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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 114



Washington, D. C.

Issued November, 1934

PLANT MATERIAL INTRODUCED BY THE DIVISION OF PLANT EXPLORATION AND INTRODUCTION, BUREAU OF PLANT INDUSTRY, JANUARY 1 TO MARCH 31, 1933 (Nos. 101585-102377)

CONTENTS

Introductory statement.....	1
Inventory.....	3
Index of common and scientific names.....	85

INTRODUCTORY STATEMENT

The present Inventory, no. 114, records plant material received by the Division of Plant Exploration and Introduction from January 1 to March 31, 1933 (nos. 101585-102377).

Among the important projects included in the program of this Division is the introduction of the deciduous fruit varieties now grown commercially in various parts of the world. As a step in the fulfillment of this program, several shipments of this type of material were received during the period covered by this inventory. Especially noteworthy are two lots of plants and scions from Morocco (101806-101875, 102002-102062); these include indigenous varieties of figs, olives, apricots, almonds, and grapes, all of which are destined for trial in the subtropical areas of our West and Southwest, where these fruits already form the basis of important industries.

In considering the needs of the colder fruit-growing areas, mention should be made of four lots of scions of apples and sour cherries from the Scandinavian countries (nos. 101881-101890, 102126-102153, and 102164-102180), and one lot of apple scions from Poland (102369-102372). A large number of these are local varieties that represent many years' work in careful selection. From eastern China, where the peach has been grown since the dawn of civilization, there is recorded a lot of 27 scions of peach varieties (101663-101689) collected in small towns and villages where, in many instances, a particular fruit variety is known only in a very limited area.

The nut-growing industry in the United States will be aided, eventually, by the introduction of three lots of filberts (101706-

101711, 101891-101902, and 102121-102125) from the Union of Soviet Socialist Republics, and by 13 types of walnuts (102084-102096) from the same country. Attention should also be called to the introduction of a collection of scions of what are said to be unusually cold-resistant varieties of the Spanish chestnut from Czechoslovakia (101610-101617). For the ultimate benefit of nut growers, but more immediately for use in chestnut-blight investigations, there are recorded four lots of seed of different species of *Castanea* (101587-101607, 101690-101692, 101982-101991, and 102106-102111) received from northeastern China. Most of these are *C. mollissima*, the Chinese hairy chestnut, whose natural resistance to chestnut blight has led to its wide use in hybridizing experiments.

Plants suitable for growing in the colder and drier areas of the western United States are constantly being sought by this division. It is of interest, therefore, to note two shipments of plant material received during this period from Manchuria. One of these, a collection of hardy forage grasses (101645-101660) from the prairie country near Harbin, Manchuria, introduced for Department specialists, should prove of definite value for the colder areas of our stock-raising States. Another lot of plant material (102289-102309), received also from Manchuria but including hardy trees and shrubs native to many different parts of northeastern Asia, such as maples and hollies from Chosen and northern Japan, will prove interesting additions to the introduced flora of our colder regions.

In the field of ornamentals, there are two large collections that deserve special mention. These come from England and Scotland, respectively (101736-101797 and 101923-101962), and consist largely of alpine perennials, including numerous species of such genera as *Anthemis*, *Aquilegia*, and *Dianthus*. These are all intended for testing at the plant introduction gardens of this Division.

The botanical determinations were made and the nomenclature determined by the late H. C. Skeels,¹ who had general supervision of this inventory.

B. Y. MORRISON,
Principal Horticulturist, in Charge.

DIVISION OF PLANT EXPLORATION AND INTRODUCTION,
Washington, D.C., March 30, 1934.

¹ Died Jan. 3, 1934.

INVENTORY²

101585. TRisetum FLAVESCENS (L.)
Beauv. Poaceae. Grass.

From France. Seeds purchased from Vil-morin-Andrieux & Cie., Paris. Received January 4, 1933.

A grass resembling tall oatgrass, growing on open ground, in copses and meadows, which may prove valuable as a forage grass. Native to Europe and Asia.

101586. AVENA SATIVA L. Poaceae.
Oats.

From Sweden. Seeds presented by Dr. A. Akerman, Swedish Agricultural Society, Svalöf. Received January 5, 1933.

Sitrus.

101587 to 101607. CASTANEA SPP.
Fagaceae. Chestnut.

From China. Seeds collected by Peter Liu, Pe'ping. Received January 4, 1933.

101587. CASTANEA HENRYI (Skan) Rehd.
and Wils.

Chu Lee or *Chun Lee*, pearl chestnut. An edible chestnut from Hsiaofeng, Chekiang. The tree becomes 25 to 30 feet high with oblong-lanceolate, long-acuminate leaves, green on both sides. The burs are either solitary or two in a bunch and contain usually but one seed.

For previous introduction see 100378.

101588 to 101606. CASTANEA MOLLISSIMA
Blume. Hairy chestnut.

101588 and 101589. From Taian, Shantung.

101588. *Bright.*

101588. *Ts'ao Lee Tzu.* An early chestnut.

101587 to 101607—Continued.

101590 to 101595. From Hopeh.

101590 and 101591. *East Mountain* Late chestnuts from Pocheng, near Santunying.

101592. *Chiufen.* From Panshan.

101593. *Chiufen.* From Tsuike-chuang.

101594. An early chestnut from Fangshan.

101595. From Fuchow, Kiangsi.

101596. *Mao Lee Tzu.* From Taian, Shantung.

101597 and 101598. *Hantü.* A late chestnut from Hopeh.

101597. From Fahuassu.

101598. From Tsuikechuang.

101599. A large chestnut from Hsinteng, Chekiang.

101600 to 101606. From Hopeh.

101600. A large chestnut from Fahuassu.

101601. A late chestnut from Fangshan.

101602. *Pailu.* From Tsuikechuang.

101603 to 101606. From Fahuassu, Hopeh.

101603. *Pailu.*

101604. *Second Ripening.*

101605. A short-flowered late chestnut.

101606. *Tiger paw.*

² It should be understood that the names of horticultural varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Division of Plant Exploration and Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

It is a well-known fact that botanical descriptions, both technical and economic, seldom mention the seeds at all and rarely describe them in such a way as to make possible identification from the seeds alone. Many of the unusual plants listed in these inventories are appearing in this country for the first time, and there are no seed samples or herbarium specimens with ripe seeds with which the new arrivals may be compared. The only identification possible is to see that the sample received resembles seeds of other species of the same genus or of related genera. The responsibility for the identifications therefore must necessarily often rest with the person sending the material. If there is any question regarding the correctness of the identification of any plant received from this Division, herbarium specimens of leaves and flowers should be sent in so that definite identification can be made.

101587 to 101607—Continued.

101607. *CASTANEA SEGUINII* Dode.

A wild bush chestnut from Hangchow, native to east-central China. It is usually a bush or low tree, but occasionally a shapely tree 40 feet high, with deep-green leaves, paler beneath, and small nuts of sweet agreeable flavor.

101608. *CASUARINA TORULOSA* Ait.
Casuarinaceae.

From Australia. Seeds presented by Dr. Alexander McTaggart, Commonwealth Forestry Bureau, Council for Scientific and Industrial Research, Division of Plant Industry, Canberra. Received January 5, 1933.

From the Cooperook State Forest, New South Wales, November 14, 1932. A native Australian tree with wood which is close grained and very prettily marked. It is used for shingles and also as veneer for cabinetwork.

For previous introduction see 92486.

101609. *CITRUS* sp. Rutaceae.

From the Society Islands. Scions collected at Papeete, Tahiti, by Gerrit P. Wilder. Received January 16, 1933.

101610 to 101617. *CASTANEA SATIVA* Mill. Fagaceae. Spanish chestnut.

From Czechoslovakia. Scions presented by the Ministry of Agriculture, Bratislava, through Dr. Jan Skalicky, counselor, Czechoslovak Legation, Washington, D.C. Received January 10, 1933.

A collection of scions of very cold-resistant varieties.

101610. From Bratislava.

101611 to 101613. From Zablatie, in the Vah River Valley.

101614. From Drietoma, in the Vah River Valley.

101615. From Pruske, in the Vah River Valley.

101616. From Topolcianky.

101617. From Radosina.

101618. *ALLIUM SATIVUM* L. Liliaceae.
Garlic.

From Manchuria. Bulbs presented by Shinichi Terada, Agricultural Experiment Station of the South Manchurian Railway Co., Yagakujo. Received January 10, 1933.

Introduced for the use of Department specialists.

101619. *TULIPA BIEBERSTEINIANA* Schult. f. Liliaceae. Tulip.

From the Union of Soviet Socialist Republics. Seeds presented by the Nikita Botanic Garden through the chief of the Bureau of Introduction, Leningrad. Received January 9, 1933.

A rather low plant with 2 or 3 lanceolate or linear grooved acute leaves and a smooth stem bearing a single flower, yellow within and greenish-yellow on the outside. Native to southeastern Russia and closely related to *Tulipa celsiana*.

101620 to 101622. *AVENA* spp. Poaceae. Oats.

101620 to 101622—Continued.

From Australia. Seeds presented by the New England Experiment Farm, Glen Innes, New South Wales. Received January 12, 1933.

101620. *AVENA SATIVA* L.

Laggan.

101621. *Avena* sp. Burke.

101622. *Avena* sp. Lampton.

101623 to 101627.

From Spain. Scions presented by Ramon Sala, Balaguer, Lerida. Received January 14, 1933.

101623. *OLEA EUROPAEA* L. Oleaceae.
Common olive.

Grossal. A locally grown variety with fruit larger than the average, but the tree is a poor cropper.

101624 to 101627. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

101624. *Cantino*. A fruit of rather poor quality, but an enormous yielder and a good shipper. Possibly the most widely grown variety in Spain.

101625. *Moniqui*. The best variety grown in Spain. The fruit is large with white flesh and is quite peculiar and different from the other apricots, but it is a poor yielder.

101626. *Perla*. A very good variety, which is planted quite extensively in Spain.

101627. *Rosa*. The earliest commercial variety of Spain. The fruit is earlier and larger than the *Early Newcastle*.

101628. *ZAMIA PORTORICENSIS* Urban. Cycadaceae.

From Puerto Rico. Tubers presented by T. B. McClelland, director of the Agricultural Experiment Station, Mayaguez. Received January 18, 1933.

A cycad with a short stem 12 to 14 inches high, native to Puerto Rico. The pinnately compound leaves, 2 to 3 feet long, are made up of 20 to 34 smooth shining narrowly linear leaflets, 2 to 3 inches long, which are usually entire but may have 1 or 2 small teeth near the tip. The oblong-cylindric fruiting cone, 10 inches long, is covered with gray tomentose scales.

For previous introduction see 98737.

101629. *HAMAMELIS JAPONICA* Sieb. and Zucc. Hamamelidaceae.
Japanese witch-hazel.

From Japan. Seeds purchased from the Chugal Shokubutsu Yen, nurserymen, Yamamoyo, Kawabegun, near Kobe. Received January 12, 1933.

A shrub or small tree up to 30 feet high, with broadly ovate or obovate leaves 2 to 4 inches long. The flowers, which appear in January and February, are an inch across with revolute sepals, purple inside, and bright yellow petals. Native to Japan.

101630 to 101644. *VITIS VINIFERA* L. Vitaceae. European grape.

From Italy. Cuttings presented by Prof. Giovanni Delmasso, Direttore della R.

101630 to 101644—Continued.

Stazione Sperimentale di Viticoltura e di Enologia, Conegliano, through the American consul general, Naples. Received January 14, 1933.

- 101630. *Aspessorgia* (di Sardegna).
- 101631. *Baresana*.
- 101632. *Carniola di Milazzo*.
- 101633. *Cortese*.
- 101634. *Dolcetto*.
- 101635. *Fogarina* (Reggiano) di Guat-
tieri.
- 101636. *Garganega di Gambellara*.
- 101637. *Insolla* (Sicilia).
- 101638. *Italla* (Incrocio Pirovano 65).
- 101639. *Lambrusco di Sorbara* (Modena).
- 101640. *Lattinario nero*.
- 101641. *Moscato di Terracina*.
- 101642. *Moscato fior d'Arancio*.
- 101643. *Uva Regina*.
- 101644. *Zibibbo siciliano*.

101645 to 101660. Poaceae. Grass.

From Manchuria. Seeds purchased from L. Puitsin, Harbin. Received January 9, 1933.

A collection of forage grasses from the prairie region around Harbin, northern Manchuria.

- 101645. *AGROPYRON SEMICOSTATUM* Nees.
A perennial fibrous-rooted grass with erect stems and narrowly linear leaves. Native to Asia from Afghanistan to Manchuria.

For previous introduction see 90126.

- 101646. *AGROPYRON SIBIRICUM* (Willd.) Beauv.

An upright cespitose perennial grass, up to 16 inches high, with linear leaves. It is very drought resistant and is native from the Caucasus region in southern Europe to Manchuria.

For previous introduction see 98536.

- 101647. *BROMUS INERMIS* Leyss.
Common bromegrass.

- 101648. *CALAMAGROSTIS EPIGEJOS* (L.) Link.

A stout perennial grass, native to Manchuria, which grows on rather poor soil and is rather abundant.

For previous introduction see 94295.

- 101649. *CHAETOCHELOA LUTESCENS* (Weigel) Stuntz (*Setaria glauca* Beauv.).

Found in damp meadows near Harbin.

- 101650. *CHAETOCHELOA VIRIDIS* (L.) Scribn.

- 101651. *CHLORIS VIRGATA* Swartz.
Feather fingergrass.

- 101652. *CHAETOCHELOA VIRIDIS* (L.) Scribn.

For previous introduction see 101650.

- 101653. *DIGITARIA ISCHAEMUM* (Schreb.) Muhl.

- 101654. *ECHINOCHLOA CRUSGALLI* (L.) Beauv.

101645 to 101660—Continued.

- 101655. *ECHINOCHLOA CRUSGALLI* MITTS (Pursh) Peterm.

- 101656. *ELYMUS DAHURICUS* Turcz.

- 101657. *ERAGROSTIS CELLANENSIS* (All.) Link.

- 101658. *ERAGROSTIS PILOSA* (L.) Beauv.

- 101659. *ERIOCHLOA VILLOSA* (Thunb.) Kunth.

- 101660. *KOELERIA CRISTATA* (L.) Pers.

- 101661. *CINCHONA SUCCIRUBRA* PAVON.
Rubiaceae.

From Jamaica. Seeds presented by M. S. Goodman, superintendent of Hope Gardens, Kingston. Received January 14, 1933.

The bark of this tree contains a large quantity of alkaloids, of which a relatively large percentage is cinchonidine, which retards the separation of the quinine as sulphate. The bark matures in the fourth or fifth year and does not increase in quinine content thereafter.

For previous introduction see 100988.

- 101662. *FERONIA LIMONIA* (L.) Swingle. Rutaceae. Wood-apple.

From French Indo-China. Seeds presented by M. Pollane, Institut des Recherches Agronomique de l'Indochine, Division de Botanique. Received January 17, 1933.

A small very graceful thorny tree, native to India, where it thrives in exhausted soil in which no other tree can grow. The round fruits, about 2 inches in diameter, contain rather dry sweetish aromatic pulp, suitable for making jelly.

For previous introduction see 95594.

101663 to 101694.

From China. Scions collected by Peter Liu, of Peiping, and sent through Owen L. Dawson, agricultural commissioner, Shanghai. Received January 16, 1933.

- 101663 to 101669. *AMYGDALUS* spp.
Amygdalaceae. Peach.

- 101663 to 101669. *AMYGDALUS PERSICA* L.

From the village of Shangchihstun, west of Feicheng, Shantung.

- 101663 to 101666. *Ta Tao*, or Fei peach.

- 101663. No. 1. 101665. No. 3.

- 101664. No. 2. 101666. No. 4.

- 101667 to 101669. *Ta Tao*, or Fei peach. A large clingstone.

- 101667. No. 5. 101669. No. 7.

- 101668. No. 6.

- 101670 to 101673. *AMYGDALUS PERSICA* PLATYCARPA (Decaisne) Ricker.
Flat peach.

Pien Tzu, from the village of Sunchiachuang, south of Feicheng.

- 101670. No. 8. 101672. No. 10.

- 101671. No. 9. 101673. No. 11.

- 101674 to 101689. *AMYGDALUS PERSICA* L.

101663 to 101694—Continued.

101674 to 101676. *Ku Chu'a Hung*, meaning millet season red peach. Collected near Shangchihsun. A freestone which ripens in August.

101674. No. 12. 101676. No. 14.

101675. No. 13.

101677 to 101689. *Ta Tao*, or Fei peach. A large clingstone which ripens in early September.

101677 to 101686. From near the village of Sunchiachuang, south of Feicheng.

101677. No. 15. 101682. No. 20.

101678. No. 16. 101683. No. 21.

101679. No. 17. 101684. No. 22.

101680. No. 18. 101685. No. 23.

101681. No. 19. 101686. No. 24.

101687 to 101689. From the village of Tiaochiatun, south of Feicheng.

101687. No. 25. 101689. No. 27.

101688. No. 26.

101690 to 101692. *CASTANEA MOLLISSIMA* Blume. Fagaceae. Hairy chestnut.

Collected in an orchard near the village of Chunyangkou, northeast of Tai'an; Shangtung.

101690. *Tsao* or *Ts'ao*; early chestnut. Said to ripen the end of August or early in September.

101691. *Mao Lee Tzu*; hairy chestnut. Said to ripen the middle of September.

101692. *Ming* or *Min Lee Tzu*; late chestnut. A seedling which ripens the middle of September.

101693 and 101694. *DIOSPYROS KAKI* L. f. Diospyraceae. Kaki persimmon.

Secured through Chu Li Chi, a persimmon storage owner, at the village of Hsiangtang, north of Tangshan Hot Spring, Hopeh.

101693. *Ch'u Tou Shih Tzu*; lantern persimmon.

101694. *Tai Kai Shih*; large persimmon.

101695 to 101702.

From Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz. Received January 14, 1933.

101695. *ACROCOMIA MEXICANA* Karw. Phoenicaceae. Palm.

Collected at 800 feet altitude and found in the cooler regions of Mexico up to 3,000 feet. A prickly palm about 20 feet high, with a brown, woolly trunk over a foot thick and terminal leaves from 6 to 8 feet in length. The sheathing bases of the leaves are armed with long black spines, and the spathe also is very spiny. The fragrant yellow flowers are followed by round fruits in very long clusters.

101696. *ATTALEA COHUNE* Mart. Phoenicaceae. Cohune.

A magnificent feather-leaved palm native to the West Indies and Central America where it reaches a height of 40

101695 to 101702—Continued.

feet, with leaves 20 feet long produced abundantly at the top of the trunk. The yellowish flowers are borne very freely, and the ovoid fruit, 2 to 3 inches long, contains a seed or nut which yields a valuable oil of high quality, used for cooking purposes.

For previous introduction see 98545.

101697. *CERATOPZAMIA MEXICANA* Brought. Cycadaceae.

A handsome cycad from southeastern Mexico, with a short thick ovoid trunk crowned with a whorl of rich dark-green pinnate leaves several feet in length. An excellent decorative plant, best grown in sandy loam.

101698 to 101701. *CHAMAEDOREA* spp. Phoenicaceae. Palm.

101698. *CHAMAEDOREA ELATIOR* Mart.

A low palm collected between 800 and 900 feet altitude at Zacuapam, Vera Cruz. It has a flexuous stem 10 to 15 feet high and pinnate leaves 6 to 8 feet long. Native to southern Mexico.

101699. *CHAMAEDOREA ELEGANS* Mart. Phoenicaceae. Palm.

Collected between 800 and 900 feet altitude. A handsome dwarf palm, native to southern Mexico and Central America. It is an excellent ornamental house plant, as it will tolerate shade to a greater extent than many other plants, and often comes into flower when not over a foot high. The deep-green finely pinnate graceful leaves are very attractive.

101700. *CHAMAEDOREA SARTORII* Liebm.

A palm, native to southern Mexico, with a trunk 8 to 15 feet high, covered with the bases of the leaf petioles. The pinnately compound leaves, 3 to 4 feet long, are made up of alternate falcate pinnae 12 inches long, and the oval black fruits are less than an inch long.

101701. *CHAMAEDOREA TEPEJILOTE* Liebm.

A palm, native to southern Mexico, up to 10 feet high, with pinnate leaves about 4 feet long. The undeveloped inflorescence is eaten as a vegetable.

For previous introduction see 93281.

101702. *GOSSYPIUM* sp. Malvaceae. Cotton.

Collected in a garden at Rinconada, Vera Cruz.

101703. *ANTIGONON GUATIMALENSE* Melsn. Polygonaceae.

From Cuba. Tubers presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received January 19, 1933.

Throughout the American Tropics one of the most popular and conspicuous ornamental herbaceous climbers is the *Rosa de montana* (*Antigonon leptopus*), with its showy racemes of rose-pink flowers. The species, *A. guatimalense*, while much less common in cultivation, has more numerous flowers that are deeper pink and nearly twice as large.

101704 and 101705. *CASTANEA CRENATA*
Sieb. and Zucc. Fagaceae.
Japanese chestnut.

From Japan. Seeds purchased from the
Yokohama Nursery Co., through their
New York office. Received January 18,
1933.

101704. *Akita-ken*. Collected in Sen-
hoku-gun, Kakudate, Eirimocho, Japan.

101705. *Aomori-ken*. From Sanhohe-gun,
Nakui Mura, Nakuidake, Japan.

101706 to 101724.

From the Union of Soviet Socialist Repub-
lics. Plants and cuttings presented by
the Horticultural Experiment Station at
Sochi, Black Sea district. Received Janu-
ary 19, 1933.

101706 to 101711. *CORYLUS* spp. Betu-
laceae. Filbert.

101706. *CORYLUS AVELLANA* L.

Cherkessky. A locally grown vari-
ety.

101707 to 101709. *CORYLUS MAXIMA*
Mill. Giant filbert.

101707. *Kerasund*; a round variety.

101708. *Kerasund*; a long variety.

101709. *Kerasund*; "X", no. 141861.

101710. *CORYLUS* sp.

Kudravchik. No. 141862.

101711. *CORYLUS AVELLANA* L.

Trapezund. No. 141860.

101712 to 101724. *FICUS CARICA* L. Mo-
raceae. Common fig.

101712. *Arabuly*. No. 141874.

101713. *Borgezet*.

101714. *Dalmatsky*.

101715. *Dor*.

101716. *Eriphera*.

101717. *Golden Drop*. No. 141876.

101718. *Malepira*.

101719. *Neapolitan*.

101720. *Nikitsky*. No. 1.

101721. *Smirnsky*.

101722. *Violet*.

101723. *Violet Delicate*.

101724. *Zakavassky Pink*. No. 141864.

101725 to 101735.

