA.**Ash.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Mediterranean species; somewhat tender.

1690. FRAXINUS.**Ash.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Probably *Fraxinus xanthoxyloides*. Somewhat tender.

1691. CERCIS SILIQUASTRUM.**Judas tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of south Europe; half-hardy shrub 3 m. (6 feet) high; valuable for growing on walls which face the south; both flowers and foliage beautiful.

1692. CERCIS SILIQUASTRUM.**Judas tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*flore albo*" (white-flowered).

1693. CERCIS SILIQUASTRUM.**Judas tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*flore carneo*" (with flesh-colored flowers).

1694. VITEX.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Probably *Vitex negundo*. A small tender shrub originally from China.

1695. JUNIPERUS MACROCARPA.**Juniper.**

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

Grown in the sandy soils of southern Europe; half hardy.

1696. JUNIPERUS LYCIA.**Juniper.**

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

1697. JUNIPERUS SABINA.**Juniper.**

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

Form called *Juniperus tamariscifolia*.

1698. ILEX AQUIFOLIUM.**Holly.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Form called *Ilex balearica*. Native of Balearic Islands; hardy.

1699. IDESIA POLYCARPA.

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

Deciduous tree 10 to 12 m. (30 to 36 feet) high; nearly hardy; ornamental. The fruits are eaten in Japan, where it is native.

1700. INDIGOFERA DOSUA.

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Native of mountains of Nepal; 1 to 1.5 m. (3 to 4½ feet) high; rose-purple flowers in May; tender.

1701. LESPEDEZA BICOLOR.**Bush clover.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

Manchurian; hardy.

1702. LEYCESTERIA FORMOSA.

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Native of Nepal; undershrub; half hardy; red-violet fruits make a pretty effect.

1703. LYCIUM EUROPAEUM.**Box thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Solanaceous plant; south Europe; tender; bright-red fruits.

1704. LYCIUM HORRIDUM.**Box thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1705. MAGNOLIA CAMPBELLII.**Magnolia.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Native of the Himalaya Mountains. A large tree like *M. grandiflora*, but deciduous. One of the finest of the genus; reaches 3 feet in diameter; hardy.

1706. BERBERIS FORTUNEL.**Barberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Native of the extreme Orient; bush 1 m. (3 feet) high; tender.

1707. CELTIS ORIENTALIS.**Nettle tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

1708. HYPERICUM CALYGINUM.**St. John's-wort.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

Native of Levant; small shrub; flowers yellow, 8 cm. in diameter; grows well in shade under trees; evergreen; nearly hardy.

- 1709. HYPERICUM HIRCINUM. St. John's-wort.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)
 Native of Spain; 1 m. (3 feet) high; flowers all summer.
- 1710. HYPERICUM PATULUM. St. John's-wort.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)
- 1711. ALBIZZIA JUBLIBRISSIN. Silk tree.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)
 Native of western Asia; 8 m. (25 feet) high; deciduous; half hardy.
- 1712. MORUS ALBA. Mulberry.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)
 Cultivated in China and Japan for silk.
- 1713. MORUS ALBA. Mulberry.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)
 Variety "*rosea*."
- 1714. MORUS. Mulberry.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
 "*Morus cedrona*."
- 1715. MORUS ALBA TATARICA. Mulberry.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
- 1716. MORUS ALBA. Mulberry.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (20 packages.)
 Variety sometimes called *Morus moretti*.
- 1717. MORUS ALBA. Mulberry.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
- 1718. MYRICA. Wax myrtle.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
 Native of France; shrub 1 m. (3 feet) high; flowers in May.
- 1719. MYRICA NAGI. Wax myrtle.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)
- 1720. MYRTUS COMMUNIS. Bridal myrtle.**
 From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)
 Form called *M. tarentina*.

1721. VACCINIUM ULIGINOSUM.**Bog bilberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of France; 35 cm. (1 foot) high; moist soil.

1722. OXYCOCCUS OXYCOCCUS.**Cranberry.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

European cranberry; grows in marshes.