From China. Seeds purchased through
Peter Liu, of Peiping, and sent through
Owen L. Dawson, agricultural commis-
sioner, Shanghai. Received January 16,
1933.

101725. *AMYGDALUS PERSICA* L. Amyg-
dalaceae. Peach.

Mao Tao, hairy peach. Collected in
the village of Shangchihstun, Shantung.
The Chinese use this peach as a rootstock.

101726. *PHASEOLUS AUREUS* Roxb. Fab-
aceae. Mung bean.

Ming Lu Tou, or bright-green bean.
Collected near Hsiaokankechuang, north-
east of Luanchow, Hopeh. A bean used
for making vermicelli and also used in
the rice porridge in summer.

101725 to 101735—Continued.

101727. *PRUNUS JAPONICA* Thunb. Amyg-
dalaceae. Chinese bush cherry.

Ouli. A wild cherry purchased in
Peiping, but probably grown in the Ming
Tomb region.

101728 to 101735 were collected Septem-
ber 28, 1932, in the village of Hsiaokan-
kechuang, northeast of Luanchow, Hopeh.

101728 to 101730. *SOJA MAX* (L.) Piper.
Fabaceae. Soybean.

101728. *Hei Chi Huang Tou*, black
and yellow bean. The best variety
in this locality for making bean
curd.

101729. *Hsiao Ching Tou*, small green
bean. A light-green bean which is
a prolific bearer.

101730. *Ta Ching Tou*, large green
bean. Used for making sprouts and
also as a green vegetable.

101731 to 101735. *VIGNA SINENSIS*
(Torner) Savi. Fabaceae. Cowpea.

These cowpeas are mixed with kaoliang
and made into porridge. They are also
used for making sweet bean paste to
be eaten with bread; at the New Year
time.

101731. *Hsiao Pai Tou*. A small
white cowpea.

101732. *Hua Yao Chiang Tou*, mean-
ing color girdled bean.

101733. *Ma Chiang Tou*. A mottled
cowpea.

101734. *Ta Pai Tou*. A large white
cowpea.

101735. *Tu Ti Lien*, which means
"face of the God of the earth",
because it is a rather dull-colored
cowpea.

101736 to 101797.

From England. Seeds purchased from W.
E. Th. Ingwersen, Ltd., Birch Farm
Hardy Plant Nursery, Sharpthorne, East
Grinstead, Sussex. Received January 13,
1933.

101736. *TANACETUM ABROTANIFOLIUM*
(L.) Druce (*Achillea abrotanifolia*
(L.). Asteraceae. Tansy.

A perennial composite with an erect
stem about 2 feet high, hairy pinnatisect
leaves, and yellow flower heads in
corymbs. Native to southeastern Asia.

101737 to 101748. *ACHILLEA* spp. As-
teraceae. Yarrow.

101737. *ACHILLEA ALPINA* L.

An attractive much-branched, alpine
perennial, with smooth sessile pin-
natifid leaves and terminal corymbs
of golden-yellow flowers. It is very
similar to *A. ptarmica*. Native to
the Alps.

101738. *ACHILLEA CLAVENNAE* L.

A dwarf alpine perennial herb up
to 10 inches high, native to Europe.
The deeply divided leaves are dentate
at the tip, but the segments are ob-
tuse, and the white flower heads ap-
pear in the spring.

101739. *ACHILLEA DECOLORANS* Schrad.

A perennial with a much-branched
stem, linear-acute serrate leaves, and

101736 to 101797—Continued.

dense corymbs of pale yellow flowers. It is of garden origin.

101740. *ACHILLEA HERBAROTA* All.

A dwarf tufted aromatic alpine perennial herb, native to the Alps of Europe. The undivided leaves are serrate, and the white flowers appear in May and June.

101741. *ACHILLEA KELLERERI* C. F. Ball.

A hybrid (*A. olypeolata* × *pseudo-pectinata*), one of the best for the rock garden, with long silvery leaves and umbels of white flowers.

101742. *ACHILLEA KOLBIANA* Hort.

A name for which a place of publication and a description have not been found.

101743. *ACHILLEA LEWISII* S. Arnott.

A hybrid between *A. rupestris* and *A. tomentosa*; one of the choicest of the smaller hybrid yarrows. It has a neat habit and attractive small flat clusters of pale-yellow flower heads.

101744. *ACHILLEA NEILREICHII* Kern.

A perennial with a creeping woody rhizome and a stiff upright woolly stem. The gray-green bipinnate leaves are hairy on both sides, and the yellow flowers are in small heads arranged in a flat raceme. Native to eastern Europe and closely related to *A. nobilis*.

101745. *ACHILLEA PSEUDO-PECTINATA* Janka.

An erect herb with sessile pectinate-pinnatifid leaves and yellow flowers in lax clusters. Native to sandy places in southeastern Europe.

101746. *ACHILLEA RUPESTRIS* Huter.

A laxly caespitose perennial with erect or ascending stems 3 to 9 inches tall, small gray-green, glanduliferous, spatulate, usually entire leaves less than 1 inch long, and white flower heads in small umbels. Native to Italy.

101747. *ACHILLEA SPECIOSA* Henckel.

A perennial herb about 3 feet high, with lanceolate sessile serrate leaves and white flowers in terminal and axillary corymbs.

101748. *ACHILLEA WILCZEKIANA* Vacc.

A hybrid between *A. herbarota* and *A. nano*, with fine silvery gray, coarsely serrate leaves and long panicles of white flowers.

101749 to 101755. *ALYSSUM* spp. Brassicaceae.101749. *ALYSSUM DIFFUSUM* Tenore.

An alpine plant, native to central Europe, with a widely branched, herbaceous stem, linear-lanceolate hairy leaves, and flowers in simple racemes.

101750. *ALYSSUM HALIMIFOLIUM* Willd.

A woody procumbent perennial with cuneate, lanceolate or linear, obtuse white-hairy leaves and white flowers. Native to dry places in southern Europe.

101736 to 101797—Continued.

101751. *ALYSSUM ROCHELII* Andr.

A laxly procumbent plant with hairy lanceolate leaves and yellow flowers in short dense racemes. It is native to Germany and resembles *A. wulfenianum* in flowers and fruits.

101752. *ALYSSUM SAXATILE* L. Goldentuft.

Variety *citrinum*.

101753. *ALYSSUM SERPYLLIFOLIUM* Desf.

A woody perennial with numerous erect slender stems, spatulate rigid ash-colored leaves, and many small yellow flowers in terminal corymbs. Native to the Mediterranean region.

101754. *ALYSSUM SPINOSUM* L.

Roseum. A rosy flowered form of this European woody-stemmed dwarf perennial, which usually has many small white flowers on spiny branches and lanceolate silvery leaves.

101755. *ALYSSUM WULFENIANUM* Willd.

An alpine perennial, hairy throughout, with a short ascending stem, oblong-spatulate leaves, yellow flowers, and pods twice as long as *A. montanum*, which it resembles closely. Native to Germany.

101756 to 101761. *ANTHEMIS* spp. Asteraceae. Camomile.101756. *ANTHEMIS CARPATICA* (*A. styriaca* Vest.) Willd.

An alpine perennial from central Europe which forms a tuft of short leafy stems bearing solitary flower heads with white rays and yellow disks.

For previous introduction see 95465.

101757. *ANTHEMIS CUPANIANA* Hort.

A name for which a place of publication and a description have not been found.

101758. *ANTHEMIS HAUSSKNECHTII* Boiss. and Reut.

An annual daisylike plant with erect hairy stems 2 inches or more high, ovate-oblong tripinnatisect leaves, and flowers with white rays and violet centers. Native to Asia Minor.

For previous introduction see 95461.

101759. *ANTHEMIS RUDOLPHIANA* Adam.

A caespitose perennial with simple stems 3 to 5 inches high, silky pinnatifid leaves, and yellow flower heads. Similar to *A. montana* and native to southeastern Europe.

101760. *ANTHEMIS SANCTI-JOHANNIS* Stoy., Steff., and Turill.

An ornamental perennial herb 3 to 4 feet high, native to the mountain slopes of Bulgaria at 4,000 feet altitude. The few branched woolly stems have 2- to 3-times partly pinnate basal leaves 5 to 7 inches long, the tips of which are armed with hard white acuminate points. The stem leaves are similar but gradually smaller, leaving bare stems 3 to 7 inches below the flower heads, which are solitary and 1 to 2 inches broad. The ray flowers and

101736 to 101797—Continued.

disk are an intense orange, making a brilliant contrast to the woolly leaves.

For previous introduction see 95464.

101761. ANTHEMIS CARPATICA Willd.
(*A. styriaca* Vest).

For previous introduction and description see 101756.

101762 to 101772. AQUILEGIA spp. Ranunculaceae. Columbine.

101762. AQUILEGIA ALPINA L.
Alpine columbine.

An alpine perennial herb about 12 inches high, native to Switzerland. The biternate leaves have deeply lobed divisions 1 to 2 inches long, and the expanded flowers are 2 inches across with blue sepals and white petals; the incurved spurs are as long as the petals.

101763 and 101764. AQUILEGIA BERNARDI Gren. and Godr.

101763. A plant about 2 feet high with large biternate leaves with trifid leaflets and 3 to 7 large blue flowers. Native to France.

101764. Variety *alba*. A form with white flowers.

101765. AQUILEGIA CLEMATIDIFLORA Hort.

A name for which a place of publication and a description have not been found.

101766. AQUILEGIA DISCOLOR Lev. and Leresche.

An alpine plant, native to Spain, with a thick rhizome, smooth biternate leaves, and flowers with sky-blue petaloid sepals and white petals.

101767. AQUILEGIA ESCALCARATA Hort.

A name for which a description and a place of publication have not been found.

101768. AQUILEGIA EINSELEANA F. W. Schultz.

A columbine from the Alps of western Germany, with stiff, ternate, incised or crenate leaves and blue flowers, smaller than those of *A. alpina*.

101769. AQUILEGIA BERTOLONII Scott
(*A. reuteri* Boiss.).

An alpine plant over a foot high, with long stemmed, biternate, incised-lobed basal leaves and pale-blue flowers. Native to the Alps.

101770. AQUILEGIA STUARTI Balf. f.

A garden hybrid between *A. glandulosa* and *A. vulgaris* variety *olympica*, with lilac-blue flowers of large size having short incurved spurs.

101771. AQUILEGIA SUAVEOLENS P. Bruhl.

A plant up to 2 feet high, with biternate membranous leaves and 5 to 12 purplish or violet flowers, sometimes white, 1 to 2 inches long. Native to northern India.

101772. AQUILEGIA sp.

101773. ASTER FALCONERI Hutchinson. Asteraceae.

101736 to 101797—Continued.

An aster from high altitudes in Kashmir, India, with a stem a foot or more high. The radical leaves, oblong-lanceolate, are gradually narrowed to a very short petiole. The disk flowers are yellow, the rays bluish or white, and the flower head is 3 inches across.

101774. BERBERIS FARRERI Hort. Berberidaceae. Barberry.

A name for which a place of publication and a description have not been found.

101775. BUPHTHALMUM SALICIFOLIUM L. Asteraceae. Willowleaf oxeye.

A perennial herb, native to northern Europe, with slightly serrate, willowlike leaves and solitary flower heads with long yellow rays.

For previous introduction see 95669.

101776. CASSIOPE FASTIGIATA (Wall.) D. Don. Ericaceae.

A beautiful free-flowering alpine shrub about 9 inches high, native to southwestern China, where it is found in shady situations in moist peaty well-drained soil between 12,000 and 13,000 feet altitude. The tiny leaves are imbricated in four rows, giving the stem a four-sided appearance, and they have white membranous ciliated margins. The solitary, white, bell-shaped flowers have the corolla segments recurved, showing the pink center and curious awned stamens like those of the arbutus.

For previous introduction see 100158.

101777. CHRYSANTHEMUM MAWII Hook. f. Asteraceae.

A short woody perennial, native to Morocco, forming bushes up to 2 feet high, like the marguerite, with small woolly gray triangular-oblong pinnatifid leaves. The long-stalked flowers are 1 to 2 inches across and have red-purple disks and three-toothed white rays which are reddish on the back.

For previous introduction see 97600.

101778. CHRYSANTHEMUM ZAWADSKII Herbich. Asteraceae.

A tufted herbaceous perennial about a foot high, native to Galicia, with rose-tinted flowers which appear throughout the summer.

For previous introduction see 95482.

101779. CHERMANTHODIUM FARRERI W. W. Smith. Asteraceae.

A stately plant with pendulous globular flower heads of pure white that deepen to dark dull claret as they fade. The stems are up to 20 inches high, and the basal leaves, ovate and papery, are 4 to 5 inches long. Native to Upper Burma.

For previous introduction see 95617.

101780. DAPHNE MEZERBUM L. Thymelaeaceae. February daphne.

Variety *album*. A form with white flowers.

101781. HOSTA JAPONICA TARDIFLORA (Leichtlin) Bailey. Liliaceae.

A form of the narrow-leaved plantain-like with dark-green, long-pointed leaves on short, margined petioles, and light-purple flowers appearing in autumn on

101736 to 101797—Continued.

branched racemes sometimes bearing as many as 50 flowers.

101782. IRIS KUMAONENSIS Wall. Iridaceae.

A dwarf iris, 2 to 12 inches high, native to the western Himalayas from Kashmir to Kumaon between 8,000 and 12,000 feet altitude. The flaccid linear leaves are 12 to 14 inches long, and the solitary flowers have a perianth tube 2 to 3 inches long. The bright-lilac falls, 1 to 2 inches long, are blotched with darker lilac, and the claw has a beard of yellow-tipped hairs on a white crest. The erect oblong standards are one-half inch broad.

101783. IRIS NEPALENSIS D. Don. Iridaceae.

A dwarf iris with a slender stem 6 to 12 inches high, native to India and western Tibet between 5,000 and 10,000 feet altitude. The linear leaves, 6 inches long at flowering time, become 2 feet long and are streaked with purple lines and dots. The spathes bear 1 to 3 pale-lilac flowers, the falls having a yellow crest. The erect oblong petals are one third of an inch broad.

101784 to 101788. LILIUM spp. Liliaceae. Lily.

101784. LILIUM ALBANICUM Griseb.

An alpine lily with an erect stem a foot high, lanceolate acuminate leaves about 2 inches long, and solitary nodding yellow flowers an inch or more in length. Native to southeastern Europe.

101785. LILIUM CARNIOLICUM Bernh.

A lily with a stem 2 to 3 feet high, native to southern Europe. The 30 to 40 lanceolate erect leaves are 2 to 3 inches long, the 1 to 10 orange-red flowers, 2 inches across, are dotted with purple black, and the waxy reflexed segments are papillose inside. The odor is said to be rich and heavy but not unpleasant.

101786. LILIUM HELDREICHII Freyn.

A lily, native to Greece, with stems 2 to 3 feet high, bearing narrow scattered leaves and 1 to 4 orange-red flowers, tinged with yellow outside, which appear early in July.

For previous introduction see 95490.

101787. LILIUM MONADELPHUM Bieb. Great Caucasian lily.

Variety *szovitzianum*. A form which differs from the type in having larger yellow flowers more thickly dotted with purple.

101788. LILIUM sp.

101789. NARCISSUS JUNCIFOLIUS RUPICOLUS (Dufour) Baker. Amaryllidaceae.

A small slender bulbous perennial, native to Spain and Portugal. The narrow rushlike leaves are 6 inches long, the slender terete scape is 6 to 12 inches high, the 1 to 4 bright-orange flowers, less than an inch across, have very short pedicels, and the crown is six lobed.

101790 to 101792. PENTSTEMON spp. Scrophulariaceae.

101790. PENTSTEMON CENTRANTHIFOLIUS Benth. Scarlet-bugler.

101736 to 101797—Continued.

A glaucous perennial herb 1 to 3 feet high, native to California. The ovate to oblong-lanceolate leaves, 2 to 3 inches long, have a subcordate clasping base, and the tubular bright-vermillion flowers are 1 inch long.

101791. PENTSTEMON CYANANTHUS Hook.

A glaucous herbaceous perennial, 2 to 3 feet high, native to the Rocky Mountains. The lower leaves are oblong to spatulate and the upper are ovate to subcordate. The slightly bulging funnelform flowers, an inch long, are bluish purple.

101792. PENTSTEMON FRUTICOSUS (Pursh) Greene.

A perennial herb, 6 to 16 inches high, with simple stems ascending from a branched woody base, native to northwestern America. The glabrous coriaceous leaves, 1 to 2 inches long, are lanceolate to ovate, and the tubular-funnelform, dull-purple flowers, 1 to 2 inches long, are borne in a racemose panicle.

101793. RANUNCULUS GRAMINEUS L. Ranunculaceae. Grassy buttercup.

A smooth herbaceous perennial with rosettes of linear to lanceolate leaves and bright-yellow flowers on stalks 6 to 12 inches high. It is native to Europe.

For previous introduction see 97620.

101794. SALVIA HIANS Royle. Menthaceae. Sage.

A viscid-hairy perennial herb 2 to 3 feet high, native to the temperate Himalayas in India between 8,000 and 11,000 feet altitude. The cordate, toothed leaves, 4 to 7 inches long, have petioles often 10 inches long, and the blue flowers, 1 to 2 inches long, with very inflated throats, are borne in large spreading panicles.

101795. SALVIA MOORCROFTIANA Wall. Menthaceae. Sage.

A tall robust woolly perennial herb, native to the lower Himalayas in India. The cordate-oblong, doubly crenate leaves are 6 to 12 inches long, the upper ones being 1 inch in diameter and white or rose colored. The slender rose-colored flowers, 1 inch long, are borne in branched panicles.

101796. TRICRTIS HIRTA Hook. Melanthiaceae. Hairy toadflly.

A perennial herb, 1 to 3 feet high, covered with soft whitish spreading hairs. The cordate-lanceolate leaves clasp the stem, and the white lilylike flowers are covered with purple spots. It is native to Japan.

For previous introduction see 95678.

101797. VIOLA DELPHINANTHA Boiss. Violaceae. Violet.

An alpine violet from the mountains of Greece, with a woody rhizome, an erect stem crowded with linear-lanceolate leaves, and blue flowers appearing in July and August.

101798. SESAMUM ORIENTALE L. Pedaliaceae. Sesame.

101798—Continued.

From Palestine. Seeds presented by the Director of Agriculture, Forests and Fisheries, Jerusalem. Received January 17, 1933.

Introduced for the use of Department specialists.

101799. *SALIX ALBA CAERULEA* (J. E. Smith) Koch. Salicaceae.
Cricketbat willow.

From England. Cuttings presented by Dr. Arthur W. Hill, Director, Royal Botanic Gardens, Kew, through Henry Dawes, secretary to the American Ambassador, London. Received November 4, 1928. Numbered in January 1933.

A form of the white willow with olive-green twigs and leaves with glaucous-blue undersurfaces.

101800 and 101801.

From Indo-China. Seeds collected in Cochinchina and presented by M. Poliane, Institut des Recherches Agronomiques de l'Indochine, Division de Botanique. Received January 17, 1933.

101800. *HIBISCUS* sp. Malvaceae.
Rosemallow.

101801. *SOLANUM MAMMOSUM* L. Solanaceae.

A strikingly ornamental, very spiny shrub covered with large globose orange-colored fruits over 2 inches in diameter.

For previous introduction see 97785.

101802 to 101805. *PHASEOLUS* spp. Fabaceae. Bean.

From Guatemala. Seeds presented by Don Jorge Garcia Salas, Guatemala City. Received January 19, 1933.

A collection of beans introduced for comparison studies with the types now being grown on the Pacific coast.

101802. *PHASEOLUS HIRSUTUS* Mart.

No. 3. Collected near Guatemala City at 4,880 feet altitude. A hairy vine with ovate-rhombic leaflets over 2 inches long, rather large flowers in long-stalked small racemes, followed by subterete pendulous pods nearly 3 inches long. Native to Brazil.

101803 and 101804. *PHASEOLUS LUNATUS* L. Lima bean.

101803. No. 1. *Iatapacal*. A variety grown by the Indians, who consider it as of first quality. It is cultivated up to 6,000 feet altitude and is a prolific bearer.

101804. No. 2. A form collected in the wild that shows great variation in the color of the seeds. Collected at 3,600 feet altitude.

101805. *PHASEOLUS* sp.

No. 4. A wild species common in cultivated fields near Guatemala City.

101806 to 101875.

From Morocco. Plants presented by H. Brayard, directeur de la Ferme Experimentale, Marrakech. Received January 21, 1933.

Received under the following varietal names and numbers:

101806 to 101875—Continued.

101806 to 101819. *AMYGDALUS COMMUNIS* L. Amygdalaceae. Almond.

101806. H. 1, no. 11.

101807. H. 2, no. 14.

101808. H. 3, no. 13.

101809. H. 7, no. 12.

101810. H. 6, no. 10.

101811. H. 10, no. 4.

101812. H. 11, no. 2.

101813. H. 12, no. 3.

101814. H. 13, no. 1.

101815. H. 14, no. 5.

101816. H. 5, no. 6.

101817. H. 15, no. 7.

101818. H. 16, no. 9.

101819. H. 17, no. 8.

101820 to 101838. *AMYGDALUS PERSICA* L. Amygdalaceae. Peach.

101820. *Alberge Jaune*, no. 45.

101821. *Alberge Jaune d'Octobre*, no. 44.

101822. *Amarillo de Calenda*, no. 63.

101823. *Bienvenida*, no. 65.

101824. *Brugnon Adèle*, no. 52.

101825. *Charles Ingouf*, no. 43.

101826. *De Confentes*, no. 57.

101827. *De Reus*, no. 64.

101828. *Dymen*, no. 58.

101829. *Henri Adenot*, no. 67.

101830. *Infante Elisabeth*, no. 61.

101831. *Lima de Dolorès*, no. 62.

101832. *Madeleine Jaune de Brunel*, no. 53.

101833. *Madeleine Jaune Noble*, no. 54.

101834. *Pavis Rouge de la Madeleine*, no. 51.

101835. *Précoce d'Ampuis*, no. 56.

101836. *Peregrine*, no. 59.

101837. *Sélecto del Pring del Junio*, no. 60.

101838. *Suzanne Darmon*, no. 55.

101839. *MALUS SYLVESTRIS* Mill. Malaceae. Apple.

Craoisi de Gascogne, no. 70.

101840 to 101854. *PRUNUS ARMENIACA* L. Amygdalaceae. Apricot.

101840. *Angoumois*, no. 18.

101841. *Blanc rose à confire*, no. 50.

101842. *Bullida*, no. 23.

101843. *Canino*, no. 27.

101844. *Carmelos*, no. 20.

101845. *De Anton*, no. 25.

101846. *Defarge*, no. 24.

101847. *Giletan*, no. 15.

101848. *Gros Précoce*, no. 16.

101849. *H. Brayard*, no. 66.

101806 to 101875—Continued.

101850. *Kaisha*, no. 17.
 101851. *Précoce d'Alexandrie*, no. 19.
 101852. *Précoce Bruel*, no. 21.
 101853. *Primerizo*, no. 26.
 101854. *Real Fino*, no. 22.

101855 to 101859. PRUNUS DOMESTICA L.
 Amygdalaceae. Common plum.

101855. *Akubotankio*, no. 40.
 101856. *Mirabelle de Metz*, no. 68.
 101857. *Monsieur Hâtif*, no. 42.
 101858. *Reine Claude de Juillet*, no. 41.
 101859. *Reine Claude de Quillins*, no. 69.

101860 to 101863. PYRUS COMMUNIS L.
 Malaceae. Common pear.

101860. *Bergamote d'ete*, no. 48.
 101861. *Blanchet Claude*, no. 47.
 101862. *Précoce de Trevous*, no. 46.
 101863. *Sucre vert*, no. 49.

101864 to 101875. VITIS VINIFERA L.
 Vitaceae. European grape.

101864. *Elisabeth Krasznay*, no. 28.
 101865. *Hontyber*, no. 33.
 101866. *Kossuth Lazos*, no. 38.
 101867. *Meezes*, no. 35.
 101868. *Millinaire hongrois*, no. 37.
 101869. *Milton*, no. 30.
 101870. *Muscat Ottonel*, no. 36.
 101871. *Muscat Szanter*, no. 34.
 101872. *Jean Mathias*, no. 39.
 101873. *Perle de Casserba*, no. 29.
 101874. *Riesling × Sylvaner*, no. 32.
 101875. *Souvenir à la Reine Elisabeth*, no. 31.

101876. PHASEOLUS LUNATUS L. Fabaceae. Lima bean.

From Madagascar. Seeds purchased through Percy G. Kemp, American vice consul, Tananarive. Received January 20, 1933.

Introduced for comparison with types now grown on the Pacific coast.

101877 to 101879. CITRUS spp. Rutaceae.

From Morocco. Scions presented by G. Ducrocq, horticulteur, Casablanca. Received January 27, 1933.

Received under the following varietal names:

101877. CITRUS MEDICA L. Citron.
Cedrat Carouant.
 101878. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Mandarin orange.
Mandarine Commune.
 101879. CITRUS SINENSIS (L.) Osbeck. Orange.
Orange Sanguine ovale. Jouble fine.

101880. PRUNUS PROSTRATA Labill. Amygdalaceae. Mountain cherry.

From England. Plants presented by Capt. Collingwood Ingram, Benenden, Kent. Received January 28, 1933.

A low, wide-spreading, deciduous shrub 3 feet or less high, with sharply serrate, broadly ovate leaves, pubescent beneath and over an inch long. The rose-colored flowers are less than an inch across. Native to the Mediterranean region and to western Asia.

101881 to 101890.

From Norway. Scions presented by Dr. P. Stedje, director, Statens Foesøksstasjon for Fruktdyrkning, Njøs, Songnefjord. Received January 30, 1933.

101881 to 101889. MALUS SYLVESTRIS Mill. (Pyrus malus L.). Malaceae. Apple.

Received under the following varietal names:

101881. *Hardanger Rosenstrips*.
 101882. *Haugmann*. Origin, Norway. Skin, greenish yellow covered with carmine red stripes and spots on the exposed side. Good cooking and dessert apple. Season, October to Christmas.
 101883. *Kaupanger*. Origin, Norway. Skin, greenish yellow overlaid on the exposed side with stripes of dark crimson. A good dessert apple. Season, December to February.
 101884. *Oskaug*. A late red apple.
 101885. *Red Rosenstrips*. Distributed well over the Scandinavian Peninsula. A beautiful red dessert variety. Season, October to December.
 101886. *Reinar*.
 101887. *Rondeveit*.
 101888. *Torstein*. Grown on the west coast of Norway. Skin, greenish yellow, coloring to a strong carmine red, especially on the exposed side. A good dessert apple. Season, December to June.
 101889. *Stor Torstein*. Similar to the *Torstein* except that the fruits are larger.

101890. PRUNUS CERASUS L. Amygdalaceae. Sour cherry.

Received as *Skyggekirsebaer*.

101891 to 101902. CORYLUS spp. Betulaceae. Filbert.

From the Union of Soviet Socialist Republics. Seeds presented by V. Lichagov, horticulturist, Sochi, Black Sea district. Received January 27, 1933.

Received under the following varietal names:

- 101891 to 101900. CORYLUS AVELLANA L. Betulaceae.
 101891. *Barcelona*, no. 141812.
 101892. *Barcelona eckige*, no. 141813.
 101893. *Cherkessky I*, no. 141816.
 101894. *Cherkessky II*, no. 141817.
 101895. *Imperatrice Eugene*, no. 141814.

101891 to 101902—Continued.

101896. *Kadetten Zellernuss*, no. 141808.

101897. *Koodryvchik*, no. 141815.

101898. *Lombardsky red*, no. 141807.

101899. *Lombardsky white*, no. 141811.

101900. *Trapezund*, no. 141810.

101901 and 101902. *CORYLUS MAXIMA* Mill. Giant filbert.

Kerasund. Best of quality and an excellent keeper.

101901. No. 141818. A long variety.

101902. No. 101809. A round variety.

101903 to 101906. *DIOSPYROS KAKI* L. f. *Diospyraceae*. Kaki persimmon.

From China. Scions collected northeast of Taian, Shantung, by Peter Liu, Peiping. Received January 31, 1933.

101903. *Fang Shih*, or square persimmon. From an orchard near Mata village. This rather flat persimmon, about 1 inch high and 2 inches across, is used for making persimmon cakes or as dry persimmons.

101904. *Niu Hsin Shih Tzu*, or heart persimmon. From an orchard near Mata village. The fruit is about 2 inches high and 2 inches thick, and the pointed top makes it somewhat heart-shaped. It is one of the most common varieties of the region and ripens in October.

101905. *Ta Ho Shih*, or large-box persimmon. A large persimmon 2 inches high and sometimes 4 inches wide, collected near the village of Liuchia-chuang. This is a common variety in this region.

101906. *Yo Ho Fang Shih*, the seeded square persimmon. A rather rare variety collected near the village of Liuchia-chuang.

101907. *SACCHARUM OFFICINARUM* L. *Poaceae*. Sugarcane.

From Barbados, British West Indies. Cuttings presented by the Director of Agriculture. Received February 1, 1933.

101908. *SACCHARUM OFFICINARUM* L. *Poaceae*. Sugarcane.

From the Hawaiian Islands. Cuttings presented by the experiment station of the Hawaiian Sugar Planters' Association, Honolulu. Received February 1, 1933.

101909. *VIBURNUM SARGENTI* Koehne. *Caprifoliaceae*. Sargent cranberrybush.

From Japan. Seeds presented by the Director of the forest experiment station, Keijo, Chosen. Received January 30, 1933.

A strong-growing shrub 12 to 15 feet high, somewhat resembling *Viburnum opulus*, with broadly ovate two-lobed leaves and large clusters of bright-red fruits which are very attractive.

For previous introduction see 92071.

101910. *EREMOCITRUS GLAUCA* (Lindl.) Swingle (*Atalantia glauca* Benth.). *Rutaceae*.

Australian desert kumquat.

From Australia. Seeds presented by the Council for Scientific and Industrial Research, Canberra. Received February 2, 1933.

A shrub or small tree about 14 feet high, native to the deserts of northeastern Australia. The small, thick, leathery leaves are gray green, and the fruits are less than an inch in diameter. The acid juice of the fruit forms the basis of an agreeable beverage, and the peel has a sweetish flavor of the kumquat. It is the hardest of all the evergreen citrus fruits and is of promise to plant breeders.

101911 to 101913. *PHLEUM PRATENSE* L. *Poaceae*. Timothy.

From Scotland. Seeds presented by McGill & Smith, Ltd., Agr. Received February 3, 1933.

101911. No. S 49.

101912. No. S 50.

101913. No. M/S 90.

101914. *PHASEOLUS VULGARIS* L. *Fabaceae*. Common bean.

From Mexico. Seeds presented by Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz. Received February 3, 1933.

An excellent string bean.

101915. *ELEUTHERINE PALMIFOLIA* (L.) Merr. *Iridaceae*.

From the Philippine Islands. Bulbs presented by Dr. W. Dwight Pierce. Received July 25, 1930. Numbered in February 1933.

A tropical irislike plant with white flowers an inch across, borne on a scape about 9 inches high. The 1 or 2 linear-lanceolate leaves are 12 to 18 inches long. Native to the American Tropics and naturalized in the Philippines.

101916 to 101931.

From the Union of Soviet Socialist Republics. Seeds presented by the All Union Institute of Forest Culture and Forest Melioration, Moscow. Received February 3, 1933.

101916. *BUXUS SEMPERVIRENS* L. *Buxaceae*. Common box.

An extra large form.

101917. *ELAEAGNUS ANGSTIFOLIA* L. *Elaeagnaceae*. Russian-olive.

101918. *LAUROCERASUS OFFICINALIS* Roemer. *Amygdalaceae*. English cherry-laurel.

From Sukhum, Caucasus. A form with very large fruits.

101919. *LILIUM MONADELPHUM* Bleb. *Liliaceae*. Great Caucasian lily.

Variety *szowitziannum*, from Bakouryan, Caucasus.

For previous introduction and description see 101787.

101920. *VACCINIUM ARCTOSTAPHYLOS* L. *Vacciniaceae*.

101916 to 101921—Continued.

From Tiflis, Sachuramo, Caucasus. A deciduous shrub up to 10 feet high, native to the Caucasus region. The oblong-ovate finely toothed leaves are 2 to 4 inches long and turn purple-red in the autumn. The small bell-shaped flowers are borne in racemes 2 inches long and are white with a purple tinge. The globose purple berries are nearly one-half inch in diameter.

For previous introduction see 100278.

101921. *Vicia* sp. Fabaceae. Vetch.

From Bakouryany, Caucasus.

101922. *Lolium perenne* L. Poaceae.
Perennial ryegrass.

From New Zealand. Seeds presented by Wright, Stephenson & Co., Ltd., Wellington. Received February 7, 1933.

Introduced for the use of forage-crop specialists.

101923 to 101962.

From Scotland. Seeds presented by the Royal Botanic Garden, Edinburgh. Received February 8, 1933.

101923 to 101947. *Dianthus* spp. Silenaceae. Pink.

101923. *Dianthus anatolicus* Boiss.

A somewhat woody, caespitose perennial with narrow-linear acute leaves and pale-rose flowers on rough stems a foot or more high. Native to Asia Minor.

101924. *Dianthus brevicaulis* Fenzl.

A low caespitose plant, with erect, glaucous, linear-grooved leaves and small red-purple flowers borne singly. Native to the Taurus Mountains of Asia Minor.

101925. *Dianthus caesioides* J. E. Smith. Cheddar pink.

A glaucous tufted perennial a foot high native to Europe. The simple or forked four-angled stems have linear-lanceolate leaves and bear 1 or 2 fragrant rose-colored flowers with irregularly dentate petals.

101926. *Dianthus calocephalus* Boiss.

A perennial herb 2 to 3 feet high, with linear acute leaves 2 to 3 inches long and numerous fire-red flowers. Native to Asia Minor.

101927. *Dianthus crinitus* J. E. Smith.

A dwarf plant with very short linear leaves and a smooth stem bearing 2 to 4 erect purplish flowers. Native to Armenia.

101928. *Dianthus gallicus* Pers.

A perennial with a long woody rhizome from which arise several ascending stems 6 to 8 inches high, terminated by 1 or 2 white or pale-pink flowers. The leaves are linear, obtuse, and glaucous. Native to the coast of southwestern France.

101929. *Dianthus gracilis* Sibth. and Smith.

A more or less woody perennial over a foot high, with rigid linear acute

101923 to 101962—Continued.

leaves and rose-colored flowers in small clusters. Native to the Balkans.

101930. *Dianthus lumnitzeri* Wiesb.

A caespitose perennial with blue-green stems about 8 inches high, narrow-linear blue-green leaves up to 2 inches long, and white flowers with fringed petals. Native to stony places in Austria.

101931. *Dianthus monspessulanus alpestris* (Hoppe and Sternb.) F. N. Williams.

A perennial herb about a foot high, with long grasslike foliage and solitary rosy or white flowers. Native to Montpelier.

101932. *Dianthus palensis* Sibth. and Smith.

A gray-green plant with simple upright stems, linear almost flat leaves, and white night-blooming flowers with the undersides of the petals greenish purple. Native to Greece.

101933. *Dianthus pelviformis* Heuff.

A caespitose perennial with stems a foot high and linear leaves. The dark purplish flowers are in dense terminal heads. Native to Serbia.

101934. *Dianthus spiculifolius* Schur (*D. petraeus spiculifolius* Hort.).

A caespitose perennial with numerous branched stems 6 to 12 inches high, green linear-subulate leaves, and white or rosy flowers. Native to Transylvania and Rumania.

101935. *Dianthus pubescens* Sibth. and Smith.

A caespitose perennial with numerous decumbent simple stems 6 to 9 inches high, linear acute leaves, and purplish flowers. Native to Greece.

101936. *Dianthus pungens* L.

A bushy perennial, native to southern Spain, with linear subulate leaves and flowers in small clusters.

101937. *Dianthus rupicolus* Bivona.

A shrubby glabrous perennial about 1 foot high, with lanceolate or linear-lanceolate acute leaves and fragrant red flowers in corymbs. Native to Sicily.

101938. *Dianthus squarrosus* Bieb.

A sand-loving perennial with ascending stems, crowded rigid sharp-pointed green leaves, and white flowers similar to those of *D. plumarius*. Native to the Caucasus.

101939. *Dianthus strumarius* Hort.

A name for which a place of publication and a description have not been found.

101940. *Dianthus subcaulis* Vill.

A dwarf, somewhat woody, perennial with the habit of *Arenaria juniperina*. The short narrow leaves are glabrous, and the small flowers are purplish pink. Native to France.

101941. *Dianthus superbus* L.

A glabrous light-green perennial herb 10 to 20 inches high, native from

101923 to 101962—Continued.

Norway and Spain to Japan. The soft flat linear-lanceolate leaves are 3- to 5-nerved, and the fragrant lilac deeply lacinate flowers are borne in a lax forking panicle.

101942. *DIANTHUS TENER* Balbis.

A rather low pink with subulate-linear leaves and deep-rose flowers with fimbriate petals. Native to the mountains of Tende in France.

101943. *DIANTHUS TERGESTINUS* (Reichenb.) Kern.

A perennial herb about a foot high with narrow-linear gray-green leaves up to 4 inches long and bright-pink or carmine odorless flowers in pairs. Native to southern Europe in stony-chalky situations.

101944. *DIANTHUS VELEBITICUS* Hort.

A name generally referred to *D. carthusianorum*, but without definite description.

101945. *DIANTHUS VELENOWSKYI* Borb.

A caespitose perennial with soft linear-acuminate leaves in a dense basal tuft. The rose or crimson flowers are in a paniculate cyme on stems 2 to 3 feet high. Native to the Balkan region.

101946. *DIANTHUS VIRGINEUS* L.

A perennial herb with upright or ascending stems about 1 foot high, linear three-angled leaves and fragrant red flowers. Native to southern France.

101947. *DIANTHUS WALDSTEINII* Sternberg.

A stout blue-green perennial with stems over a foot high, dichotomously branched above, stiff linear leaves, and purplish or rose-colored flowers in 5- to 13-flowered panicled cymes. Native to southern Europe.

101948 to 101952. *FUCHSIA* spp. Onagraceae.

101948. *FUCHSIA BACILLARIS* Lindl.

A compact plant with short-jointed branches and very small, flaring-mouthed, rosy, drooping flowers. Native to Mexico.

For previous introduction see 97608.

101949. *FUCHSIA CODRINGTONII* Hort.

A shrubby hybrid fuchsia, about 18 inches high, with small, oval, pale-green, acute leaves less than an inch long and small, deep rose-red, trumpet-shaped, pendulous flowers borne freely in the summer.

101950 and 101951. *FUCHSIA CORYMBIFLORA* Ruiz and Pav.

For previous introduction see 97609.

101950. A handsome Peruvian fuchsia with large serrate, long-pointed leaves and deep-red flowers. The plant, becomes tall but requires support in order to attain full height and is adapted for training on pillars or pergolas in the subtropical parts of the United States.

101951. Variety *alba*. A form with the calyx tube and lobes white.

101923 to 101962—Continued.

101952. *FUCHSIA PARVIFLORA* Lindl.

A shrubby fuchsia, very similar to *F. lycioides*. It has oblong or ovate leaves, sometimes serrate, and purple flowers with pale-pink calyxes. Native to Mexico.

101953. *JASMINUM PUBIGERUM* D. Don. Oleaceae. **Jasmine.**

A softly densely-villous, erect shrub native to India. The compound alternate leaves are made up of 3 to 7 suborbicular to oblong leaflets 2 inches long, and the salverform yellow flowers are borne in dense nearly sessile cymes of about 15 flowers.

101954. *RANUNCULUS GRAMINEUS* L. Ranunculaceae. **Grassy buttercup.**

For previous introduction and description see 101793.

101955 to 101962. *RHODODENDRON* spp. Ericaceae.

101955. *RHODODENDRON ADENOGYNUM* Diels.

A shrub up to 9 feet high native to Yunnan, China. The leathery oblong to lanceolate leaves, 2 to 5 inches long, are dark green and rugulose above and covered beneath with a thick woolly olive-tawny indumentum. The fleshy funnel-campanulate flowers, 2 inches long, are white shaded rose at the base with many crimson spots and are borne in terminal umbels of about 12.

101956. *RHODODENDRON CALOSTROTUM* Balf. and Ward.

A low shrub about a foot high, native to northeastern Burma between 11,000 and 12,000 feet altitude. The obovate leaves, 1 inch long, are densely covered above with greenish scales, and the lower surface is pale red with numerous flaky scales. The widely funnel-shaped flowers, 1 inch long, are bright red-purple and are borne in pairs at the ends of the branchlets.

For previous introduction see 98458.

101957. *RHODODENDRON CAUCASICUM* Pall. **Caucasian rhododendron.**

A shrub seldom more than 3 feet high, native to the Caucasus region between 6,000 and 7,000 feet altitude. The ovate, obovate, or oblong leaves, 2 to 5 inches long, with more or less recurved margins, are dark green, glabrous at maturity and slightly rugulose on the upper surface, the undersurface being covered with a thin fawn to tawny or pale-rusty tomentum. The broadly campanulate flowers are yellowish or rose tinted and are borne on long erect stalks in candelabroid trusses.

For previous introduction see 98482.

101958. *RHODODENDRON CHARTOPHYLLUM* Franch.

A distinct species with the general characteristics of *R. yunnanense*, but the leaves are usually deciduous, more narrowly oblanceolate, and entirely wanting in bristles on the upper surface, which are typical of the true *R. yunnanense*. The form with leaves completely deciduous is called *R. char-*

101923 to 101962—Continued.

tophyllum praecox. No doubt the two species, both of which grow in Yunnan, hybridize freely, and this probably explains the confusion between them in gardens.

For previous introduction see 98461.

101959. RHODODENDRON GALACTINUM
Balf. f.

A tree 15 to 20 feet high, native to Szechwan, China. The oblong to lanceolate leaves, 5 to 8 inches long, are glabrous and dark green above and covered beneath with buff-gray or pale-cinnamon indumentum. The bell-shaped flowers, over an inch long, are in clusters of about 15 and are pale rose with deep-crimson blotches inside.

For previous introduction see 97624.

101960. RHODODENDRON LONGISTYLUM
Rehd. and Wils.

A shrub up to 7 feet high, native to western Szechwan, China. The narrowly oblanceolate coriaceous leaves, 1 to 2 inches long, are glabrous with markedly impressed veins above and are sparsely scaly beneath. The small pink, funnel-shaped flowers, less than an inch long, are borne in racemose umbels of 10 to 20.

101961. RHODODENDRON PENTAPHYLLUM
Maxim. Fiveleaf azalea.

A deciduous shrub of the section *Rhodora*, up to 25 feet high, with usually five elliptic-lanceolate leaves at the ends of the branches. The rose-pink flowers, 1 to 2 inches across, are solitary or in twos, appearing before or with the leaves which turn orange or crimson in the autumn. Native to Japan.

For previous introduction see 97626.

101962. RHODODENDRON SMIRNOWII
Trautv. Smirnow rhododendron.

A shrub or small tree about 20 feet high, with dark-green leaves, gray-hairy beneath, and compact heads of rose-red flowers each about 3 inches across. Native to the Caucasus region.

For previous introduction see 98476.

101963 and 101964.

From France. Seeds presented by A. Gerard, Loir et Cher. Received February 7, 1933.

101963. DAVIDIA INVOLUCRATA Baill.
Cornaceae. Dove-tree.

A handsome tree native to central and western China, where it reaches a height of 60 to 70 feet. In habit and foliage it resembles a linden. The bright-green oval leaves, 3 to 6 inches long, are sharply toothed and slender stalked, and the globular heads of small flowers, borne on slender nodding stalks about 2 inches long, are made unusually striking because of the 2 or 3 large white bracts of unequal length.

For previous introduction see 99159.

101964. KETELEERIA DAVIDIANA (Bert-
rand) Beissn. Pinaceae.

A coniferous tree, native to western China, which is closely allied to the fir. It sometimes becomes 100 feet tall, is of pyramidal habit, and has handsome green glossy firlike foliage. The tree is

101963 and 101964—Continued.

said to be somewhat tender to frost and, therefore, probably is adapted for growing only in the southern half of the United States.

For previous introduction see 100571.

101965 to 101967.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos. Received February 6, 1933.

101965. ERYTHROXYLON COCA Lam. Ery-
throxyliaceae. Cocaine-tree.

A tropical shrub, native to Peru, 5 to 6 feet high, with slender rust-brown branches bearing clusters of obovate leaves at their tips. The yellowish flowers are borne in clusters of 3 to 5 in the axils of small scales which line the branchlets. It is grown commercially on a large scale throughout South America, also in Java and Ceylon, for the production of cocaine which is extracted from the dried leaves.

For previous introduction see 99779.

101966. ERYTHROXYLON NOVOGRANATENSE
(Morris) Hieron. Erythroxyliaceae.

A tropical shrub about 10 feet high with lanceolate-oblong deep-green mucronate membranous leaves about 2 inches long and small axillary solitary w. flowers tinged with green. Native to Colombia.

101967. POEPPIGIA PROCERA Presl. Cae-
salpiniaceae.

A large tropical tree with bipinnate leaves and small yellow flowers in terminal panicles. Native to rather dry woods in Cuba.

101968. ERYTHEA LORETENSIS M. E.
Jones. Phoenicaceae. Palm.

From California. Seeds collected by Marcus E. Jones, of Pomona College, and presented through Frank A. Thackery, Indio. Received February 6, 1933.