1723. RHAMNUS ALATERNUS.**Buckthorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

Native of south France; half hardy; 3 to 4 m. (9 to 12 feet) high; evergreen; used for stocks for the improved varieties.

1724. RHAMNUS DAHURICA.**Buckthorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

Used for dyestuffs; half hardy.

1725. JUGLANS REGIA.**Walnut.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1726. JUGLANS REGIA.**Walnut.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1727. JUGLANS REGIA.**Walnut.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1728. JUGLANS.**Walnut.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1729. JUGLANS.**Walnut.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1730. ULMUS CAMPESTRIS.**Elm.**

From France. Received through Mr. W. T. Swingle, December, 1898. 10 packages.)

"*Ulmus modiolina*."

A race of the European elm with large leaves and twisted grain of wood.

1731. OSTREA CARPINIFOLIA.**Hop hornbeam.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1732. POPULUS NIGRA.**Black poplar.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Native of Europe; formerly much cultivated, but now replaced by American species.

1733. POPULUS DELTOIDES.**Cottonwood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

The poplar most frequently cultivated in France; there are various improved varieties propagated by cuttings.

1734. PHELLODENDRON AMURENSE.

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

1735. PHOTINIA ARBUTIFOLIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of California; for stocks.

1736. PINUS MARITIMA.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Grows 15 to 25 m. (45 to 75 feet) high in sandy land; trunk very straight.

1737. PINUS PINASTER.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

More vigorous than *P. maritima*; native of Corsica, Italy, and Spain.

1738. PINUS SYLVESTRIS.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Variety "*rigaensis*."

1739. PINUS SYLVESTRIS.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*rigaensis*."

1740. PINUS LARICIO.**Larch pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Variety "*calabrica*." Valuable tree for ornamental and for forest planting.

1741. PINUS AUSTRIACA.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1742. PINUS LARICIO.**Larch pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1743. PINUS.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Pinus japonica*."

Seeds edible.

1744. PINUS CANARIENSIS.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1745. PINUS EDULIS.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Tender.

1746. PINUS THUNBERGII.**Pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1747. PISTACIA VERA.**Pistachio.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Tender; used for stocks.

1748. (Blank.)**1749. DIOSPYROS EBENUM.****Ebony.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1750. DIOSPYROS LUCIDA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*latifolia*." Native of Japan; tender.

1751. DIOSPYROS LUCIDA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*latifolia*."

1752. DIOSPYROS VIRGINIANA.**Persimmon.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Form called "*Diospyros pubescens*."

1753. PRUNUS DOMESTICA.**Plum.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Stock for almonds and other stone fruits.

1754. RHUS CORIARIA.**Sicilian sumac.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of southern Europe; shrub 1 to 1½ m. (3 to 4½ feet) high; half hardy; used in dyeing and tanning.

1755. GLYCYRRHIZA GLABRA.**Licorice.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1756. RHODODENDRON FERRUGINEUM.**Rhododendron.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of the Alps and Pyrenees; bush 60 to 80 cm. (2 to 2½ feet) high; hardy.

1757. RHODODENDRON HIRSUTUM.**Rhododendron.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of the Alps; 1½ m. (4½ feet) high; hardy.

1758. ROSA MOSCHATA.**Musk rose.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Has large bunches of small flowers, very beautiful. Probably only half hardy. Flowers continuously.

1759. ABIES SIBIRICA.**Siberian fir.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1760. SCHINUS TEREBINTHIFOLIUS.**Pepper tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (3 packages.)

Highly prized as ornamental; superior to *S. molle* as street and lawn tree; foliage most striking; probably half hardy. Suitable for trial in Florida.

1761. TAXODIUM MUCRONATUM.**Cypress.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Native of Mexico; probably half hardy.

1762. SMILAX ASPERA.**Greenbrier.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Native of Mediterranean region; tender.

1763. SMILAX WALTERI.**Greenbrier.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1764. SMILAX.**Greenbrier.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

"*Smilax hastata*" [probably *S. bona-nox* from North America].