A fan palm up to 25 feet high, native to Baja California, closely related to *E. edulis*. The edible black fruits have flesh one-fourth of an inch thick, and the shiny black single seed is lozenge-shaped.

101969 to 101975. TRITICUM spp.
Poaceae.

From India. Seeds presented by the Office of Crop Botanist to the Government of Bombay, Karjat, Kolaba. Received February 9, 1933.

101969 to 101971. TRITICUM DICOCCEUM
Schrank. Emmer.

101969. No. KK 568.

101970. No. 808.

101971. *Khapli* (ordinary).

101972 to 101975. TRITICUM DURUM Desf.
Durum wheat.

101972. No. 168. 101974. No. 807.

101973. No. 806. 101975. No. 809.

101976 to 101980.

From the Union of Soviet Socialist Republics. Seeds presented by Kasiev, directeur de l'Institut de Nourriture des Animaux, Ashkhabad, Turkmen. Received February 8, 1933.

101976 to 101980—Continued.

101976. *AGRIOPHYLLUM LATIFOLIUM* Fisch. and Mey. Chenopodiaceae.

A much-branched annual with ovate or subcordate, long-cuspidate leaves and small inconspicuous flowers in globular axillary clusters. Native to sandy deserts in Turkistan.

For previous introduction see 92958.

101977. *AGROPYRON ORIENTALE* (L.) Roem. and Schult. Poaceae. Grass.

An annual, much-branched grass, prostrate-ascending in habit, native to sandy places in Asia Minor and Turkistan.

101978. *AMMODENDRON CONOLLYI* Bunge. Fabaceae.

An evergreen, silky-leaved, Siberian shrub, used as a sand binder.

For previous introduction see 98202.

101979. *ARISTIDA PENNATA* Trin. Poaceae. Grass.

A grass native to Turkistan and central Asia where it is found in dry sandy places.

101980. *SMIRNOWIA TURKESTANA* Bunge. Fabaceae.

A much-branched shrub with long, almost filiform branches, and leaves reduced to a single obovate leaflet. Native to the deserts of Turkistan.

For previous introduction see 94936.

101981. *ALLIUM SATIVUM* L. Liliaceae. Garlic.

From Burma. Bulbs presented by R. A. Beals, Deputy Director of Agriculture, Irrawaddy Circle, Myaungaya, Lower Burma, through W. Gregson, Deputy Director of Agriculture, Tenasserim Circle, Moulmein. Received February 13, 1933.

A locally grown variety.

101982 to 101994.

From China. Scions and seeds collected in Hopeh Province by Peter Liu, Peiping. Received February 14, 1933.

101982 to 101991. *CASTANEA MOLLISSIMA* Blume. Fagaceae. Hairy chestnut.

101982. *Ta Lee Tzu*, or large chestnut of Miyun.

101983. *Wan Lee Tzu*, or late chestnut of Miyun.

101984. *Chiufen*, a seedling from an orchard near the village of Lee Yuan, north of Fangshan.

Nos. 101985 to 101991 were collected in the valley of the Silver Mountain near the Fa Hua Ssu Temple, north of Peiping. Nos. 101985 to 101987 are seedlings.

101985. *Chiufen*; ripens the latter part of September.

101986. *Erh Lu*, or second ripening chestnut; ripens in the early part of September.

101987. *Han Lu*, or late chestnut; ripens early in October.

101988. *Hu Chao*, or tiger paw. A grafted chestnut which ripens the latter part of October.

101989. *Pai Lu*, or early chestnut. This variety is always grafted.

101982 to 101994—Continued.

101990. *Short flowered*, a late chestnut.

101991. *Ta Lee Tzu*, or large chestnut; ripens the last of September. This variety is not very common.

101992. *DIOSPYROS KAKI* L. f. Diospyraceae. **Kaki persimmon.**

Ta Kai Shih, or large persimmon, from an orchard near the Ming Tombs, north of Peiping.

101993 and 101994. *MALUS SYLVESTRIS* Mill. (*Pyrus malus* L.). Malaceae. **Apple.**

From the valley east of the Fa Hua Ssu Temple to the north of Peiping.

101993. *Hsiang Kuo*, or fragrant apple; about 2 inches in diameter each way; ripens the last of August.

101994. *Summer* apple; this apple is about 3 inches in diameter one way and 2½ inches the other and ripens early in September.

101995. *LILIUM MARTAGON* L. Liliaceae. **Martagon lily.**

From France. Seeds presented by Dr. A. Guillaumin, Sous-Directeur du Laboratoire de Culture, Museum National d'Histoire Naturelle, Paris. Received February 14, 1933.

The martagon lily grows wild from central and southern Europe to southwestern Siberia. The stem is 3 to 6 feet high, often purple spotted, with horizontal deep-green leaves 3 to 6 inches long. The dull claret-purple flowers spotted purplish black with red anthers appear in late June and July, and from 3 to 20 flowers bloom at one time.

For previous introduction see 91260.

101996 to 101999.

From Madagascar. Seeds presented by R. Decary, Fort Dauphin, through Dr. Leon Croizat, New York, N.Y. Received February 14, 1933.

101996. *ALLUAUDIA PROCERA* Drake. Didiereaceae.

A spiny tree, sometimes 45 feet high, with few cactuslike branches resembling a giant candelabra or "trompe d'elephants." The small fleshy leaves, from the axils of which arise the spines, are obovate and less than an inch long. The very small flowers are in cymes over an inch long. Native to Madagascar.

101997. *ALOE HELENÆ* P. Danguy. Liliaceae.

An aloe with a simple erect stem 3 to 12 feet high, crowned by a rosettelike cluster of fleshy leaves 1 to 3 feet long, armed with deltoid marginal prickles. The numerous reddish flowers are on a scape about 10 inches high. Native to Madagascar.

101998. *ALOE* sp. Liliaceae.

101999. *CROTALARIA* sp. Fabaceae.

102000. *TRIFOLIUM GLOMERATUM* L. Fabaceae. **Clover.**

From Australia. Seeds presented by F. H. Brunning, Melbourne, Victoria. Received February 17, 1933.

102000—Continued.

A clover which is useful because it grows fairly well in sour soils low in phosphate content, when these soils first come under cultivation and before other clovers have established themselves.

For previous introduction see 87469.

102001. CUCURBITA MOSCHATA Duchesne. Cucurbitaceae. **Cushaw.**

From China. Seeds presented by the College of Agriculture, University of Nanking. Received February 16, 1933.

102002 to 102062.

From Morocco. Cuttings presented by H. Brayard, Directeur de la Station Experimentale, Marrakech. Received February 18, 1933.

Received under the following varietal names:

102002 to 102021. FICUS CARICA L. Moraceae. **Common fig.**

A collection of Lerida figs introduced for the use of Department specialists.

- 102002. No. 16, *Abique blanche*.
- 102003. No. 7, *Adam*.
- 102004. No. 4, *Asborn prolifc.*
- 102005. No. 17, *Belle dame blanche*.
- 102006. No. 20, *Blanche de Sid-Yquem*.
- 102007. No. 5, *Blanquette*.
- 102008. No. 9, *Celestine grise*.
- 102009. No. 1, *Col de Signora*.
- 102010. No. 3, *de Dalmatie*.
- 102011. No. 14, *de Saint-Jean*.
- 102012. No. 8, *Figue-Aeur*.
- 102013. No. 15, *Goutte d'or*.
- 102014. No. 10, *Grosse grise*.
- 102015. No. 18, *Kemedy*.
- 102016. No. 6, *Maitre Brugere*.
- 102017. No. 13, *Marseillaise*.
- 102018. No. 19, *Pietri*.
- 102019. No. 12, *Precoce de Barcelone*.
- 102020. No. 11, *Rolandine*.
- 102021. No. 2, *Trifere*.

102022 to 102029. OLEA EUROPAEA L. Oleaceae. **Common olive.**

- 102022. No. 4, *Ascolano dura*.
- 102023. No. 5, *Castillano*.
- 102024. *Cornicabra*.
- 102025. No. 1, *Dulce del Morocco*.
- 102026. No. 2, *San Agostino*.
- 102027. No. 3, *San Francesco*.
- 102028. No. 6, *Santa Catarina*.
- 102029. *Verdale*.

102030 to 102062. PRUNUS ARMENIACA L. Amygdalaceae. **Apricot.**

- 102030. No. 21, *Cluster*.
- 102031. No. 15, *Defarge*.
- 102032. No. 19, *de Jouy*.
- 102033. No. 16, *de Mongami*.

102002 to 102062—Continued.

- 102034. No. 2, *de Toledo*.
- 102035. No. 6, *Dr. Mascle*.
- 102036. No. 31, *de Haut Sebou*.
- 102037. No. 24, *Dundonald*.
- 102038. No. 38, *Gros muscat roux*.
- 102039. No. 25, *Gros Valla*.
- 102040. No. 13, *Guiditta Longione*.
- 102041. No. 36, *Hatif de Donazzan*.
- 102042. No. 29, *Hatif du Sig*.
- 102043. No. 20, *Kossuth*.
- 102044. *Linzel*.
- 102045. No. 10, *Luizet*.
- 102046. No. 34, *Luizet special*.
- 102047. No. 37, *Muscat de Turquie*.
- 102048. No. 39, *Muscat hatif de Sar-daigne*.
- 102049. No. 41, *Muscat-peche*.
- 102050. No. 33, *Muscat Polonaise*.
- 102051. No. 26, *Orange*.
- 102052. No. 18, *Peche precoce*.
- 102053. No. 4, *Pepita dulce*.
- 102054. No. 23, *Precoce de Montplaisir*.
- 102055. No. 35, *Precoce de Roussillon*.
- 102056. No. 14, *Precoce Esperen*.
- 102057. No. 5, *Quiero piccoz*.
- 102058. No. 8, *Re Imberto*.
- 102059. No. 12, *Rouge du Roussillon*.
- 102060. No. 11, *Souvenir d'Amic*.
- 102061. No. 30, *Surprise de Mai*.
- 102062. No. 3², *Topa la Hoja*.

102063. TRIFOLIUM sp. Fabaceae. **Clover.**

From Africa. Seeds presented by the senior agricultural officer, Moshi, Department of Agriculture, Northeastern Circle, Tanganyika Territory. Received February 20, 1933.

A clover grown locally, introduced for the use of forage-crop specialists.

102064 and 102065.

From India. Seeds presented by W. O'Brien, Corsley, Hyderabad, Deccan. Received February 21, 1933.

102064. CAJANUS INDICUS Spreng. Fabaceae. **Figeonpea.**

An edible variety.

102065. VIGNA SINENSIS (Turner) Savi. Fabaceae. **Cowpea.**

An edible variety.

102066. MEDICAGO SATIVA L. Fabaceae. **Alfalfa.**

From India. Seeds purchased in Neemuch, Central India, and presented by the editor of The Seed World. Received February 27, 1932.

Introduced for the use of Department specialists.

102067. CINCHONA sp. Rubiaceae.

From Peru. Seeds presented by Col. Victor E. Ruehl, Caldwell, N.J. Received February 28, 1933.

102068. PACHIRA sp. Bombacaceae.

From Cuba. Seeds presented by W. A. Mace, Madrugá. Received February 28, 1933.

The pachiras are tropical American trees, allied to Bombax, with showy pinkish or yellowish flowers.

102069. RIBES SATIVUM Syme. Grossulariaceae. Garden currant.

From Norway. Cuttings purchased from Dr. P. Stedje, Director, Statens Forsøksstasjon for Fruktdyrkning, Njøs, Sognefjord. Received February 20, 1933.

Red Holland. Received as *Rød Hollandsk.*

102070. DUBOISIA HOPWOODII F. Muell. Solanaceae. Pituri.

From Australia. Seeds presented by the Director of Agriculture, Perth, Western Australia. Received February 17, 1933.

A shrub or small tree native to Australia. The thick linear leaves are 2 to 4 inches long, and the small inconspicuous flowers, borne in leafy pyramidal panicles, are followed by small black berries. The leaves are said to contain an alkaloid similar to nicotine.

102071 to 102076.

From China. Seeds presented by the Botanic Garden, Dr. Sun Yat Sen's Memorial Park, Nanking. Received February 17, 1933.

102071. ANDROSACE SAXIFRAGAEFOLIA Bunge. Primulaceae.

A biennial, related to *A. rotundifolia*, with rounded-cordate rigid dentate leaves and white flowers the size of those of *A. villosa*. Native to northeastern China.

102072. ANEMONE CERNUA Thunb. Ranunculaceae.

A perennial herb, native to Japan, with pinnately deeply divided hairy leaves and solitary nodding flowers, the color of dragon's blood, on pubescent scapes.

102073. EUONYMUS LONGIFOLIUS Champ. Celastraceae.

A subtropical shrub with opposite narrow-oblong green glossy leaves 4 to 6 inches long, small light-green flowers in small cymes, and reddish capsules. Native to Hong Kong.

102074. EUSCAPHIS JAPONICA (Thunb.) Dipp. Staphyleaceae.

A shrub up to 10 feet high, native to Japan and China. The compound leaves are made up of 7 to 11 ovate-lanceolate serrate leaflets 3 inches long, and the small white flowers, in upright panicles, are followed by brown-red fruits which open, exposing the steel-blue seeds.

102075. ILEX PURPUREA Hassk. Aquifoliaceae. Holly.

An evergreen tree with crenate-serrulate, elliptic-lanceolate leaves, 2 to 3 inches long, and red berries, half an

102071 to 102076—Continued.

inch long, in clusters of 2 to 5. It is native to Japan and central China.

For previous introduction see 91254.

102076. LILIUM BROWNII Poit. Liliaceae. Brown's lily.

A Chinese lily with stems 2 to 3 feet high and lanceolate leaves 3 to 5 inches long. The flowers, usually solitary but sometimes 2 to 4 together, are 6 to 8 inches long and nearly as wide, and are delicately fragrant. The waxy segments are creamy white inside, fading to pure white and tinged with yellow at the base. Outside they are white with brown-purple midribs; the three outer ones are variably tinged with brownish purple.

102077. CUCUMIS MELO L. Cucurbitaceae. Melon.

From Morocco. Seeds presented by H. Brayard, Directeur de la Ferme Expérimentale, Marrakech. Received February 17, 1933.

Charentais. One of the best commercial strains of that region.

102078. CALANDRINIA BALONENSIS Lindl. Portulacaceae. Parakeelya.

From Australia. Seeds presented through Monson Morris, Smithtown, Long Island, N.Y. Received February 20, 1933.

A perennial herb about a foot high, native to Queensland, Australia. The thick fleshy oblong-spatulate leaves are less than 1 inch long at the base of the plant while the upper ones are 2 inches long and linear-lanceolate. The large purple flowers, 1 to 2 inches across, are borne in loose terminal racemes.

For previous introduction see 101298.

102079 and 102080.

From India. Seeds presented by Dr. W. Burns, economic botanist, Department of Agriculture, Poona, Bombay. Received February 21, 1933.

102079. CHRYSOPOGON MONTANUS Trin. Poaceae. Grass.

A handsome perennial grass which becomes from 3 to 5 feet high. In India it has an excellent reputation as a fodder grass, and the seeds are collected and used as food by the natives. This grass has succeeded well in Florida and at Biloxi, Miss., and for the Gulf States it possesses some promise as a pasture grass.

102080. CHIONACHNE KOENIGII (Spreng.) Thwaites (Polytoca barbata Stapf). Poaceae. Grass.

A stout grass 3 to 5 feet high, native to India, Ceylon, and Java. The thick-margined lanceolate leaves are 1 to 2 feet long, and the flowers are borne in spikes 1 to 2 inches long.

102081. RIBES SATIVUM Syme. Grossulariaceae. Garden currant.

From Norway. Cuttings purchased from Prof. Olav Moen, Norges Landbrukskole, Undervisningen i Grosnsakdyrkning og Planteskolddrift. Received February 7, 1933.

Red Holland. Received as *Rød Hollandsk.*

For previous introduction see 102069.

102082. ANDROPOGON AMBOINICUS (L.)
Merr. Poaceae. Grass.

From India. Seeds presented by D. Rhind, economic botanist, Mandalay, Burma. Received February 21, 1933.

A tall perennial East Indian grass about 4 feet high, with narrowly linear leaves up to 20 inches in length. It is of possible value as a forage grass.

For previous introduction see 101027.

102083 to 102098.

From the Union of Soviet Socialist Republics. Material presented by Vale Lichagov, horticulturist, Sochi, Black Sea district. Received February 27, 1933.

102083. CORYLUS AVELLANA L. Betulaceae. Filbert.

Kerasund. Plants of one of the best of their varieties.

102084 to 102096. JUGLANS REGIA L. Juglandaceae. Persian walnut.

Seed of plants growing wild in the mountain zone of the Sochi region.

102084. No. 1.	102091. No. 8.
102085. No. 2.	102092. No. 9.
102086. No. 3.	102093. No. 10.
102087. No. 4.	102094. No. 11.
102088. No. 5.	102095. No. 12.
102089. No. 6.	102096. No. 13.
102090. No. 7.	

102097. MALUS SYLVESTRIS Mill. Malaceae. Apple.

Scions; received as *Abasinskoe* (Red Socki).

102098. PYRUS COMMUNIS L. Malaceae. Common pear.

Scions; received as *Cherkessian* (Socki pear).

102099. MELINIS MINUTIFLORA Beauv. Poaceae. Molasses grass.

From Central America. Seeds presented by Dr. Luis Cruz B., San José, Costa Rica, through J. L. Colom, chief, Division of Agricultural Cooperation, Pan American Union, Washington, D.C. Received February 24, 1933.

102100 to 102105. CANNABIS SATIVA L. Moraceae. Hemp.

From the Union of Soviet Socialist Republics. Seeds presented by the Pan Union Hemp Institute, Glouthov, Ukraine. Received February 23, 1933.

102100. No. 816, from Irkutsk, Siberia.
102101. From Proskurov, Ukraine.
102102. No. 819, from Shenkursk, northern European Russia.
102103. From the Caucasus region.
102104. From Mosdokskaja, Ukraine.
102105. From Novgorod-Seversk, Ukraine.

102106 to 102115.

From China. Scions collected in Hopeh Province by Peter Liu, Peiping. Received February 28, 1933.

102106 to 102115—Continued.

102106 to 102111. CASTANEA MOLLISSIMA Blume. Fagaceae. Hairy chestnut.

102106 and 102107. *Chiuften*, or middle-ripened chestnut. Said to ripen the latter part of September.

102106. From an orchard near the village of Lienhualing, east of Peiping.

102107. From an orchard near Tsuikachuang, northwest of Luanchow.

102108 and 102109. *Hanlu*, or late chestnut. Said to ripen the end of September.

102108. Collected near the village of Tsuikachuang, northwest of Luanchow.

102109. Collected near the village of Lienhualing, east of Peiping.

102110 and 102111. *Pailu*, or early chestnut. Said to ripen early in September.

102110. Scions from a young tree in an orchard near the village of Tsuikachuang, northwest of Luanchow.

102111. From an orchard near the village of Lienhualing, east of Peiping.

102112 to 102114. DIOSPYROS KAKI L. f. Diospyraceae. Kaki persimmon.

From an orchard near the village of Lienhualing, east of Peiping.

102112. *Hsi Yang Shih Tzu*, or western persimmon. A variety not very commonly grown in this region.

102113. *Hua Shih Tzu*, or fire persimmon. So-called from its deep-red color.

102114. *Ta Kai Shik*, or large persimmon.

102115. PYRUS sp. Malaceae. Pear.

Milee, or honey pear. Collected near the foot of the mountain of Panshan. This is the best pear grown in this region.

102116 to 102120. SYRINGA VILLOSA × SWEGINZOWII. Oleaceae. Lilac.

From Canada. Scions presented by F. L. Skinner, Dropmore, Manitoba. Received March 1, 1933.

102116. S. E. No. 3N.
102117. W. R. No. 2.
102118. W. R. No. 10.
102119. W. R. No. 12.
102120. V. No. 5S.

102121 to 102125. CORYLUS spp. Betulaceae.

From the Union of Soviet Socialist Republics. Seeds presented by Vale Lichagov, horticulturist, Sochi, Black Sea district. Received February 27, 1933.

A collection of seeds of native varieties from the middle mountain zone of Tuapse and Sochi regions of the Black Sea district, received under the following varietal names:

102121 to 102125—Continued.

- 102121 to 102123. *CORYLUS AVELLANA* L.
Filbert.
102121. *Cherkessian*.
102122. *Early Cherkessian*.
102123. *Trapesund*.
- 102124 and 102125. *CORYLUS MAXIMA*
Mill. Giant filbert.
102124. *Baden*.
102125. *Kerasund*.

102126 to 102130.

From Sweden. Scions presented by Director Gustaf Lind, Experimentalfätet, Stockholm. Received March 2, 1933.

Received under the following varietal names:

- 102126 and 102127. *MALUS SYLVESTRIS*
Mill. Malaceae. Apple.
102126. *Maglemær*. Origin, Denmark. Fruits, small to medium large size, variable. Skin light greenish yellow to yellowish white, coloring to a light red with red stripes distinct from the general red color on the exposed side. A dessert apple of good quality. Season, October to January.
102127. *Okna lok*.
- 102128 to 102130. *PRUNUS CERASUS* L.
Amygdalaceae. Sour cherry.
102128. *Allmand Sur* or *Brunkörsbär*.
102129. *Ostheimer*.
102130. *Skyggmreöll*.

102131 to 102153. *MALUS SYLVESTRIS*
Mill. Malaceae. Apple.

From Sweden. Scions presented by Carl G. Dahl, Forestandare for Alnarps Tradgårdsskola, Åkarp. Received March 2, 1933.

Received under the following varietal names:

102131. *Allington*. Commonly grown in Germany, but little known in Sweden. Skin greenish yellow, slightly overlaid with red. Used as a cooking apple. Season, October to Christmas.
102132. *Baumann's renett*. Origin, Belgium; now grown in Germany and southern Scandinavia. Skin light yellowish green overlaid with deep red. Good for cooking and dessert. Season, October to March.
102133. *Berner rosenapple*. Origin, Switzerland, later spreading over northern Europe to southern Sweden. Skin greenish yellow overlaid with dark carmine red, slightly striped. Good quality, attractive dessert apple. Season, October to February.
102134. *Blenheim reinette*. Origin, England, later introduced into northern Europe, and grown in Sweden since about 1800. Skin pale yellow, usually covered with bright red stripings and speckles on the exposed side. Flesh sour with little aroma, good for cooking. Season, late fall to following summer.
102135. *Brunnsäpple*. Origin, the Netherlands. Fruit medium to large, variable in size. Skin light green to

102131 to 102153—Continued.

yellow-green overlaid with a red blush on the exposed side. Used for cooking and dessert. Season, November to January.

102136. *Kasselrenett*. Origin, the Netherlands. Fruit small to medium. Skin green to greenish yellow, marbled and finely striped with red. Used for cooking. Season, October to February.
102137. *Cellini*. Grown over northern Europe. Skin light green, almost completely covered with red. Used mainly for cooking, but sometimes for dessert. Season, October to January.
102138. *Cox's Pomona*. Origin, England. Fruit large size. Skin white to yellow-white, almost completely covered with red striping. Flesh tender, good for cooking and dessert. Season, September to January.
102139. *Filippa*. Origin, Denmark. Fruit large size. Skin light greenish yellow, partly overspread with stripes and spots of red. Used as a dessert apple during December.
102140. *Gladstone*. Origin, England, later distributed over northern Europe. Skin yellowish green, overspread with clear dark red. Good quality dessert apple. Season, August to October.
102141. *Husmodor*. Grown over northern Europe. Skin yellowish green, largely overspread with a bright red. Good cooking and dessert apple. Season, October to February.
102142. *Ölands Kungsäpple*. Origin, southern Sweden. Skin yellow, overlaid with strong carmine red, on the exposed side, with darker stripes. Good quality dessert apple. Season, October to January.
102143. *Oranie*. Origin, Sweden. Fruit large size. Skin light green to yellowish green, orange-yellow on the exposed side. Used for dessert. Season, September to October.
102144. *Säfstaholm*. Origin, Sweden, later introduced and widely grown over northern Europe. Skin yellowish white to light red. Excellent dessert apple. Season, September.
102145. *Persikerott sommaräpple*. Said to have originated in France, now grown over northern Europe. Skin white, covered with a beautiful red blush. Good dessert apple. Season, late August; does not keep well.
102146. *Ringstad*. Origin, Sweden. Skin greenish yellow overspread with solid bright red. Season, September to October.
102147. *Rött Ananasäpple*. Widely grown in Denmark and Germany and hardy in Sweden. Skin yellowish white, covered with a bright carmine red. An aromatic dessert apple of high quality and attractive appearance. Season, middle of September to November.
102148. *Rött järnäpple*. Grown in Germany and southern Sweden. Skin green to a bright red with small yellow dots. Used for cooking. Season, last of October to April.
102149. *Rött Maglemær*.
102150. *Skovfoged*. Grown in Sweden. Skin greenish to dirty yellow over-

102131 to 102153—Continued.

spread partially or entirely with red. Good for cooking or dessert. Season, September to November.

102151. *Stenkyrke*. Origin, Sweden. Skin light yellow overlaid with clear red on the exposed side. Good cooking or dessert apple. Season, October to March.

102152. *Svanetorp*. Origin, Sweden. Fruit small size. Skin light greenish yellow to white-yellow, overlaid with red marbling and striping. Dessert fruit. Season, October to January.

102153. *Wäldikes düväpple*. Origin, Sweden. Fruit medium large size. Skin white to yellowish, overspread with bright red bluish or striping on the exposed side. Dessert apple. Season, September to December.

102154 to 102158.

From Finland. Seeds grown at the experiment station "Tammisto", Helsingfors Parish, and presented by the Hankkija Society through John L. Bouchal, American consul, Helsingfors. Received February 27, 1933.

102154 and 102155. *AVENA SATIVA* L.
Poaceae. Oats.

102154. *Esakaura, Viottokaura* × domestic variety. An oat with a moderately large white kernel, full and with thin husks, so that it is especially suitable for oatmeal production. It thrives best in light clay soil, but, on account of its strong stalk, it can also be grown successfully in swampy land.

102155. *Kytökaura, Kultasade* × domestic variety. An oat with a medium-sized yellow kernel. The short strong stalk suits swampy lands better than any other oat variety. It thrives well also on light clay soil. In spite of its maturing early, it is one of the most prolific varieties. Average time of growth, 99 days.

102156. *HORDEUM DISTICHON PALMELLA*
Harlan. Poaceae. Two-rowed barley.

***Halikonohra*.** A two-sided drooping variety of barley, with medium strong stalks and large full kernels which mature in about 85 days. It is a heavy yielder and does best in light soil.

102157. *HORDEUM VULGARE PALLIDUM*
Seringe. Poaceae. Six-rowed barley.

***Ouinohra*.** A northern Finnish domestic barley, with very strong stalk and rather small kernel. It is a very early barley, maturing in about 72 days. In the south of Finland this barley is sown on fallow land and harvested before fall sowing. Due to its strong stalk it is suitable also in swampy lands and as a protective plant for hay.

102158. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

***Varmavehna*.** A cross between the Swedish *Svea* wheat and a domestic wheat. The rather short, strong stalk bears medium long, thick woolly ears with large full kernels. This is a good winter variety which ripens early and gives a good yield.

102159 to 102162.

From England. Plants purchased from W. J. Marchant, Keeper's Hill Nursery, near Wimborne, Dorset. Received March 7, 1933.

102159. *ABELIA FLORIBUNDA* (Mart. and Gal.) Decaisne. Caprifoliaceae.

A shrub 6 to 10 feet high, with oblong to ovate, ciliate entire leaves 1 inch long and terminal cymes of tubular red-purple flowers nearly 2 inches long. It is native to Mexico.

For previous introduction see 90298.

102160. *ACER ARGUTUM* Maxim. Aceraceae. Maple.

A small deciduous tree with erect branches and doubly serrate leaves 2 to 4 inches long. The flowers, produced in April before the leaves, are greenish yellow, and the keys are borne in hanging racemes. This tree is a native to the mountain woods of Japan and makes an elegant appearance with its pale-green leaves during the summer and its purple-brown branches in the winter.

102161 and 102162. *RHODODENDRON OBTUSUM AMOENUM* (Lindl.) Rehd. Ericaceae. *Amoena azalea*.

A bushy evergreen shrub, at times 3 feet high, with elliptic or elliptic-obovate, dark-green leaves up to 1 inch long. Native to Japan.

102161. Variety *Caldwellii*. A form that is covered in May with pale-pink, hose-in-hose flowers.

102162. Variety *Rosea*. The hardiest of the *Amoena* section, with bright-pink, hose-in-hose flowers, freely produced in May.

102163. *NEOMOOREA WALLISII* (Reichb. f.) Schlechter. Orchidaceae. Orchid.

From Trinidad, British West Indies. Plants presented by R. O. Williams, curator, Department of Agriculture, Port-of-Spain. Received March 8, 1933.

An epiphytic orchid, native to Antioquia, Colombia. The two plicate leaves become 2 to 3 feet long and 8 inches wide. The red-brown flowers, about 2 inches in diameter, have a three-lobed, straw-yellow lip lined with dark purple, with the crest bright yellow. This orchid is closely allied to *Houlletia*.

102164 to 102170. *MALUS SYLVESTRIS*
Mill. Malaceae. Apple.

From Norway. Scions presented by Prof. H. Misvaer, horticulturist, Landbrukshoiskolen, Aas. Received March 7, 1933.

Received under the following varietal names:

102164. *Hardanger Rosenstrips*.

For previous introduction and description see 101881.

102165. *Haugmann*.

For previous introduction and description see 101882.

102166. *Kaupanger*.

For previous introduction and description see 101883.

102167. *Oskaug*.

102164 to 102170—Continued.

For previous introduction and description see 101884.

102168. *Rød Rosenstrips*.

For previous introduction and description see 101885.

102169. *Stor Torstein*.

For previous introduction and description see 101889.

102170. *Torstein*.

For previous introduction and description see 101888.

102171 to 102180.

From Norway. Scions presented by Fylkegardner Mørk, Drammen, through Marguard H. Lund, commercial attaché, Legation of the United States of America, Oslo. Received March 8, 1933.

Received under the following varietal names:

102171 to 102177. *MALUS SYLVESTRIS* Mill. Malaceae. Apple.

102171. *Bogarudeple*.

102172. *Retvedteple*. A red apple from Eiker, Buskerud Fylke.

102173. *Rødteple*. A red apple from Alfstad, Østre Toten, Opland Fylke.

102174. A red apple from Lunnatoten, Opland Fylke.

102175. A red striped apple from Alfstad, Østre Toten, Opland Fylke.

102176. From Ål in Hallingdal, Buskerud Fylke.

102177. From Gol in Hallingdal, Buskerud Fylke.

102178 to 102180. *PRUNUS CERASUS* L. Amygdalaceae. Sour cherry.

A collection of cherries from Lier, Buskerud Fylke.

102178. *Rødt Rotekte*.

102179. *Skygekirsebaer*. A very late seedling cherry.

102180. *Sortrotekte*. [Genuine red.]

102181 and 102182. *SOJA MAX* (L.) Piper. Fabaceae. Soybean.

From France. Seeds presented by Prof. L. Rouest, Paris, through J. W. Pincus, New Brunswick, N.J. Received March 6, 1933.

Yakovlev. Two varieties of soybeans, originally from Russia, which Prof. L. Rouest has developed under French conditions.

102181. An olive-yellow bean with a smooth skin.

102182. Olive-yellow beans with wrinkled skins, many of which are split.

102183. *TRIFOLIUM REPENS* L. Fabaceae. White clover.

From England. Plants purchased from Sutton & Sons, Ltd., Reading. Received March 7, 1933.

Variety *pentaphyllum*. A form having five leaflets, often bronzy. Introduced for the use of forage-crop specialists.

102184. *PHASEOLUS LUNATUS* L. Fabaceae. Lima bean.

From Guatemala. Seeds presented by Don Jorge Garcia Salas, Guatemala City. Received February 27, 1933.

A wild bean collected near Guatemala City at 1,580 feet altitude. The small brown seeds have a black ring around the hilum. Introduced for comparison studies with varieties now being grown on the Pacific coast.

102185 and 102186.

From Peru. Seeds presented by Earl Hansen. Received March 1, 1933.

102185. *TECOMARIA* sp. Bignoniaceae.

Pingo Pingo. An erect shrub with pinnate leaves and red flowers in terminal clusters. Collected near Chachapoyas, Peru, between 9,000 and 12,000 feet altitude, in loose sandy soil.

102186. *CHUQUIRAGA SPINOSA* D. Don. Asteraceae.

Huamampinto. From Huancayo, Peru, between 13,500 and 14,000 feet altitude. An erect, densely-branched, spiny shrub 2 feet high, with alternate, sessile, ovate-lanceolate, leathery leaves half an inch long and yellowish flowers in small heads. Found in sheltered places with gravelly soil, usually old river bottoms.

102187. *GOSSYPIUM TOMENTOSUM* Nutt. Malvaceae. Cotton.

From Hawaii. Seeds presented by the horticultural division of the United States Experiment Station, Honolulu. Received March 2, 1933.

A softly pubescent plant with red-brown lint.

102188 to 102190.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received March 2, 1933.

102188. *ARECA GLANDIFORMIS* Lam. Phoenicaceae. Palm.

A slender, spineless, pinnate-leaved palm closely resembling *Linoma* (*Areca alba*). It is native to the Molucca Islands.

102189. *ARECA* sp. Phoenicaceae. Palm.

102190. *PLUMBERIA SERICIFOLIA* Wright. Apocynaceae.

A small tropical tree 8 to 14 feet high, with oblong, obtuse leaves, white-hairy beneath and about 5 inches long, and white flowers about 2 inches long in small cymes. Native to western Cuba.

102191 to 102213.

From England. Plants purchased from W. J. Marchant, Keeper's Hill Nursery, near Wimborne, Dorset. Received March 11, 1933.

102191 to 102193. *CASSIOPE* spp. Ericaceae.

102191. *CASSIOPE LYCOPODIODES* (Fall.) D. Don.

A low creeping plant with slender stems, scalelike crowded leaves, and nodding white, bell-shaped flowers borne singly on erect peduncles. Native to northeastern Siberia.

102191 to 102213—Continued.

102192. CASSIOPE MERTENSIANA (Bong.) Don.

A low evergreen heathlike shrub 12 to 18 inches high, native to northwestern America from Alaska south to California. The thick glabrous oblong leaves, one-fourth of an inch long, are not furrowed on the back, and the campanulate rose-white flowers, slightly longer than the leaves, are solitary and nodding on erect naked pedicels.

102193. CASSIOPE TETRAGONA (L.) D. Don.

An arctic evergreen shrub 1 to 2 feet high, similar to *C. mertensiana*, but the leaves are finely pubescent and ciliate and are deeply furrowed on the back.

102194 to 102213. COTONEASTER spp. Malaceae.**102194. COTONEASTER BUXIFOLIA** Wall.

An evergreen shrub eventually about 10 feet high, of spreading upright habit, with elliptic or obovate dark-green leaves almost half an inch long, tomentose on the undersurface, and white flowers, one-third of an inch across, in small corymbs. The globular or ellipsoid red berries are one-fourth inch in diameter. Native to the Nilgiri Hills in India.

102195. COTONEASTER BUXIFOLIA VEL-LAEA Franch.

A variety characterized by a procumbent habit, with slightly smaller leaves, conspicuously pubescent above while young. Native to western China.

102196. COTONEASTER MICROPHYLLA GLACIALIS Hook. (*C. congesta* Baker).

A variety differing in its low compact habit, with the leaves only sparingly pubescent beneath and the flowers slightly smaller and pinkish white. Native to the Himalayas.

102197. COTONEASTER EXCELLENS Hort.

A very small evergreen shrub with small gray leaves and masses of pink-red berries that are retained well into the winter.

102198. COTONEASTER FARRERI Hort.

A name for which a place of publication and a description have not been found.

102199. COTONEASTER FRIGIDA Wall. Himalayan cotoneaster.

Variety *Vicarii*. Said to be a handsome small tree bearing masses of large scarlet berries in clusters.

102200. COTONEASTER GLABRATA Rehd. and Wils.

An evergreen upright shrub ultimately about 15 feet high, with spreading branches, leathery oblong-lanceolate bright-green leaves up to 3 inches long, slightly rugose above, and white flowers in dense corymbs about an inch across. Native to western China and closely allied to *C. salicifolia*.

102201. COTONEASTER HENRYANA (C. Schneid.) Rehd. and Wils.

102191 to 102213—Continued.

A stout deciduous or half-evergreen shrub about 10 feet high, with pendulous branchlets, oblong or oblong-lanceolate dark-green leaves from 2 to over 4 inches long, covered beneath with grayish tomentum, and white flowers in loose pubescent corymbs 2 inches across. The ovoid red berries are one-fourth of an inch in diameter. Native to western China.

102202. COTONEASTER HUPEHENSIS Rehd. and Wils. Hupeh cotoneaster.

A graceful deciduous shrub up to 7 feet high, with ovate or elliptic, obtuse or acute, mucronulate, deep-green leaves up to 1½ inches long, sparingly gray tomentose beneath, and bright-red, subglobose berries one-fifth of an inch in diameter, in numerous corymbs. It is closely related to *C. multiflora* and native to central China.

102203. COTONEASTER MICROPHYLLA THYMIFOLIA (Loud.) Koehne. Thyme rockspray.

A variety that differs from the type in being generally smaller throughout with narrowly oblong-obovate leaves and berries one-fifth of an inch in diameter. Native to the Himalayas.

102204. COTONEASTER NITENS Rehd. and Wils.

A rather low rambling deciduous shrub up to 5 feet high, densely branched, with broadly oval, obtuse, dark-green leaves one-half inch long. The fruits, globose or nearly so, are purplish black and one-third of an inch in diameter. It is native to Szechwan, western China.

102205 and 102206. COTONEASTER PANNOSA Franch. Silverleaf cotoneaster.

102205. An evergreen or half-evergreen shrub 3 to 10 feet high, with gracefully arching branches, elliptic or ovate-lanceolate dull-green leaves up to 1 inch long, white tomentose beneath, and dull-red roundish fruits one-fourth inch in diameter, in rather dense corymbs. Native to southwestern China.

102206. Said to be different from the type.

102207. COTONEASTER RHYTIDOPHYLLA Rehd. and Wils.

A stout half-evergreen shrub about 5 feet high, with leathery, oblong-elliptic or oblong-lanceolate, acuminate leaves up to 3 inches long, densely white or yellow tomentose beneath, and pear-shaped, orange-red berries one-fourth of an inch long, in small dense corymbs. Native to western China.

102208. COTONEASTER ROTUNDIFOLIA Wall. Roundleaf cotoneaster.

A deciduous or half-evergreen shrub 4 to 8 feet high, with stiff more or less two-ranked branches and roundish or broadly oval, dark-green, mucronate leaves less than an inch long, paler beneath. The broadly ovate scarlet berries, usually solitary, are one-half inch long. Native to southwestern China and the Himalayas.

102209. COTONEASTER SALICIFOLIA Franch. Willowleaf cotoneaster.

102191 to 102213—Continued.

A half-evergreen or, in mild climates, evergreen shrub up to 15 feet high, with slender spreading branches, ovate-lanceolate or elliptic-oblong, acute, cuneate leaves up to over an inch long, white tomentose beneath, and bright-red roundish berries one-fifth of an inch in diameter, in densely woolly corymbs 1 to 2 inches across. Native to western China.

102210. COTONEASTER SALICIFOLIA FLOCCOSA Rehd. and Wils.

A variety with narrower leaves, floccose tomentose beneath, and berries of a brighter red.

102211. COTONEASTER SALICIFOLIA RUGOSA (E. Pritz.) Rehd. and Wils.

A variety which differs from the type in having smaller, broader, duller green leaves, shaggy pubescent beneath, and larger fruits.

102212. COTONEASTER TOMENTOSA (Ait.) Lindl.

A bushy deciduous shrub 6 to 10 feet high, with elliptic to broadly oval, obtuse, dull-green leaves 1 to nearly 3 inches long, white or grayish tomentose beneath, and pinkish flowers in small nodding cymes with bright-red, subglobose fruits one-third of an inch in diameter. Native to southeastern Europe and western Asia.

102213. COTONEASTER WARDII W. W. Smith.

A deciduous shrub 5 to 8 feet high, with ovate, acute, mucronate leaves over an inch long, densely silvery tomentose beneath. The white flowers, in small corymbs, are followed by fruits of a bright sealing-wax red.

102214. AMERIMNON sp. Fabaceae.

From China. Seeds presented by Dr. H. H. Chung, Department of Biology, National Wu-Han University, Wuchang, Hupeh. Received March 11, 1933.

A good timber tree, becoming over 60 feet high, with a trunk diameter of 12 inches, which fruits abundantly in Hupeh.

102215 to 102238.

From France. Seeds presented by L. Pardé, directeur des Ecoles Forestières de Barres, Nogent-sur-Vernisson, Loiret. Received March 2, 1933.

102215 to 102217. BETULA spp. Betulaceae.

102215. BETULA ALNOIDES Buch.-Ham.

A tree up to 60 feet high, native to northern India and southwestern China between 3,000 and 10,000 feet altitude. The oblong-ovate leaves, 3 to 6 inches long, have appressed teeth on the margins and are nearly glabrous. The slender pendulous fruiting spikes are 3 to 5 inches long and are borne in fascicles.

102216. BETULA JAPONICA SZECHUANICA C. Schneid. Japanese white birch.

A tree up to 60 feet high, native to western China. The rhombic-ovate leaves, 2 to 3 inches long, are unequally dentate-serrate and are densely glandular-punctate beneath. The dark dull-green color of the leaves persists until late autumn.

102215 to 102238—Continued.

102217. BETULA UTILIS D. Don (*B. bhojpatra* Wall.).

A tree 40 to 80 feet high, with red-brown trunk and branches and bark which peels off in papery flakes. It is native to the temperate regions of the Himalayas between 7,000 and 14,000 feet altitude. The oval coarsely toothed, sharp-pointed leaves, 3 inches long, are dark green above and paler beneath. In winter the orange-chocolate color of the twigs is very striking.

For previous introduction see 99654.

102218 to 102221. CLEMATIS spp. Ranunculaceae.

102218. CLEMATIS FUSCA Turcz.

A somewhat woody vine, 12 to 15 feet long, native to eastern Asia, with compound leaves made up of 5 to 7 oblong-ovate leaflets 2 to 3 inches long. The nodding urn-shaped flowers, an inch long, have thick sepals with recurved tips and are densely brownish pubescent outside and violet within. The achenes have brown plumose styles.

102219. CLEMATIS GLAUCA AKEBIOIDES (Maxim.) Rehd. and Wils.

A slender climber up to 10 feet high, native to western China. The pinnate to bipinnate leaves have 2 to 3-lobed ovate leaflets, and the flowers are bronze yellow.

102220. CLEMATIS KOREANA Komar.

A prostrate vine with trifoliate leaves composed of coarsely dentate, sharp-pointed leaflets. These are 2 to 4 inches long and usually 3-lobed or 3-parted. The yellow to dull-violet, bell-shaped, nodding flowers are 1 to 2 inches long and are borne singly in the axils. Native to Chosen.

For previous introduction see 92774.

102221. CLEMATIS TANGUTICA OBTUSUSCULA Rehd. and Wils.

A woody climber 8 to 12 feet long, native to northwestern China. The pinnate or bipinnate leaves have oblong-lanceolate serrate leaflets 1 to 4 inches long, and the bright-yellow flowers, 1 to 2 inches across, are followed by large heads of feathery fruits.

102222 to 102224. INDIGOFERA spp. Fabaceae.

102222. INDIGOFERA MACROSTACHYA Vent.

A shrubby plant with hairy leaflets and pink flowers in dense racemes which are longer than the leaves.

For previous introduction see 99429.

102223. INDIGOFERA RETICULATA Franch.

A somewhat shrubby perennial 2 to 3 feet high, native to Yunnan, China. The compound leaves have 7 to 9 elliptic shining dark-green leaflets about 1 inch long, and the pea-shaped flowers, in axillary racemes, are pure white.

102224. INDIGOFERA SPLENDES Ficalho and Hiern.

102215 to 102238—Continued.

A tropical African tree with pinnate leaves up to 3 inches long, consisting of 6 to 11 pairs of small oval leaflets. The large showy flowers are in axillary spiciform racemes.

102225 to 102229. *LIGUSTRUM* spp. Oleaceae. Privet.

102225. *LIGUSTRUM QUIHOU* Carr. Quihou privet.

A spreading shrub 6 to 8 feet high, native to China. The somewhat leathery leaves, 1 to 2 inches long, are elliptic to oblong-ovate, and the small white flowers are in long spikes which are collected into panicles 4 to 8 inches long.

102226. *LIGUSTRUM SALICIFOLIUM* Carr.

A vigorous deciduous shrub with opposite decussate leaves up to 6 inches long and 1 inch wide, and numerous white flowers in long lax racemes with an aroma like that of orange flowers. It is often frozen back in the vicinity of Paris.

102227. *LIGUSTRUM* sp.

Originally from Yunnan, China.

102228. *LIGUSTRUM* sp.

No. 4114 MV.

102229. *LIGUSTRUM* sp.

No. 5984 MV.