1765. PYRUS HYBRIDA.**Wildapple.**

From France. Received through Mr. W. T. Swingle, December, 1898. (24 packages.)

Native of northern Europe; hardy; much like *P. aucuparia*.

1766. EXOCHORDA GRANDIFLORA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Native of China; shrub 2 m. (6 feet) high; large flowers.

1767. EXOCHORDA ALBERTI.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1768. SPIRAEA SORBIFOLIA.**Spiraea.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Native of Japan or Nepal (?); shrub 2 m. (6 feet) high; white flowers in large panicle; tender.

1769. STERCULIA PLATANIFOLIA.**Chinese parasol.**

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

Native of China; tender; 15 to 20 m. (45 to 60 feet) high; try for shade tree in the South; used for street tree in Japan.

1770. STYRAX JAPONICUM.**Storax.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

A small, hardy, and pretty tree with white flowers; to be tried for hedges.

1771. STYRAX OBASSIA.**Storax.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1772. STYRAX OFFICINALE.**Storax.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Native of southern France; grows 3 to 4 m. (9 to 12 feet) high; has large white flowers like the orange; half hardy; try in the South.

1773. RHUS VERNICIFERA.**Lacquer tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Shrub 3 m. (9 feet) high; tender.

1774. RHUS CORIARIA.**Sicilian sumac.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Native of southern Europe; grows 3 m. (9 feet) high; hardy; used in tanning.

1775. RHUS GLABRA.**Sumac.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1776. SAMBUCUS NIGRA.**Elder.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Native of France; grows 4 to 5 m. (12 to 15 feet) high; half hardy; fruit used to color wine, etc.; pith superior to that of American species.

1777. SAMBUCUS RACEMOSA.**Elder.**

From France. Received through Mr. W. T. Swingle, December, 1898. (25 packages.)

Native of southern Europe; grows 4 m. (12 feet) high; fruit red; hardy.

1778. THUJA ORIENTALIS.**Arbor-vitae.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Form called *Thuja tatarica*.

1779. THUJA ORIENTALIS.**Arbor-vitae.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Form called *Thuja filiforme*.

1780. THUJA PLICATA.**Arbor-vitae.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Native of northwestern America; hardy.

1781. TILIA TOMENTOSA.**Linden.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

A fine ornamental tree, native of Hungary; flowers later than other species and holds its leaves longer; half hardy. There are several improved varieties.

1782. LIGUSTRUM NEPALENSE.**Privet.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Evergreen shrub, commonly grafted on *L. vulgare*; tender.

1783. VITIS HETEROPHYLLA.**Grape.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1784. VIRGILIA CAPENSIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1785. MIMOSA ACANTHOCARPA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1786. ACACIA CALAMIFOLIA.**Broom wattle.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1787. ACACIA CAPENSIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1788. ACACIA FARNESIANA.**Cassie.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1789. ACACIA CEBIL.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1790. ACACIA SPADICIGERA (?).

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1791. ACACIA CRASSIUSCULA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1792. ACACIA CULTRIFORMIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

1793. ACACIA CYANOPHYLLA.

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

Grown in dry soil; try for tanning.

1794. ACACIA CYANOPHYLLA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*decipiens*."

1795. ACACIA DEALBATA.

Silver wattle.

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

Native of Australia; a vigorous tree 10 m. (30 feet) high, growing rapidly in moist soil; flowers used for bouquets and perfumery; half hardy.

1796. ACACIA DECURRENS.

Black wattle.

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

Improved source of tannin and available for perfumery making; try carefully in Florida.

1797. ACACIA DECIPIENS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1798. ACACIA DORATOXYLON.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

Yields scented wood.

1799. ACACIA EBURNEA.

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

1800. ACACIA ELATA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1801. ACACIA FARNESIANA.

Cassie.

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

1802. ACACIA GLOMEROSA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1803. ACACIA PULCHELLA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1804. ACACIA HOMALOPHYLLA.