102230 to 102233. *ROSA* spp. Rosaceae. Rose.

102230. *ROSA FILIPES* Rehd. and Wils. Threadstalk rose.

A shrub with slender prostrate stems up to 15 feet long, native to western China. The leaves have 5 to 7 lanceolate serrate leaflets 2 to 3 inches long, and the fragrant white flowers, 1 inch across, in large loose corymbs, are followed by globose scarlet fruits about one-half inch in diameter.

102231. *ROSA GLUTINOSA* Sibth. and Smith.

A dwarf prickly shrub native to southwestern Europe and western Asia. The densely glandular leaves have 5 to 7 elliptic to obovate leaflets about 1 inch long, and the small pink flowers are followed by small globose fruits.

102232. *ROSA KOCHIANA* Koehne.

A bushy rose about 3 feet high, possibly a hybrid of *R. humilis* × *spinosissima*. The leaves are composed of 9 to 11 glabrous simple lightly serrate leaflets, and the deep-pink flowers, over an inch in diameter, are in small clusters.

102233. *ROSA MOLLISSIMA* Willd.

A bushy rose about the size of *R. villosa*, with bipinnate leaves composed of oblong serrate, densely hairy leaflets. The solitary flowers are deep red [incarnata]. It is native to Asia Minor.

102234. *STAPHYLEA COLCHICA* COULOMBIERI (Andre) Zabel. Staphyleaceae. Bladder nut.

A vigorous form of *Staphylea colchica*, with larger acuminate leaflets.

102215 to 102238—Continued.

This is an upright shrub with five leaflets, 6-inch panicles of white flowers, and obovoid 2- and 3-lobed inflated fruits. Native to the Caucasus region.

102235 to 102238. *SYRINGA* spp. Oleaceae. Lilac.

102235. *SYRINGA JAPONICA* (Maxim.) Decaisne. Japanese tree lilac.

A tree up to 30 feet high, with a short trunk and a round or ovoid head, native to Japan. The broadly ovate leaves, 2 to 5 inches long, are bright green above and paler beneath, and the yellowish flowers are in large panicles a foot or more long.

102236. *SYRINGA LUMINIFERA* Hort.

A name for which a place of publication and a description have not been found.

102237. *SYRINGA REFLEXA* C. Schneid. Nodding lilac.

A shrub 12 to 15 feet high, with rough ovate leaves 3 to 6 inches long and nearly cylindrical drooping panicles crowded with small flowers which are deep carmine in bud, fading as the flowers open to pink outside and white within. The flowers appear in June. Native to central China.

102238. *SYRINGA* sp.

No. 3. de Max Sievers.

102239 and 102240. *CASTANEA MOLLIS-SIMA* Blume. Fagaceae.

Hairy chestnut.

From China. Scions collected by Peter Liu from an orchard near the village of Chaochuangtzu, northeast of Peiping. Received March 13, 1933.

102239. *Early-ripened* chestnut. Said to ripen the first week of September.

102240. *Late-ripened* chestnut. Said to ripen during the last week of September.

102241 and 102242.

From India. Seeds presented by V. N. Ranganatha Rao, senior botanist, Mysore State Department of Agriculture, Bangalore City, southern India. Received March 11, 1933.

102241. *GOSYPIUM NANKING* Meyen. Malvaceae. Cotton.

A Chinese long-staple cotton.

For previous introduction see 92840.

102242. *GOSYPIUM* sp. Malvaceae. Cotton.

A form which resembles *G. herbaceum*.

102243. *CINCHONA SUCCIRUBRA* Pavon. Rubiaceae.

From Guatemala. Seeds presented by Federico Rodriguez Bonito, Finca Capetillo, near Antigua, through G. H. Donald, American consul general, Guatemala City, at the request of Col. Victor E. Ruehl, Caldwell, N.J. Received March 10, 1933.

For previous introduction and description see 101661.

102244 to 102264.

From England. Plants purchased from W. J. Marchant, Keeper's Hill Nursery, near Wimborne, Dorset. Received March 18, 1933.

102244. *CYRILLA RACEMIFLORA* L. *Cyrillaceae*.

102245. *CYTISUS MULTIFLORUS DURUS* Aschers. and Graebn. *Fabaceae*.

Broom.

A form which is said to be more resistant to frost than the species.

102246. *CYTISUS MULTIFLORUS INCARNATUS* Sweet. *Fabaceae*.

Broom.

A shrub up to 10 feet high, native to Spain and northern Africa, with upright slender branchlets bearing trifoliolate leaves below and simple ones above. The white flowers, in axillary clusters of 1 to 3, are produced very profusely.

102247. *DOCYNIA DELAVAYI* (Franch.) C. Schneid. *Malaceae*.

A spiny evergreen tree up to 30 feet high, native to southwestern China, with glossy ovate-lanceolate leaves 2 to 4 inches long and umbels of white flowers which appear in the spring and are followed by ovoid acid fruits about 1 inch long.

102248. *DOCYNIA DOCYNOIDES* (C. Schneid.) Rehd. *Malaceae*.

A half-evergreen tree native to southwestern China. The elliptic to oblong-lanceolate leaves, 2 to 4 inches long, are usually serrate near the apex and are lustrous green above and nearly smooth beneath. The white flowers, 1 inch across, are borne in umbels of 2 to 5.

102249. *GORDONIA AXILLARIS* (Roxb.) Diétr. (*G. anomala* Spreng.) *Theaceae*.

A large evergreen shrub or small tree up to 25 feet high, native to southern China. The oblanceolate leaves, 4 to 6 inches long, are dark green above, and the solitary creamy white flowers are 2 to 3 inches across.

102250 to 102252. *LONICERA PERICLYMENUM* L. *Caprifoliaceae*. **Woodbine.**

102250. A woody vine several feet long, native to southern Europe. The dark-green ovate leaves are 1 to 3 inches long, and the fragrant creamy flowers, purplish outside, are borne in dense heads.

102251. *Belgica*. Dutch woodbine. A form with the flowers pale purple outside.

102252. *Serotina*. Autumn woodbine. A form with the flowers dark purple outside, blooming late and profusely.

102253. *PEROVSKIA ATRIPLICIFOLIA* Benth. *Menthaceae*.

A handsome shrubby plant, allied to the sages (*Salvia* spp.), which is indigenous to the mountainous regions of Afghanistan. It is of erect habit, about 5 feet high, and emits an aromatic sage-like odor when bruised. Its chief ornamental value lies in the terminal panicles of blue flowers which appear in early autumn, forming a pleasing contrast with the silvery gray stems.

102244 to 102264—Continued.

102254. *PHILLYREA DECORA* Boiss. and Bal. *Oleaceae*. **Lanceleaf phillyrea.**

An evergreen shrub with upright spreading branches which become 10 feet high. The oblong-lanceolate nearly entire leaves are lustrous dark green above and yellowish green beneath. The small white flowers, in dense clusters, are followed by oblong-ovoid purple-black fruits about one-fourth of an inch long. It is native to western Asia.

102255 to 102259. *PHOTINIA* spp. *Malaceae*.

102255. *PHOTINIA BEAUVERDIANA* C. Schneid.

A deciduous shrub up to 10 feet high, native to central and western China. The oblong-ovate, densely serrulate leaves are 2 to 4 inches long, and the small white flowers, in corymbs 2 inches across, are followed by subglobose scarlet fruits one-fourth of an inch in diameter.

102256. *PHOTINIA BEAUVERDIANA NOTABILIS* (C. Schneid.) Rehd. and Wils.

A shrub similar to *P. beauverdiana*, but with thicker, more prominently veined leaves, longer corymbs of flowers, and slightly larger ovoid fruits.

102257. *STRANVAESIA BENTHAMIANA* (Hance) Merr. (*Photinia benthamiana* Hance).

A Chinese evergreen shrub with leathery, oblong, red-tipped leaves and dense panicles of white flowers, followed by orange or scarlet fruits.

102258. *PHOTINIA DAVIDSONIAE* Rehd. and Wils.

A handsome evergreen tree, 20 to 50 feet high, with dense foliage, native to Hupeh, western China. The leathery oblong or lanceolate leaves are up to 6 inches long, and the white flowers, nearly half an inch across, are in many-flowered terminal corymbs. The globose orange-red berries are about one-third of an inch in diameter.

102259. *PHOTINIA VILLOSA* (Thunb.) DC.

A deciduous shrub or small tree, native to China, Chosen, and Japan, with obovate or ovate-lanceolate leaves from 1 to 3 inches long. It is a variable plant, especially in the amount of down on its leaves, young shoots, and flower stalks. The white flowers, each about one-half inch in diameter, are in corymbs over an inch wide. The fruit is the size and shape of the common haw and the leaves turn a beautiful red in autumn.

102260. *PIERIS FORRESTII* Harrow. *Ericaceae*.

An upright evergreen shrub with pendent branches and red branchlets, native to southwestern China. The oblanceolate serrulate leaves are 2 to 5 inches long, and the small whitish urn-shaped flowers are in drooping panicles.

102261 to 102263. *STEWARTIA* spp. *Theaceae*.

102261. *STEWARTIA MONADELPHA* Sieb. and Zucc.

A tree up to 75 feet high, native to Japan. The bright-green ovate leaves are 2 to 4 inches long, and the fra-

102244 to 102264—Continued.

grant white cup-shaped flowers, 1 to 2 inches across, are solitary in the axils of the leaves.

102262. STEWARTIA PSEUDO-CAMELLIA Maxim. **Japanese stewartia.**

A handsome tree, native to Japan, 50 feet high, with erect branches and red bark. The thickish obovate-lanceolate leaves are bright green, and the large white flowers are borne in summer.

102263. STEWARTIA SINENSIS Rehd. and Wils.

A shrub or tree up to 30 feet high, native to central China. The oblong to obovate serrulate leaves are 2 to 4 inches long, and the cup-shaped white flowers are 2 inches across.

102264. TRIPETALEIA PANICULATA Sieb. and Zucc. **Ericaceae.**

A shrub 4 to 6 feet high with red-brown branchlets, native to Japan. The rhomboid-ovate leaves are 1 to 3 inches long, and the pink-tinged white flowers, with three distinct petals, are in terminal panicles 2 to 4 inches long.

102265. *ERYTHRINA* sp. **Fabaceae.**

From Trinidad. Seeds presented through David Fairchild. Received March 13, 1933.

102266 and 102267. *CASTANEA SATIVA* Mill. **Fagaceae.** **Spanish chestnut.**

From the Union of Soviet Socialist Republics. Seeds presented by the Institute of Plant Industry, Leningrad. Received March 16, 1933.

Wild forest chestnuts, collected in the Caucasus area.

102268 to 102273.

From the West Indies. Material collected by David Fairchild, with the 1933 Allison V. Armour expedition. Received March 20, 1933.

102268. HIPPEASTRUM sp. **Amaryllidaceae.**

No. 3023.

102269. MANGIFERA INDICA L. **Anacardiaceae.** **Mango.**

No. 3052. *Bombay*. From Hope Gardens, Kingston, Jamaica; presented by M. S. Goodman, March 12, 1933. This is the most prolific of all the East Indian mangoes that have been tested in Jamaica. It is a small, fiberless, sweet mango with a faint red blush, very much like the "Pairi."

102270. PHILODENDRON sp. **Araceae.**

No. 3042. From near Bath, Jamaica, March 7, 1933. A handsome climber with sagittate leaves with incised margins.

102271. RHAHDADENIA sp. **Apocynaceae.**

No. 3014. From the Bahama Islands, February 24, 1933. Tubers of a woody vine with opposite, thick, almost-succulent leaves and large flowers in small racemes. Found growing over stumps in a cornfield on Mariгуауа Island.

102272. SOLANUM TUBEROSUM L. **Solanaceae.** **Potato.**

102268 to 102273—Continued.

No. 3029. Tubers purchased in the market at Port-au-Prince, Haiti, March 3, 1933. Small elongated potatoes with deep-set eyes.

102273. SYNGONIUM AURITUM (L.) Schott. **Araceae.**

No. 3043. Cuttings collected March 7, 1933, near Bath, Jamaica. A woody vine native to the West Indies and tropical America. The 3- to 5-parted leaves have the middle segment largest, up to 12 inches long, and the yellow-green spathe, spotted with purple, 6 to 10 inches long, is cylindrical with a closely sheathing base.

102274. BRASSICA OLERACEA CAPITATA L. **Brassicaceae.** **Cabbage.**

From Sweden. Seeds presented by Carl G. Dahl, director, Experimentalfältet, Akarp, Alnarp. Received March 20, 1933.

Jaatun.

102275. IPOMOEA BATATAS (L.) Poir. **Convolvulaceae.** **Sweetpotato.**

From the American Virgin Islands. Tubers presented by Claud Horn, horticulturist, Agricultural Experiment Station, Christiansted. Received March 23, 1933.

No. 795. A seedling produced at the station.

102276. CHAETOSPERMUM GLUTINOSUM (Blanco) Swingle. **Rutaceae.** **Tabog.**

From the Canal Zone. Seeds presented by J. E. Higgins, superintendent, Canal Zone Experiment Gardens, Summit. Received March 21, 1933.

A small spiny Philippine tree with trifoliate leaves, small clusters of rather large white flowers, and oblong hard-shelled fruits. This tree is being tested as a stock for the commercial citrus fruits.

102277 to 102287.

From the West Indies. Material collected by David Fairchild, with the 1933 Allison V. Armour expedition. Received March 24, 1933.

102277. AGAVE MORRISII Baker. **Amaryllidaceae.**

No. 3059. Plants collected in Jamaica, British West Indies, March 11, 1933. A stemless agave, native to Jamaica, with a rosette of 20 to 30 spatulate leaves 4 to 6 feet long. The end spine is an inch long, and the marginal prickles are dark brown. The inflorescence, 15 to 20 feet high, is made up of many branches which bear bright-yellow flowers 2 to 3 inches long.

102278. BLIGHIA SAPIDA Koen. **Sapindaceae.** **Akee.**

No. 3062. From Kingston, Jamaica, March 11, 1933. Seed of a tree, native to the Guinea Coast of Africa, which has become naturalized in the West Indies. The bright red fruits, containing shiny black seeds, are surrounded by a yellow aril. The fruit is said to be poisonous when immature or overripe, but the fleshy portion (aril) is eaten after being boiled or fried.

102277 to 102287—Continued.

102279. CRESCENTIA CUJEPE L. Big-noniaceae. Calabash-tree.

No. 3066. Cuttings of a handsome tree, native to tropical America, with wide-spreading branches and the general habit of the Burbank plum. The glossy dark-green leaves, 4 to 6 inches long, are broadly lanceolate, and the solitary pendulous round fruits are 18 to 20 inches in diameter, but can be made to assume various shapes by skillful tying.

102280. DRACAENA sp. Liliaceae.

No. 3038. Seeds presented by E. S. Townes of Castleton Gardens, Jamaica, March 7, 1933. A tree 20 feet high and half as wide. The bright-orange fruits are in long pendent clusters.

102281. EUPHORBIA PULCHERRIMA Willd. Euphorbiaceae. Poinsettia.

No. 3063. From Kingston, Jamaica, March 10, 1933. Cuttings presented by M. Goodman, of the Hope Gardens. A "double" variety, with more numerous bracts than the common form.

102282. LIVISTONA HOOGENDORPII Andre. Phoenicaceae. Palm.

No. 3040. Seeds collected in Castleton Gardens, Jamaica, March 7, 1933. A tall Japanese palm with fan-shaped leaves 4 to 6 feet wide on spiny petioles 3 to 5 feet long, red-brown at the base and becoming olive green near the blade. The blades are made up of 10 to 12 plicate pendulous segments with 5 to 7 acute lobes at the apex.

For previous introduction see 101263.

102283. PELARGONIUM INQUINANS (L.) Ait. Geraniaceae. Fish geranium.

No. 3046. Cuttings collected in the Hope Gardens, Jamaica, March 12, 1933. A thick-stemmed geranium with long-stemmed, roundish or kidney-shaped velvety leaves, and scarlet flowers. It succeeds well in the dry Tropics.

102284 and 102285. PERSEA AMERICANA Mill. Lauraceae. Avocado.

102284. No. 3075. From San Andrea Island, March 16, 1933. A West Indian avocado which ripens in late March or early April. It is an oblong fruit 4 inches long and of a bright-green color. The seed, however, is relatively very large.

102285. No. 3333. Fruit purchased in a market in Hispaniola.

102286. PHILODENDRON sp. Araceae.

No. 3044. Cuttings collected in the Hope Gardens, Jamaica, March 9, 1933. An unusually attractive vine with rather small leaves, 6 inches across, of an intense dark green.

102287. ROYSTONEA sp. Phoenicaceae. Royal palm.

No. 3035. Seeds collected at Kingston, Jamaica, March 7, 1933. The West Indian Royal palm is a more stately tree than the Cuban or Florida Royal palm.

102288. SORGHUM PLUMOSUM (R. Br.) Beauv. Poaceae. Grass.

From Australia. Seeds presented by the Department of Agriculture, Sydney, New South Wales, through G. D. Ross, under-secretary. Received March 15, 1933.

102288—Continued.

An Australian grass over 2 feet high, with slender stems and long narrow leaves. It is not popular with sheep herders, but is considered a very good grass for cattle. The seed shatters freely.

102289 to 102309.

From Manchuria. Seeds purchased from the Manshu Nosan Shokai, Inc., Dairen. Received March 15, 1933.

102289 to 102293. ACER spp. Aceraceae. Maple.

102289. ACER DIABOLICUM Blume. Devil maple.

A tree up to 30 feet high with 5-lobed leaves 4 to 8 inches across, the broadly ovate lobes being coarsely and remotely dentate. The racemes of small yellow flowers are followed by keys with bristly nutlets. It is native to Japan and closely resembles *A. francheti* of central China.

For previous introduction see 97499.

102290. ACER MICRANTHUM Sieb. and Zucc.

A graceful shrubby tree, native to Japan. The cordate, doubly serrate leaves are 5- to 7-lobed; the small green-white flowers are in slender racemes, and the wings of the keys spread almost at right angles.

102291. ACER RUBRIPES Hort.

A name for which a description and a place of publication have not been found.

102292. ACER RUFINERVE Sieb. and Zucc.

A small deciduous Japanese maple with blue-white young shoots and dark-green irregularly serrate 3-lobed or obscurely 5-lobed leaves. The flowers are in erect racemes about 3 inches long, and the keys are up to three-fourths of an inch long. Occasionally the young foliage, the leafstalks, and the midribs are red.

For previous introduction see 97493.

102293. ACER sp.

102294. BERBERIS QUELPAERTENSIS Nakai. Berberidaceae. Barberry.

A much-branched shrub with stout trifid spines, oblanceolate sessile serrulate leaves up to 2 1/2 inch long, and oblong red berries. Native to Quelpaert Island. Chosen.

102295. CARPINUS TSCHONOSKII Maxim. Betulaceae. Hornbeam.

A graceful shrubby tree up to 45 feet high, native to northeastern Asia, with the young branchlets and leaves softly pubescent. The elliptic to oblong leaves are 2 to 4 inches long and have irregularly finely serrate margins.

102296. CASSIOPE LYCOPODIODES (Pall.) D. Don. Ericaceae.

For previous introduction and description see 102191.

102297. CORNUS CONTROVERSA Hemsl. Cornaceae. Giant dogwood.

This Chinese dogwood is one of the most striking of the genus; in its native home it sometimes becomes a tree 60 feet high with a trunk 7 feet in girth.

102289 to 102309—Continued.

The numerous long branches extend at right angles to the trunk, with the lowest sometimes touching the ground. The white or slightly yellow flowers are in flat clusters 6 or 7 inches in diameter, appearing from late May to early June. The black shining fruits which follow are eaten by birds as fast as they ripen.

For previous introduction see 99849.

102298. (Undetermined.)

Received as *Gaultheria pyroloides*, but the seeds and plants do not agree with that species.

102299 to 102301. ILEX spp. Aquifoliaceae.

102299. ILEX PEDUNCULOSA Miquel.
Longstalk holly.

An evergreen shrub or small tree up to 30 feet high, native to Japan. The ovate entire leaves, 1 to 3 inches long, are lustrous green above, and the small flowers, in slender-stemmed cymes, are followed by bright-red fruits one-fourth of an inch in diameter, on slender pedicels 1 inch long.

102300. ILEX ROTUNDA Thunb.

A large evergreen tree, sometimes 40 feet or more high, with glossy green entire elliptic or oblong leaves 2 to 4 inches long, and small globose scarlet berries. Native to Japan and Chosen.

102301. ILEX SUGEROKI Maxim.

A dense evergreen shrub 6 feet high, with pubescent branchlets, elliptic acute leaves 1 to 2 inches long, serrate above the middle, and solitary red fruits about one-third of an inch in diameter on pedicels 1 inch long. It is native to Japan.

For previous introduction see 91255.

102302. PHYLLODOCE CAERULEA (L.)
Bab. Ericaceae.

A dwarf evergreen shrub about 6 inches high, native to arctic and alpine regions. The linear serrulate leaves are one-fourth of an inch long, and the small urn-shaped purple flowers are in 2- to 6-flowered umbels on slender nodding pedicels.

102303. PHYLLODOCE NIPPONICA Makino.
Ericaceae.

A small evergreen bush up to 1 foot high, with numerous linear, obtuse, spinose-serrulate, rigid, glossy green leaves half an inch long and pink flowers up to 1 inch long, borne near the ends of the branches. Native to Japan.

102304 to 102307. SHORTIA spp. Diapensiaceae.

102304. SHORTIA ALPINA Hort.

A name for which a place of publication and a description have not been found.

102305. SHORTIA GRANDIFLORA Hort.

A name for which a place of publication and a description have not been found.

102306. SHORTIA SOLDANELLOIDES
(Sieb. and Zucc.) Makino.

A low alpine plant with long-stemmed orbicular coarsely dentate glossy green leaves about an inch across, and rosy or white flowers, less

102289 to 102309—Continued.

than an inch in diameter, in small clusters on scapes 2 to 3 inches long. Native to the mountains of Japan.

102307. SHORTIA UNIFLORA Maxim.
Nippon-bells.

A perennial herb, native to Japan, closely resembling the native American *Shortia galacifolia*. The cordate leaves are broader than long and deeply sinuate toothed, and the white bell-shaped flowers, an inch across, are borne on slender peduncles 3 to 8 inches tall.

102308. STACHYURUS PRAECOX Sieb. and
Zucc. Stachyuraceae.

A shrub 12 to 15 feet high, with slender spreading branches, native to Japan. The elliptic to lanceolate serrate leaves are 3 to 6 inches long, and the small campanulate yellow flowers, borne in racemes 2 to 3 inches long, are followed by globose fruits about one-third of an inch in diameter, greenish yellow with a red cheek.

102309. TRIPETALEIA PANICULATA Sieb.
and Zucc. Ericaceae.

For previous introduction and description see 102264.

102310 to 102332.

From India. Seeds collected in the neighborhood of Darjeeling and presented by G. Ghose & Co., Town-end, Darjeeling. Received March 24, 1933.

102310. ANEMONE RIVULARIS Buch.-Ham.
Ranunculaceae.

A silky pubescent ornamental from 1 to 3 feet high, with three-parted basal leaves up to 6 inches in diameter and white or bluish flowers, over 1 inch long, in compound cymes. It is found in the Himalayan region at 5,000 feet altitude.

For previous introduction see 99717.

102311. BOENINGHAUSENIA ALBIFLORA
(Hook.) Reichenb. Rutaceae.

A slender erect perennial herb, 1 to 2 feet high, native to northern India, at altitudes of 4,000 to 8,000 feet. The bipinnate leaves have membranous orbicordate entire leaflets about 1 inch long, and the slightly nodding pure-white flowers, less than an inch across, are borne in compound terminal leafy cymes.

102312. CATHCARTIA VILLOSA Hook. f.
Papaveraceae.

A hardy annual or biennial found at altitudes of 10,000 to 12,000 feet in the Sikkim Himalayas. The abundance of long shaggy fulvous hairs and the bright-yellow glabrous flowers give it a handsome appearance. The cordate radical leaves are long petioled and palmately five-lobed; the stem leaves are sessile and the uppermost ones pinnatifid. The large nodding flowers have golden anthers and a green fleshy stigma.

For previous introduction see 99855.

102313. DAPHNE SUREIL Smith and Cave.
Thymelaeaceae.

An erect evergreen shrub 3 to 10 feet high, with alternate lanceolate or linear-lanceolate leathery leaves about 4 inches long and small whitish flowers half an inch long. Native to the eastern temperate Himalayas.

102310 to 102332—Continued.

102314. ERANTHEMUM INDICUM Hort.
Acanthaceae.

A name for which a place of publication and a description have not been found.

102315. GENTIANA SIKKIMENSIS C. B. Clarke. Gentianaceae. **Gentian.**

A decumbent perennial herb native to the Sikkim Himalayas at altitudes between 10,000 and 14,000 feet. The radical leaves are orbicular, and those of the stem are elliptic to oblong and 1 inch long. The tubular funnel-shaped blue flowers, about 1 inch long, are in head-like clusters.

102316. GENTIANA STYLOPHORA C. B. Clarke. Gentianaceae. **Gentian.**

A stout herbaceous perennial native to the Himalayas in Sikkim between 11,000 to 14,000 feet altitude. The simple stems are 3 to 6 feet high, the lower leaves are elliptic and 12 inches long, and the upper leaves are sessile, about 5 inches long. The widely funnel-shaped solitary flowers are borne on axillary peduncles up to 8 inches long.

For previous introduction see 99868.

102317. LILIUM GIGANTEUM Wall. Liliaceae. **Giant lily.**

A lily, native to the Himalayas, at altitudes of 5,000 to 10,000 feet, with bulbs which grow close to the surface. The hollow stems are 6 to 9 feet high, and the handsome cordate leaves are shining dark green above and paler beneath. The large fragrant white flowers, often 12 in a raceme, are slightly greenish without, and the inner surface of the segments is tinged with deep purple.

For previous introduction see 99893.

102318 to 102320. MECONOPSIS spp. Papaveraceae.

102318. MECONOPSIS DISCIGERA Prain.

An alpine perennial about 1 foot high, with a basal rosette of spatulate, coarsely dentate, or somewhat lobed leaves about 3 inches long, and flowers in racemes. Native to western Sikkim.

102319. MECONOPSIS NAPAULENSIS DC.

A stout perennial herb, 3 to 5 feet high, with the young parts clothed in softly villous golden hairs; native to the temperate slopes of the Sikkim Himalayas. The sinuate-lobed or pinnatifid leaves are 10 to 16 inches long, and the golden yellow flowers, 2 to 4 inches across, are in elongated racemes.

For previous introduction see 99669.

102320. MECONOPSIS SIMPLICIFOLIA (Don) Hook. f. and Thoms.

A stemless annual or biennial herb, native to temperate regions of northern India. The ovate-lanceolate toothed or entire leaves, 2 to 3 inches long, are in a tufted rosette from which rise the deflexed hairy scapes, 12 to 18 inches high, bearing solitary poppylike clear-blue flowers 3 inches across.

102321. PIPTANTHUS NEPALENSIS (Hook.) Sweet. Fabaceae.

A shrub, 6 to 10 feet high, native to Nepal, India, at altitudes of 7,000 to 9,000 feet. The palmately trifoliolate

102310 to 102332—Continued.

leaves have lanceolate leaflets 2 to 4 inches long; and the yellow pea-shaped flowers, 1 inch long, are borne in dense racemes resembling bunches of grapes.

102322. POTENTILLA PEDUNCULARIS D. Don. Rosaceae. **Cinquefoil.**

A perennial herb 12 to 18 inches high, native to the alpine slopes of the Himalayas in India at altitudes of 12,000 to 14,000 feet. The pinnate leaves, 6 to 18 inches long, have oblong deeply serrate leaflets 1 to 3 inches long, clothed beneath with soft appressed silky hairs. The yellow flowers, nearly an inch across, are borne in few-flowered corymbs.

102323. POTERIUM DIANDRUM Hook. f. Rosaceae. **Burnet.**

A glabrous erect perennial herb 2 to 3 feet high, native to the temperate slopes of the Himalayas at altitudes of 10,000 to 13,000 feet. The pinnately compound leaves, 6 to 10 inches long, are made up of crenate cordate leaflets 1 inch long, and the small dark-purple flowers, in heads an inch in diameter, are followed by pendulous four-winged fruits one-fourth of an inch long.

102324. PRIMULA KINGII Watt. Primulaceae. **Primrose.**

A glabrous perennial herb native to the Sikkim Himalayas. The elliptic-lanceolate crenulate leaves, 2 to 3 inches long, are in a crowded rosette, and the slender scapes, 6 to 10 inches high, bear 4 to 5 scarlet-colored funnel-shaped flowers nearly an inch across.

102325. PRIMULA STUARTII Wall. Primulaceae. **Primrose.**

A mealy or quite glabrous perennial herb native throughout the alpine and subalpine Himalayas of India and Tibet at altitudes of 12,000 to 16,000 feet. The coriaceous oblanceolate leaves with entire or crenulate margins are 4 to 10 inches long, and the scapes, 12 to 18 inches high, bear loose umbels of light-yellow drooping flowers.

102326. SAXIFRAGA PURPURASCENS Hook. f. and Thoms. Saxifragaceae. **Saxifrage.**

A beautiful herbaceous rock plant native to the temperate regions of the Sikkim Himalayas between 10,000 and 14,000 feet altitude. The bright glossy green leaves are elegantly margined with red, and the scape and inflorescence are bright vinous-red purple.

For previous introduction see 99752.

102327 to 102329. SENECIO spp. Asteraceae. **Groundsel.**

102327. SENECIO KINGIANUS W. W. Smith.

A stout alpine perennial 2 to 3 feet high, with large orbicular basal leaves 8 inches wide and broadly reniform stem leaves about 6 inches across. The flower heads are in numerous wide-branching corymbs. Native to Sikkim.

102328. SENECIO PACHYCARPUS C. B. Clarke. Asteraceae.

A stout erect perennial herb native to the Sikkim Himalayas between 10,000 and 14,000 feet altitude. The ovate-cordate leaves are toothed and

102310 to 102332—Continued.

the radical leaves have alate-dentate petioles. The nodding yellow flower heads, an inch across, are borne in corymbose racemes.

102329. *SENECIO RETUSUS* (DC.) Wall.

A perennial herb 12 to 18 inches high and 8 inches across, native to the slopes of the Himalayas in Nepal and Sikkim at altitudes of 12,000 to 15,000 feet. The toothed leaves vary from reniform at the base to oblong-lanceolate at the top of the plant. The yellow flower heads, 1 to 2 inches across, are solitary or 2 to 8 in a simple terminal raceme.

102330. *SWERTIA HOOKERI* C. B. Clarke.
Gentianaceae.

A perennial herb with a thick hollow stem 2 to 4 feet high, native to the Sikkim Himalayas between 12,000 and 13,000 feet altitude. The elliptic long-petioled radical leaves are 4 inches long, and the stem leaves are lanceolate. The nodding purple flowers, with blue nerves, on pedicels 2 inches long, are borne in dense axillary cymes.

102331. *THALICTRUM CHELIDONII* DC.
Ranunculaceae. Meadowrus.

A handsome ornamental plant, 15 inches high, with lovely pale-green foliage, pubescent beneath. The delicate silvery lavender flowers, over an inch across, are borne in graceful sprays. Native to the temperate Himalayas at altitudes of 8,000 to 12,000 feet.

For previous introduction see 95601.

102332. *THALICTRUM FOLIOLOSUM* DC.
Ranunculaceae. Meadowrus.

A stiff erect perennial herb, 4 to 8 feet high, native to the temperate slopes of the Himalayas at altitudes of 5,000 to 8,000 feet. The pinnately compound leaves are made up of orbicular leaflets less than an inch across, and the white, pale-green or dull-purple flowers are in much-branched panicles.

102333. *CASTANEA SATIVA* Mill. Fagaceae.
Spanish chestnut.

From Germany. Scions presented by the Versuchsanstalt für Pflanzenschutz, Halle (Saale). Received March 24, 1933.

Introduced for the use of Department specialists.

102334. *ALLIUM CEPA* L. Liliaceae.
Onion.

From Manchuria. Seeds purchased from L. Pittsin, Harbin. Received March 22, 1933.

Sample no. 16, collected in northern Manchuria.

102335 to 102338.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received March 20, 1933.

102335. *AMYRIS ELEMIFERA* L. Rutaceae.

A large shrub or small tree up to 50 feet high, native to the West Indies and Central America. The compound leaves are made up of 3 to 5 lanceolate to rhombic-ovate leathery leaflets 1 to 3 inches long, and the small white flowers,

102335 to 102338—Continued.

borne in panicles, are followed by globose black fruits one-fourth of an inch in diameter.

102336. *SAVIA SESSILIFLORA* (Swartz.) Willd. Euphorbiaceae.

A shrub or small tree up to 25 feet high, native to the West Indies, with slender pubescent branchlets, gray-brown bark, and inconspicuous flowers. The ovate to ovate-lanceolate leaves, 1 to 2 inches long, are pale green and reticulate veined.

102337. *PAULLINIA BARBADENSIS* Jacq. Sapindaceae.

A tropical woody vine which climbs by axillary tendrils. The biternate leaves have cuneate thin leathery leaflets 2 to 5 inches long with winged petioles, and the small flowers, in axillary racemes, are followed by red or yellow three-winged leathery fruits, one-half of an inch long, which open and disclose the black seeds with their creamy caruncles. Native to the West Indies.

102338. *TOURNEFORTIA SCABRA* Lam. Boraginaceae.

A low vinelike shrub up to 6 feet high, native to the West Indies. The rigid, leathery, oblong to lanceolate leaves are 1 to 3 inches long, and the small white or yellow salverform flowers, borne in forked cymes, are followed by ovoid white fruits one-eighth of an inch long.

102339. *ELEOCHARIS TUBEROSA* (Roxb.) Schult. Cyperaceae.

Tubers presented by Albert P. Ding, Portland, Ore. Received March 27, 1933.

A Chinese vegetable which grows very much in the same manner as wet-land rice. The corms or tuberous rhizomes are mostly eaten raw, but are also sliced or shredded in soups and in meat and rice dishes. The plants need a hot summer to mature and are grown on muck or clay soils.

For previous introduction see 101500.

102340 and 102341. *IPOMOEA BATATAS* (L.) Poir. Convolvulaceae.
Sweetpotato.

From the Union of Soviet Socialist Republics. Tubers presented by V. P. Alekseev, chief of foreign-plant introduction, Institute of Plant Industry, of the Lenin Academy of Agricultural Sciences, Leningrad. Received March 4, 1933.

102340. No. 135733. A yellow-skinned, orange-fleshed yam of excellent quality, with a honey sweetness and aroma. A heavy yielder, but the shape of the roots is not standard.

102341. No. 135737. A cream-white, moist, yellow-fleshed variety of excellent quality which produces a heavy yield of large smooth regular-shaped tubers.

102342 to 102354.

From the West Indies. Seeds collected by David Fairchild, with the 1933 Allison V. Armour expedition. Received March 20, 1933.

102342. *AGAVE BREVISPIÑA* Trelease. Amaryllidaceae.

No. 3022. *Galatas* or *Croix des bouquets*. Point Decouverte, above Kenscoff,

102342 to 102354—Continued.

Haiti, March 2, 1933. A stemless but not caespitose agave with dull dark-green broadly lanceolate leaves 3 feet or more long, with small dull-brown spines and narrowly triangular prickles. The golden-yellow flowers are in a dense cluster on a scape 12 feet high. Native to Hispaniola.

102343. ANNESLIA HAEMATOSTOMA (Bertero) Britton. Mimosaceae.

No. 3009. From Watlings Island, January 19, 1933. *Red anneslia*. A handsome shrub of attractive habit. Its spreading branches are covered with small coriaceous pinnate leaves, and its flowers, with long brilliant red stamens, appear in the spring in clusters resembling pincushions.

102344. BEGONIA sp. Begoniaceae.

No. 3024. From near Kenscoff, Haiti, at 6,000 feet altitude. A wild form of scraggly habit, with very small scanty foliage and large, very attractive white flowers tinged with pink.

102345. CAESALPINIA SEPIARIA Roxb. Caesalpinaceae. Mysore thorn.

No. 3027. From near Kenscoff, Haiti, at 6,000 feet altitude, March 3, 1933. A scrambling spiny pubescent shrub, native to India. The compound leaves are made up of 12 to 20 pairs of pinnae, each bearing 16 to 24 oblong leaflets an inch long. The bright-yellow flowers, an inch across, are in simple racemes a foot long.

For previous introduction see 99694.

102346. CAESALPINIA VESICARIA L. Caesalpinaceae.

No. 3020. From Great Inagua, Bahama Islands, February 27, 1933. A small, handsome, loosely branching tree with shining, dark-green compound leaves which have yellow midribs, petioles, and petiolules, giving the foliage a very striking appearance. The attractive red and yellow flowers are in simple racemes.

102347. CARICA PAPAYA L. Papayaceae. Papaya.

No. 3003. From Nassau, April 12, 1933. Small, oblong fruits of excellent flavor, each of which contains a small, embryonic fruit.

102348. CEPHALOCEREUS BAHAMENSIS Britton. Cactaceae.

No. 3011. *Dildo*. From the north side of Crooked Island, Bahama Islands, February 20, 1933. A large handsome columnar cactus with spreading branches, found on solid coral rock. The cream-white flowers, which smell like garlic, are followed by small round reddish fruits with black seeds.

102349. CEPHALOCEREUS MILLSPAUGHII Britton. Cactaceae.

No. 3015. From Mariгуana, Bahama Islands, February 24, 1933. A large cactus with branching stems, 6 to 20 feet high, sometimes 8 inches thick at the base of the trunk. It has 8 to 13 ribs, and a score of acicular brown-yellow spines about 2 inches long rise from each gray-brown areole. The rather stiff, greenish flowers, white within and less than an inch long, are succeeded by small reddish globose fruits. Native to the Bahama Islands.

102342 to 102354—Continued.

102350. CLEODENDRUM SPICOSUM Teijsm. and Binn. Verbenaceae.

No. 3034. From Hope Gardens, Kingstons, Jamaica, March 7, 1933. An ornamental vine with a profusion of dull-red flowers borne continuously during the summer months. The slender woody stems are slightly angled, and the dark-green, oblong-cordate or elliptic leaves are 4 to 6 inches long. Said to be a hybrid between *C. thompsonae* and *C. splendens*.

102351 and 102352. LUCUMA DOMINGENSIS Gaertn. f. Sapotaceae.

102351. No. 3021. From the American Legation compound, Port-au-Prince, Haiti, March 1, 1933. The *Juane d'oeuf*, with small round fruits over an inch in diameter, which closely resembles the *Canistel* in texture and flavor of its fruit.

102352. No. 3031. Presented by a student in the School of Agriculture at Damien, Haiti, March 3, 1933. A variety with oblong or pear-shaped fruits with a different skin texture, slightly pointed seed, and rather stickier flesh than no. 3021 [102351]. This may indicate a variability in the seedlings of this species.

102353. PASSIFLORA RUBRA L. Passifloraceae.

No. 3001. A softly pubescent vine with crescent-shaped cordate leaves 2 to 4 inches broad, green-white flowers 2 inches across, and red fruits 2 inches long. It is native to the West Indies.

For previous introduction see 97966.

102354. THERINAX sp. Phoenicaceae. Palm.

No. 3041. From Bath, Jamaica.

102355. CARICA PAPAYA L. Papayaceae. Papaya.

From Guatemala. Seeds presented by Manuel Pacheco H., Director General of Agriculture, Guatemala City. Received March 27, 1933.

A locally grown red variety.

102356 to 102362.

From the Union of Soviet Socialist Republics. Seeds presented by the Institute of Forest Culture, Moscow, through A. Albensky, chief, Acclimatization Department. Received March 28, 1933.

102356. ASPARAGUS sp. Convallariaceae.

A wild form from Alazan-Kachetia, Caucasus.

102357. CARAGANA ARBORESCENS CUNEIFOLIA (Dipp.) C. Schneid. (*C. amurensis* Hort.). Fabaceae.

A dwarf form of the well-known Siberian pea-tree with the leaflets quite uniformly wedge-shaped and the flowers on shorter stalks. This form was originally described from Dahuria and Mongolia.

102358. CRATAEGUS DOLICHOCARPA Hort. Malaceae. Hawthorn.

A name for which a place of publication and a description have not been found.

102356 to 102362—Continued.

102359. *CRATAEGUS* sp. Malaceae. Hawthorn.
From Zakataly, Caucasus.
102360. *PRUNUS CERASIFERA DIVARICATA* (Ledeb.) C. Schneid. Amygdalaceae. Plum.
From Poti, Caucasus.
102361. *PYRACANTHA* sp. Malaceae. Firethorn.
From Zanataby, Caucasus.
102362. *TILIA* sp. Tiliaceae. Linden.
From Khabarovsk.

102363 to 102365.

From Egypt. Seeds presented by the Director, horticultural section, Ministry of Agriculture, Giza. Received March 30, 1933.

102363. *ANTIDESMA BUNIUS* (L.) Spreng. Euphorbiaceae. Banauac.
An attractive small evergreen tree, attaining a height of 30 feet, with dark-green thick-pointed leaves and small, dark-red, subacid, well-flavored fruits borne in racemes like the currant. These may be eaten raw or made into jelly. The tree is widely distributed throughout the Tropics at low and medium altitudes under varying climatic conditions. Native to the Malay Peninsula.

102364. *CHAMAEROPS HUMILIS* L. Phoenicaceae. Hair palm.

A low palm with a stem only 1 to 2 feet high, said to be the only palm native to Europe, found in the Mediterranean region. The nearly orbicular leaves are deeply lacinate into narrow bifid lobes, and the margins of the petioles are armed with stout spines. The small yellow flowers are followed by globose or ovoid yellow-brown fruits.

102365. *HYPHAENE THEBAICA* (L.) Mart. Phoenicaceae. Doum palm.

A palm about 30 feet high, which is noted as one of the few branching palms. It grows in alkaline, sandy soils and is native from upper Egypt to central Africa. The stems of old trees sometimes fork 3 or 4 times. The beautiful yellow-brown fruits are borne in clusters of 100 to 200 pounds. In upper Egypt, the poor people eat the fibrous husk, which tastes like gingerbread but is rather hard. The hard tough wood is used for domestic utensils.

For previous introduction see 98494.

102366. *CITRUS LIMETTA* RISSO. Rutaceae. Sweet lime.

From Palestine. Seeds presented by M. Lifshitz, manager, Palestine Plantations, Ltd., Tel-Mond, Kfar-Saba, at the request of Robert W. Hodgson, associate professor of subtropical horticulture, Berkeley, Calif. Received March 30, 1933.

The pale-green fruit, about the size of a lemon, has skin less than a quarter of an inch thick, and the juice is cloying and sweet. As a stock this sweet lime requires less water and produces trees yielding earlier fruit than the bitter orange.

102367. *PHOENIX DACTYLIFERA* L. Phoenicaceae. Date palm.

From India. Seeds presented by the fruit specialist, Government of Punjab, Lyallpur, through W. T. Swingle. Received March 25, 1933.

102368. *PHOENIX RECLINATA* Jacq. Phoenicaceae. Senegal date palm.

From Africa. Seeds collected at Akure, Ondo Province, in southern Nigeria, and presented by the director of the Department of Agriculture, Ibadan, Nigeria. Received March 25, 1933.

A date palm 20 to 30 feet high, native to the tropical and subtropical parts of Africa. The reclinate pinnate leaves are 6 to 9 feet long and have rigid green leaflets. The yellowish fruits, with edible sweetish pulp, are half an inch long.

- 102369 to 102372. *MALUS SYLVESTRIS* Mill. (*Pyrus malus* L.). Malaceae. Apple.

From Poland. Scions presented by Dr. W. Filewicz, Sinoleka. Received March 31, 1933.

Received under the following varietal names:

102369. *Głogtrowicka*.
102370. *Kosztela*.
102371. *Malinowe Oberładzkie*.
102372. *Reneta Landakergska*.

102373. *CYCAS SIAMENSIS* Miquel. Cycadaceae.

From Siam. Seeds presented by A. Kerr, director, Botanic Garden, Bangkok. Received March 28, 1933.

A cycad, native to Siam, with a smooth white stem up to 15 feet high and 6 inches in diameter above the abruptly swollen base. The light-green, pinnately-compound leaves, 3 feet long, have about 70 pairs of narrowly linear, leathery leaflets 3 to 4 inches long, and the ovoid fruits, about 9 inches long, are covered with orange wool.

102374. *ALLIUM CEPA* L. Liliaceae. Onion.

From Manchuria. Seeds purchased from L. Ptitstin, Harbin. Received March 28, 1933.

Sample no. 17, collected in northern Manchuria in January 1933.

102375. *GOSSYPIUM PERUVIANUM* Cav. Malvaceae. Cotton.

From South America. Seeds presented by the American consul at Guayaquil, Ecuador. Received March 30, 1933.

Red Peruvian.

- 102376 and 102377. *CITRULLUS VULGARIS* Schrad. Cucurbitaceae. Watermelon.

From Yugoslavia. Seeds presented by L. G. Michael, agricultural attaché, American Legation, Belgrade, through L. A. Wheeler, Bureau of Agricultural Economics. Received March 30, 1933.