Myall.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1805. ACACIA HORRIDA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1806. ALBIZZIA LEBBECK.**Siris acacia.**

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

1807. ACACIA SALIGNA.**Tan wattle.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Acacia leiophylla decipiens*."

1808. ACACIA BYNOEANA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1809. ALBIZZIA SALIGNA.

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

1810. ACACIA LINIFOLIA.**Sallee.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*glauca*."

1811. ACACIA (?).

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Acacia linophylla*."

1812. ACACIA LONGIFOLIA.**Golden wattle.**

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

Grows 45 m. (135 feet) high and bears lemon-yellow flowers in long spikes. It serves as a stock for all Australian species.

1813. ACACIA LINEARIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Variety "*latifolia*."

1814. ALBIZZIA LOPHANTHA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

A native of Australia. It grows 3 to 5 m. (9 to 15 feet) high and bears small sulphur-yellow flowers.

1815. ALBIZZIA LOPHANTHA.

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

Variety "*neumanni*."

1816. ALBIZZIA LOPHANTHA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Variety "*speciosa*."

1817. ACACIA MACRADENIA.**Myall.**

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

One of the most beautiful species; very early.

1818. ACACIA MELANOXYLON.**Blackwood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

Valuable for wood and tan bark.

1819. ACACIA DECURRENS.**Black wattle.**

From France. Received through Mr. W. T. Swingle, December, 1898. (16 packages.)

Valuable for wood and tan bark.

1820. ACACIA MICROBOTRYA.**Badjong.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1821. ACACIA MYRTIFOLIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1822. ALBIZZIA JULIBRISSIN.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1823. ACACIA ARABICA.**Babool.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1824. ALBIZZIA ODORATISSIMA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1825. ACACIA ARMATA.**Kangaroo-thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Acacia ornithophora*."

1826. ACACIA ARMATA.**Kangaroo-thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Acacia paradoxa*."

1827. ACACIA PENNINERVIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1828. PIPTADENIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

P. peregrina or *P. colubrina*.

1829. ALBIZZIA PROCERA.**Tee-coma.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1830. ACACIA PROMINENS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1831. ACACIA PUGIONIFORMIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1832. ACACIA LEPROSA.**Native hickory.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1833. ACACIA NERIIFOLIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (13 packages.)

Variety "*floribunda*." Used in perfumery.

1834. ACACIA RICEANA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1835. ACACIA RIPARIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1836. ACACIA SIDEROXYLON.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Acacia sideroxylon*."

1837. ACACIA LONGIFOLIA.**Golden wattle.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1838. ACACIA SPECTABILIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1839. ACACIA SPIROBIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1840. ACACIA STENOPHYLLA.**Ironwood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1841. ACACIA SUAVEOLENS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1842. ACACIA XYLOCARPA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1843. ACACIA TRINERVIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1844. ACACIA VESTITA.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

From St. Helena.

1845. BIXA ORELLANA.**Arnotto.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

Small tree; seeds yield a dye, now used especially in coloring butter.

1846. CAESALPINIA SEPIARIA.**Mysore thorn.**

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1847. CAESALPINIA TINCTORIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (4 packages.)

1848. CALLISTEMON COCCINEUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1849. CALLISTEMON.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

"*Callistemon falcatus*."

1850. CALLISTEMON HYBRIDUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1851. CALLISTEMON LANCEOLATUS.**Red bottle-brush.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

Used as a stock for all other species, large tree; in France, a shrub 2 to 3 m. (6 to 9 feet) high.

1852. CALLISTEMON LINEARIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1853. CALLISTEMON SALIGNUS.**Stonewood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1854. CALLISTEMON PHOENICEUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1855. CALLISTEMON PINIFOLIUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1856. CALLISTEMON RIGIDUM.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1857. CALLISTEMON SALIGNUS.**Stonewood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1858. CALLISTEMON SPECIOSUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

Produces red flowers in spring.

1859. CASSIA POLYANTHA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1860. CASUARINA CUNNINGHAMIANA.**She-oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

Called *C. tenuissima*.