102376. Variety 1.
102377. Variety 2.

INDEX OF COMMON AND SCIENTIFIC NAMES

- Abelia floribunda*, 102159.
Acer sp., 102293.
 argutum, 102160.
 diabolicum, 102289.
 micranthum, 102290.
 rubripes, 102291.
 rufinerve, 102292.
Achillea abrotanifolia. See *Tanacetum abrotanifolium*.
 alpina, 101737.
 clavennae, 101738.
 decolorans, 101739.
 herbarota, 101740.
 kellereri, 101741.
 kolbiana, 101742.
 lewisi, 101743.
 neitreichii, 101744.
 pseudo-pectinata, 101745.
 rupestris, 101746.
 speciosa, 101747.
 wilczekiana, 101748.
Acrocomia mexicana, 101695.
Agave brevispina, 102342.
 morrissi, 102277.
Agriophyllum latifolium, 101976.
Agropyron orientale, 101977.
 semicostatum, 101645.
 sibiricum, 101646.
Akee. See *Blighia sapida*.
Alfalfa. See *Medicago sativa*.
Allium cepa, 102334, 102374.
 sativum, 101618, 101981.
Alluaudia procera, 101996.
Almond. See *Amygdalus communis*.
Aloe sp., 101998.
 helenae, 101997.
Alyssum diffusum, 101749.
 halmifolium, 101750.
 rochellii, 101751.
 saxatile, 101752.
 serpyllifolium, 101753.
 spinosum, 101754.
 wulfenianum, 101755.
Amerimnon sp., 102214.
Ammodendron conollyi, 101978.
Amygdalus communis, 101806-101819.
 persica, 101663-101669, 101674-101689,
 101725, 101820-101838.
 persica platycarpa, 101670-101673.
Amyris elemifera, 102335.
Andropogon amboinicus, 102082.
Androsace saxifragifolia, 102071.
Anemone cernua, 102072.
 ritularis, 102310.
Annestia haematostoma, 102343.
Anthemis carpativa, 101756, 101761.
 cupaniana, 101757.
 haussknechtii, 101758.
 rudolphiana, 101759.
 sancti-johannis, 101760.
 styriaca. See *A. carpativa*.
Antidesma bunius, 102363.
Antigonon guatemalense, 101703.
Apple. See *Malus sylvestris*.
Apricot. See *Prunus armeniaca*.
Aquilegia sp., 101772.
 alpina, 101762.
 bernardi, 101763, 101764.
 bertolonii, 101769.
 clematidiflora, 101765.
 discolor, 101766.
 escalcarata, 101767.
 cinseleana, 101768.
 reuteri. See *A. bertolonii*.
 stuarti, 101770.
 suaveolens, 101771.
Areca sp., 102189.
 glandiformis, 102188.
Aristida pennata, 101979.
Asparagus sp., 102356.
Aster falconeri, 101773.
Atalantia glauca. See *Eremocitrus glauca*.
Attalea cohune, 101696.
Avena spp., 101621, 101622.
 sativa, 101586, 101620, 102154,
 102155.
Avocado. See *Persea americana*.
Azalea, amoena. See *Rhododendron obtusum amoenum*.
 fiveleaf. See *R. pentaphyllum*.
Bananae. See *Antidesma bunius*.
Barberry. See *Berberis* spp.
Barley. See *Hordeum* spp.
Bean. See *Phaseolus* spp.
 common. See *P. vulgaris*.
 lima. See *P. lunatus*.
 mung. See *P. aureus*.
Begonia sp., 102344.
Berberis farreri, 101774.
 quetpaertensis, 102294.
Betula alnoides, 102215.
 bhojpattra. See *B. utilis*.
 japonica szechuanica, 102216.
 utilis, 102217.
Birch. See *Betula* spp.
 Japanese white. See *B. japonica szechuanica*.
Bladdernut. See *Staphylea colchica coulombieri*.
Blighia sapida, 102278.
Boeninghausenia albiflora, 102311.
Box, common. See *Buxus sempervirens*.
Brassica oleracea capitata, 102274.
Bromegrass, common. See *Bromus inermis*.
Bromus inermis, 101647.
Broom. See *Cytisus* spp.
Bupththalmum salicifolium, 101775.
Burnet. See *Poterium diandrum*.
Buttercup, grassy. See *Ranunculus gramineus*.
Buxus sempervirens, 101916.
Cabbage. See *Brassica oleracea capitata*.
Caesalpinia sepiaria, 102345.
 vesicaria, 102346.
Cajanus indicus, 102064.
Calabash-tree. See *Crescentia cujete*.
Calamagrostis epigejos, 102648.
Calandrinia balonensis, 102078.
Camomile. See *Anthemis* spp.
Cannabis sativa, 102100-102105.
Caragana amurensis. See *C. arboreascens cuneifolia*.
 arboreascens cuneifolia, 102357.
Carica papaya, 102347, 102355.
Carpinus tschonoskii, 102295.
Cassiope fastigiata, 101776.
 lycopodioides, 102191, 102296.
 mertenstana, 102192.
 tetragona, 102193.
Castanea crenata, 101704, 101705.
 henryi, 101587.
 mollissima, 101588-101606, 101690-
 101692, 101982-101991, 102106-
 102111, 102239, 102240.
 sativa, 101610-101617, 102266, 102267,
 102333.
 sequinti, 101607.
Casuarina torulosa, 101608.
Cathcartia villosa, 102312.

- Cephalocereus bahamensis*, 102348.
millsplughii, 102349.
Ceraiosamia mexicana, 101697.
Chaetochloa lutescens, 101649.
viridis, 101650, 101652.
Chaetospermum glutinosum, 102276.
Chamaedorea elatior, 101698.
elegans, 101699.
sartorii, 101700.
tepejilote, 101701.
Chamaerops humilis, 102364.
 Cherry, Chinese bush. See *Prunus japonica*.
 mountain. See *P. prostrata*.
 sour. See *P. cerasus*.
 Cherry-laurel, English. See *Laurocerasus officinalis*.
 Chestnut. See *Castanea* spp.
 hairy. See *C. mollissima*.
 Japanese. See *C. orenata*.
 Spanish. See *C. sativa*.
Chloris virgata, 101651.
Chrysanthemum marxi, 101777.
zawadskii, 101778.
Chrysopogon montanus, 102079.
Chionachne koenigii, 102080.
Chuguiraga spinosa, 102186.
Cinchona sp., 102067.
succirubra, 101661, 102243.
 Cinquefoil. See *Potentilla peduncularis*.
 Citron. See *Citrus medica*.
Citrullus vulgaris, 102376, 102377.
Citrus sp., 101609.
limetta, 102366.
medica, 101877.
nobilis delicioza, 101878.
sinensis, 101879.
Clematis fusca, 102218.
glauca akebioides, 102219.
koreana, 102220.
tangutica obtusiuscula, 102221.
Clerodendrum speciosum, 102350.
 Clover. See *Trifolium* spp.
 white. See *T. repens*.
 Cocaine-tree. See *Erythroxylon coca*.
 Cohune. See *Attalea cohune*.
 Columbine. See *Aquilegia* spp.
 alpine. See *A. alpina*.
Cornus controversa, 102297.
Corylus sp., 101710.
avellana, 101706, 101711, 101891-101900, 102083, 102121-102123.
maxima, 101707-101709, 101901, 101902, 102124, 102125.
Cotoneaster buxifolia, 102194.
buxifolia vellaeca, 102195.
congesta. See *C. microphylla glactalis*.
excellens, 102197.
farreri, 102198.
frigida, 102199.
glabrata, 102200.
henryana, 102201.
hupehensis, 102202.
microphylla glactalis, 102196.
microphylla thymifolia, 102203.
nitens, 102204.
pannosa, 102205, 102206.
rhytidophylla, 102207.
rotundifolia, 102208.
salicifolia, 102209.
salicifolia fockosa, 102210.
salicifolia rugosa, 102211.
tomentosa, 102212.
wardii, 102213.
Cotoneaster, Himalayan. See *Cotoneaster frigida*.
 Hupeh. See *C. hupehensis*.
 roundleaf. See *C. rotundifolia*.
 silverleaf. See *C. pannosa*.
 willowleaf. See *C. salicifolia*.
 Cotton. See *Gossypium* spp.
 Cowpea. See *Vigna sinensis*.
 Cranberrybush, Sargent. See *Viburnum sargentii*.
Crataegus sp., 102359.
dolichocarpa, 102358.
Oreanthodium farreri, 101779.
Oreocentia cujete, 102279.
Orotalaria sp., 101999.
Cucumis melo, 102077.
Cucurbita moschata, 102001.
 Currant, garden. See *Ribes sativum*.
 Cushaw. See *Cucurbita moschata*.
Cycas siamensis, 102373.
Cyrtia racemiflora, 102244.
Cytisus multiflorus durus, 102245.
multiflorus incarnatus, 102246.
 Daphne, February. See *Daphne mezereum*.
Daphne mezereum, 101780.
surreil, 102313.
Davidia involucreta, 101963.
Dianthus anatolicus, 101923.
brevicaulis, 101924.
caesius, 101925.
calocephalus, 101926.
ornitius, 101927.
gallicus, 101928.
gracilis, 101929.
lumitzeri, 101930.
monspessulatus alpestris, 101931.
pallescens, 101932.
pelviformis, 101933.
petraeus spiculifolius. See *D. spiculifolius*.
pubescens, 101935.
pungens, 101936.
rupicola, 101937.
spiculifolius, 101934.
squarrosus, 101938.
strumarius, 101939.
subcaulis, 101940.
superbus, 101941.
tener, 101942.
tergestinus, 101943.
veluticus, 101944.
velenovskiyi, 101945.
virginicus, 101946.
waldsteini, 101947.
Digitaria ischaemum, 101653.
Diospyros kaki, 101693, 101694, 101903-101906, 101992, 102112-102114.
Docynia delavayi, 102247.
docynioides, 102248.
 Dogwood, giant. See *Cornus controversa*.
 Dovetree. See *Davidia involucreta*.
Dracaena sp., 102280.
Duboisia hopwoodii, 102070.
Echinochloa crusgalli, 101654.
crusgalli mitis, 101655.
Elaeagnus angustifolia, 101917.
Eleocharis tuberosa, 102339.
Eleutheria palmifolia, 101915.
Elymus dahuricus, 101656.
 Emmer. See *Triticum dicoccum*.
Eragrostis cilianensis, 101657.
pilosa, 101658.
Eranthemum indicum, 102314.
Eremocitrus glauca, 101910.
Eriochloa villosa, 101659.
Erythra lorentensis, 101968.
Erythrina sp., 102265.
Erythroxylon coca, 101965.
novogranatense, 101966.
Euonymus longifolius, 102073.
Euphorbia pulcherrima, 102281.
Euscaphis japonica, 102074.
Feronia limonia, 101662.
Ficus carica, 101712-101724, 102002-102021.
 Fig, common. See *Ficus carica*.
 Filbert. See *Corylus* spp.
 giant. See *C. maxima*.
 Fingergrass, feather. See *Chloris virgata*.
 Firethorn. See *Pyracantha* sp.
Fuchsia bacillaris, 101948.
codringtonii, 101949.
corumbiflora, 101950, 101951.
parviflora, 101952.
 Garlic. See *Allium sativum*.
 Gentian. See *Gentiana* spp.
Gentiana sikkimensis, 102315.
stylophora, 102316.
 Geranium, fish. See *Pelargonium inquitans*.
 Goldentuft. See *Alyssum saxatile*.

Gordonia anomala. See *G. axillaris*.
axillaris, 102249.
Gossypium spp., 101702, 102242.
nanking, 102241.
peruvianum, 102375.
tomentosum, 102187.
 Grape, European. See *Vitis vinifera*.
 Grass. See *Agropyron* spp., *Andropogon*
amboniacus, *Aristida pennata*, *Calamagrostis epigejos*, *Chaetochloa* spp.,
Chionachne koenigii, *Chrysopogon montanus*, *Digitaria ischaemum*,
Echinochloa spp., *Elymus asiaticus*,
Eragrostis spp., *Eriochloa villosa*,
Koeleria cristata, *Sorghum plumosum*, and *Trietum flavescens*.
 Groundsel. See *Melinis minutiflora*.
 Groundsel. See *Senecio* spp.
Hamamelis japonica, 101629.
 Hawthorn. See *Crataegus* spp.
 Hemp. See *Cannabis sativa*.
Hibiscus sp., 101800.
Hippeastrum sp., 102268.
 Holly. See *Ilex* spp.
 longstalk. See *I. pedunculosa*.
Hordeum distichon palmella, 102156.
vulgare pallidum, 102157.
 Hornbeam. See *Carpinus tachonoskii*.
Hosta japonica tardiflora, 101781.
Hyphaene thebaica, 102365.
Ilex pedunculosa, 102299.
purpurea, 102075.
rotunda, 102300.
sugeraki, 102301.
 Indigo. See *Indigofera* spp.
Indigofera macrostachya, 102222.
reticulata, 102223.
splendens, 102224.
Ipomoea batatas, 102275, 102340, 102341.
Iris kumaonensis, 101782.
nepalensis, 101783.
 Jasmine. See *Jasminum pubigerum*.
Jasminum pubigerum, 101953.
Juglans regia, 102084-102096.
Keteleeria davidiana, 101964.
Koeleria cristata, 101680.
 Kumquat, Australian desert. See *Eremocitrus glauca*.
Laurocerasus officinalis, 101918.
Lagustrum spp., 102227-102229.
quihout, 102225.
salicifolium, 102226.
 Lilac. See *Syringa* spp.
 Japanese tree. See *S. japonica*.
 nodding. See *S. reflexa*.
Lilium sp., 101788.
albanicum, 101784.
brownii, 102076.
carniolicum, 101785.
giganteum, 102317.
heldreichii, 101786.
martagon, 101995.
monadelphum, 101787, 101919.
 Lily. See *Lilium* spp.
 Brown's. See *L. brownii*.
 giant. See *L. giganteum*.
 great Caucasian. See *L. monadelphum*.
 Martagon. See *L. martagon*.
 Lime, sweet. See *Citrus limetta*.
 Linden. See *Tilia* spp.
Livistona hoogendorptii, 102282.
Lokum perenne, 101922.
Lonicera periclymenum, 102250-102252.
Lucuma domingensis, 102351, 102352.
Malus sylvestris, 101839, 101881-101889,
 101993, 101994, 102097, 102126, 102127,
 102131-102153, 102164-102177, 102369-
 102372.
Mangifera indica, 102269.
 Mango. See *Mangifera indica*.
 Maple. See *Acer* spp.
 devil. See *A. diabolicum*.
 Mead-wrue. See *Thalictrum* spp.

Meconopsis discigera, 102318.
nepalensis, 102319.
simplicifolia, 102320.
Medicago sativa, 102066.
Melinis minutiflora, 102099.
 Melon. See *Cucumis melo*.
 Mysore thorn. See *Caesalpinia sepiaria*.
Narcissus juncifolius rupicolus, 101789.
Neomoorea wallisii, 102163.
 Nippon-bells. See *Shortia uniflora*.
 Oats. See *Avena* spp.
Olea europaea, 101623, 102022-102029.
 Olive, common. See *Olea europaea*.
 Onion. See *Allium cepa*.
 Orange. See *Citrus sinensis*.
 mandarin. See *Citrus nobilis deliciosa*.
 Orchid. See *Neomoorea wallisii*.
 Oxeeye, willowleaf. See *Bupthalmum salicifolium*.
 Pacayito. See *Chamaedorea elegans*.
Pachira sp., 102068.
 Palm. See *Areca* spp., *Acrocomia mexicana*, *Chamaedorea* spp., *Erythea loretensis*, *Livistona hoogendorptii*, and *Thrinax* sp.
 date. See *Phoenix dactylifera*.
 doun. See *Hyphaene thebaica*.
 hair. See *Chamaecrops humilis*.
 Royal. See *Roystonea* sp.
 Senegal date. See *Phoenix reclinata*.
 Papaya. See *Carica papaya*.
 Parakeelya. See *Calandrinia balonensis*.
Passiflora rubra, 102353.
Passiflora barbadensis, 102337.
 Peach. See *Amygdalus* spp.
 flat. See *A. persica platycarpa*.
 Pear. See *Pyrus* sp.
 common. See *P. communis*.
Pelargonium inquinans, 102283.
Pentstemon centranthifolius, 101790.
cyananthus, 101791.
fruticosus, 101792.
Perovskia atriplicifolia, 102253.
Persea americana, 102284, 102285.
 Persimmon, kaki. See *Diospyros kaki*.
Phaseolus sp., 101805.
ureus, 101726.
hirsutus, 101802.
lunatus, 101803, 101804, 101876, 102134.
vulgaris, 101914.
Phillyrea decora, 102254.
Phillyrea lanceleaf. See *Phillyrea decora*.
Philodendron spp., 102270, 102286.
Phleum pratense, 101911-101913.
Phoenix dactylifera, 102367.
reclinata, 102368.
Photinia beauverdiana, 102255.
beauverdiana notabilis, 102256.
benthamiana. See *Stranvaesia benthamiana*.
davidsoniae, 102258.
villosa, 102259.
Phyllodoce caerulea, 102302.
nipponica, 102303.
Pteris forrestii, 102260.
 Pigeon-pea. See *Cajanus indicus*.
 Pink. See *Dianthus* spp.
 cheddar. See *D. caesius*.
Piptanthus nepalensis, 102321.
 Pitur. See *Duboisia hopwoodii*.
 Plum. See *Prunus cerasifera divaricata*.
 common. See *P. domestica*.
Plumeria sericifolia, 102190.
Poeppigia procera, 101967.
 Poinsettia. See *Euphorbia pulcherrima*.
Polytoca barbata. See *Chionachne konigii*.
 Potato. See *Solanum tuberosum*.
Potentilla peduncularis, 102322.
Poterium diandrum, 102323.
 Primrose. See *Primula* spp.
Primula kingii, 102324.
stuartii, 102325.

- Privet. See *Ligustrum* spp.
 quihou. See *L. quihou*.
- Prunus americana*, 101624-101627, 101840-101854, 102030-102062.
cerasifera divaricata, 102360.
cerasifera, 101890, 102128-102130, 102178-102180.
domestica, 101855-101859.
japonica, 101727.
prostrata, 101880.
- Pyracantha* sp., 102361.
- Pyrus* sp., 102115.
communis, 101860-101863, 102098.
malus. See *Malus sylvestris*.
- Ranunculus gramineus*, 101793, 101954.
- Rhabdadenia* sp., 102271.
- Rhododendron adenogynum*, 101955.
calostrotum, 101956.
caucasicum, 101957.
chartophyllum, 101958.
galactinum, 101959.
longistylum, 101960.
obtusum amoenum, 102161, 102162.
pentaphyllum, 101961.
smirnowii, 101962.
- Rhododendron, Caucasian. See *Rhododendron caucasicum*.
 Smirnow. See *R. smirnowii*.
- Ribes sativum*, 102069, 102081.
- Rockspray, thyme. See *Cotoneaster microphylla thymifolia*.
- Rosa flipes*, 102230.
glutinosa, 102231.
kochiana, 102232.
mollissima, 102233.
- Rose. See *Rosa* spp.
 threadstalk. See *R. flipes*.
- Rosemallow. See *Hibiscus* sp.
- Roystonea* sp., 102287.
- Russian-olive. See *Elaeagnus angustifolia*.
- Ryegrass, perennial. See *Lolium perenne*.
- Saccharum officinarum*, 101907, 101908.
- Sage. See *Salvia* spp.
- Salix alba caerulea*, 101799.
- Salvia hians*, 101794.
moorcroftiana, 101795.
- Savia sessiliflora*, 102336.
- Saxifraga purpurascens*, 102326.
- Saxifrage. See *Saxifraga purpurascens*.
- Scarlet-bugler. See *Pentstemon centranthifolius*.
- Senecio kingianus*, 102327.
pachycarpus, 102328.
retusus, 102329.
- Sesame. See *Sesamum orientale*.
- Sesamum orientale*, 101798.
- Setaria glauca*. See *Chaetochloa lutescens*.
- Shortia alpina*, 102304.
grandiflora, 102305.
soldanelloides, 102306.
uniflora, 102307.
- Smirnowia turkestanica*, 101980.
- Soja max*, 101728-101730, 102181, 102182.
- Solanum mammosum*, 101801.
tuberosum, 102272.
- Sorghum plumosum*, 102288.
- Soybean. See *Soja max*.
- Stachyurus praecox*, 102308.
- Staphylea colchica coulombieri*, 102234.
- Stewartia monadelphica*, 102261.
pseudo-camellia, 102262.
sinensis, 102263.
- Stewartia, Japanese. See *Stewartia pseudo-camellia*.
- Stranvaesia benthamicana*, 102257.
- Sugarcane. See *Saccharum officinarum*.
- Sweetpotato. See *Ipomoea batatas*.
- Swertia hookeri*, 102330.
- Syngonium auritum*, 102273.
- Syringa* sp., 102238.
japonica, 102235.
luminifera, 102236.
reflexa, 102237.
villosa × *sweginzowii*, 102116-102120.
- Tabog. See *Chaetospermum glutinosum*.
- Tanacetum abrotanifolium*, 101736.
- Tansy. See *Tanacetum abrotanifolium*.
- Tecomaria* sp., 102185.
- Thalictrum chelidoni*, 102331.
foliolosum, 102332.
- Thrinax* sp., 102354.
- Tilia* sp., 102362.
- Timothy. See *Phleum pratense*.
- Toadlily, hairy. See *Turritis hirta*.
- Tournefortia scabra*, 102338.
- Turritis hirta*, 101796.
- Trifolium* sp., 102063.
glomeratum, 102000.
repens, 102183.
- Tripetaleia paniculata*, 102264, 102309.
- Trisetum flavescens*, 101585.
- Triticum aestivum*, 102153.
dicoccum, 101969-101971.
durum, 101972-101975.
vulgare. See *T. aestivum*.
- Tulip. See *Tulipa Biebersteiniana*.
- Tulipa Biebersteiniana*, 101619.
- Undetermined, 102298.
- Vaccinium arctostaphylos*, 101920.
- Vetch. See *Vicia* sp.
- Viburnum sargentii*, 101909.
- Vicia* sp., 101921.
- Vigna sinensis*, 101731-101735, 102065.
- Viola delphinantha*, 101797.
- Violet. See *Viola delphinantha*.
- Vitis vinifera*, 101630-101644, 101864-101875.
- Walnut, Persian. See *Juglans regia*.
- Watermelon. See *Citrullus vulgaris*.
- Wheat, common. See *Triticum aestivum*.
durum. See *T. durum*.
- Willow, cricketbat. See *Salix alba caerulea*.
- Witch-hazel, Japanese. See *Hamamelis japonica*.
- Wood-apple. See *Feronia Umonta*.
- Woodbine. See *Lonicera periclymenum*.
- Yarrow. See *Achillea* spp.
- Zamia portoricensis*, 101628.