1861. CASUARINA DISTYLA.**She-oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1862. CASUARINA GLAUCA.**She-oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1863. CASUARINA STRICTA.**She-oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

Form know as *C. quadrivalvis*.

1864. CASUARINA STRICTA.**She-oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1865. CASUARINA SUBEROSA.**She-oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1866. CASUARINA TORULOSA.**She-oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1867. CINCHONA LEDGERIANA.**Peruvian bark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1868. CINCHONA.**Peruvian bark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

"*Cinchona schubkufi*."

1869. CINCHONA LANCIFOLIA.**Peruvian bark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1870. CINCHONA OFFICINALIS.**Peruvian bark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1871. CINCHONA PITAYENSIS.**Peruvian bark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1872. CINCHONA SUCCIRUBRA.**Peruvian bark.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

1873. DAMMARA AUSTRALIS.**Kauri pine.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

Native of Australia; source of one of the dammar resins of commerce.

1874. MEIBOMIA GYRANS.**Telegraph plant.**

From France. Received through Mr. W. T. Swingle, December, 1898. (1 package.)

Native of Bengal; biennial, $\frac{1}{2}$ m. ($1\frac{1}{2}$ feet) high; a curiosity on account of the continual movement of the leaves.

1875. DORYANTHES.**Giant lily.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Sent as *D. guilfoylei*, a name not yet verified. Fine plant, with large flowers; probably tender.

1876. DURANTA PLUMIERI.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

The form called *Duranta ellisia*. Try in Florida, where the species is useful as an ornamental shrub.

1877. DURANTA PLUMIERI.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Form called *Duranta inermis*. Try in Florida, where the species is useful as an ornamental shrub.

1878. ERYTHRINA CRISTA-GALLI.

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

Native of South America; there a large tree; a shrub in France; half hardy.

1879. ERYTHRINA CAFFRA.**Kafir tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (10 packages.)

1880. (Blank.)**1881. ERYTHRINA CORALLODENDRON.****Coral tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1882. ERYTHRINA CORALLOIDES.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1883. ERYTHRINA FUSCA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1884. ERYTHRINA INDICA.**Coral tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1885. ERYTHRINA INSIGNIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1886. CYTISUS CANARIENSIS.**Broom.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1887. GREVILLEA BANKSII.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1888. GREVILLEA HILLIANA.**Silky oak.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1889. GREVILLEA PYRAMIDALIS.

From France. Received through Mr. W. T. Swingle, December, 1898. (6 packages.)

1890. HAEMATOTOXYLON CAMPECHIANUM.**Logwood.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Furnishes the well-known dyestuff.

1891. HONCKENYA FICIFOLIA.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Fine shrub, with purple flowers; native of Lagos.

1892. GONOLOBUS MARITIMUS.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Fine tropical climber.

1893. IPOMOEA SIDAEOFOLIA.**Morning glory.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

A rapid grower, producing a fine effect when in flower; one of the most beautiful of the family.

1894. PITHECOLOBIUM SAMAN.**Rain tree.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

1895. TIPUANA SPECIOSA.

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

A tree reaching 20 m. (60 feet) high, of extremely rapid growth. It is injured by a temperature of 4° C. (25° F.).

1896. MEDICAGO ARBOREA.**Tree medic.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

1897. MELIANTHUS MAJOR.

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

A native of the Cape, 2½ m. (7½ feet) high, the foliage fine; a honey plant (?).

1898. MELICocca BLJUGA.**Jenip.**

From France. Received through Mr. W. T. Swingle, December, 1898. (5 packages.)

Tropical edible fruit.

1899. MUSA ENSETE.**Abyssinian banana.**

From France. Received through Mr. W. T. Swingle, December, 1898. (15 packages.)

A fine ornamental plant, grown only from seed, unusually hardy; stem 2½ m. (7½ feet); leaves 2.5 by .6 m. (7½ by 2 feet).

1900. MUSA.**Banana.**

From France. Received through Mr. W. T. Swingle, December, 1898. (2 packages.)

Sent under name of "*Musa martini*."