

98I

LIBRARY RECEIVED

★ OCT 10 1932

# UNITED STATES DEPARTMENT OF AGRICULTURE



## INVENTORY No. 105



Washington, D. C.

Issued October, 1932

### PLANT MATERIAL INTRODUCED BY THE DIVISION OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, OCTOBER 1 TO DECEMBER 31, 1930 (Nos. 89211-90836)

#### CONTENTS

Introductory statement .....	Page
Inventory .....	1
Index of common and scientific names .....	3
	73

#### INTRODUCTORY STATEMENT

The present inventory (Nos. 89211-90836) for the period from October 1 to December 31, 1930, records the arrival of material from several explorers and collaborators in the field.

From Dr. G. Weidman Groff, Lingnan University, Canton, China, was received a fine collection of subtropical fruits, including species of *atalantia*, *citrus*, *claucena*, *dipterocarpus*, *litchi*, and *mangifera*, chiefly for use of experts in the Federal department.

From H. L. Westover, who was traveling in Spain and Portugal at the time in search of particular strains of forage crops, were received various introductions, principally alfalfa (*Medicago sativa*), beans, *mellilotus*, and *trig'onella*, intended primarily for use in the Division of Forage Crops and Diseases.

From Dr. Donald Reddick, pathologist, Cornell University, and Paul Russell and Max Souviron of this division, were sent in from Mexico over 100 specimens of seeds and tubers of various wild-potato species to be used in potato breeding, as well as minor collections of other native plants.

From P. H. Dorsett and W. J. Morse, who have been in the Orient for several years, were received large collections of forage crops and food plants, principally *lespedeza*, *mellilotus*, *astragalus*, *phaseolus*, *vigna*, and *soybeans*, of which they forwarded over 130 numbers. They sent as well seed of various ornamentals, chiefly seed of deciduous trees for testing in this country, possibly in the Great Plains area.

And finally, there were received from Knowles A. Ryerson, from Tunisia, Africa, seeds of *Pistacia vera* (Nos. 89679-89684) and of the hybrid *P. terebinthus* × *vera* (No. 90049) from Chios Island, Greece, to be used in furthering the pistache studies already undertaken in the West and Southwest.

The inventory also records various shipments for other workers—a collection of *hebes* (shrubby *veronicas*) purchased from New Zealand; an extensive collection of *bromeliads* from a specialist in France, for growth and testing in southern Florida; additional shipments of herbaceous perennials from European nurserymen; and a collection of seeds of various ornamentals from the director of the Botanic Garden, Tiflis, Union of Soviet Socialist Republics, which were requested so as to study their suitability for gardens in the more southern States.

The botanical determinations of these introductions have been made and the nomenclature determined by H. C. Skeels, who has had general supervision of this inventory.

KNOWLES A. RYERSON,  
*Principal Horticulturist, in Charge.*

DIVISION OF FOREIGN PLANT INTRODUCTION,  
*Washington, D. C., February 29, 1932.*

# INVENTORY<sup>1</sup>

**89211. GENISTA AETNENSIS (Bivona)**  
DC. Fabaceae. Aetna broom.

From Sicily, Italy. Seeds presented by Giardino Allegra, Catania. Received October 1, 1930.

An attractive shrub, 6 feet or less in height, with nearly leafless, slender branches and fragrant yellow flowers in loose terminal racemes. Native to Sicily and Sardinia.

For previous introduction see 83686.

**89212 to 89214.**

From Brazil. Seeds presented by Dr. A. Bittencourt, in charge, Estação Experimental de Agrostologia, through P. H. Rolfs, Vigosa, Minas Geraes. Received October 1, 1930.

**89212. MEIBOMIA BARBATA (L.) Kuntze**  
(*Desmodium barbatum* Benth.). Fabaceae.

A stout erect suffrutescent perennial with trifoliate leaves of elliptical to obovate leaflets and crowded corymbs of light-blue to purple flowers. Cultivated in Brazil for green forage and hay.

**89213. MEIBOMIA DISCOLOR (Vogel) Kuntze**  
(*Desmodium discolor* Vogel). Fabaceae.

A shrubby, erect, hairy plant from southern Brazil with oval membranous leaflets and large panicles of light-blue flowers. Cultivated in Brazil for forage and silage, being cut while young, as it becomes woody with age.

For previous introduction see 64288.

**89214. STYLOSANTHES GUIANENSIS (Aubl.) Swartz.** Fabaceae.

A branching herbaceous perennial about 3 feet high, with rusty hirsute stems, trifoliate leaves of lanceolate sharp-pointed leaflets, and globose heads of small fragrant yellow flowers subtended by leafy bracts. It is native to Guiana and is grown in Brazil as a forage plant wherever alfalfa can be grown.

**89215. ADONIDIA MERRILLII Beccari**  
(*Normanbya merrillii* Beccari).  
Phoenicaceae. Palm.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received October 4, 1930.

*Bonga de China* or *bonga de Jolo*. A medium-sized palm with graceful somewhat curved pinnate leaves, resembling the common betel-nut palm, but not so tall. The crimson fruits, less than an inch long, are borne just below the leaves. In Manila this palm is grown as an ornamental.

For previous introduction see 81851.

**89216. SOLANUM MELONGENA L.** Solanaceae. Eggplant.

From Bangkok, Siam. Seeds presented by A. Kerr, Director, Botanical Section, Ministry of Commerce and Communications. Received October 6, 1930.

A wild form.

**89217 to 89382.**

From New Plymouth, New Zealand. Plants purchased from Duncan & Davies (Ltd.). Received October 6, 1930.

A collection of plants native to New Zealand.

**89217 to 89221. CARMICHAELIA spp.** Fabaceae.

**89217. CARMICHAELIA ARBOREA (Forst. f.) Druce** (*C. australis* R. Br.).

A shrub up to 9 feet high, somewhat resembling Scotch broom, with thin flat branches. The clusters of small pealike lilac-striped flowers are followed by small black pods the sides of which drop off and expose the bright-red seeds surrounded by the dark margin of the pod.

For previous introduction see 77176.

<sup>1</sup> 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 Foreign Plant 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.

89217 to 89382—Continued.

89218. *CARMICHAELIA COMPACTA* Petrie.

An erect densely branched leafless evergreen shrub 2 to 4 feet high, with numerous slender erect branchlets, and small fragrant pinkish-white flowers in numerous lax racemes half an inch long.

89219. *CARMICHAELIA GRANDIFLORA* (Benth.) Hook. f.

An erect or spreading, much-branched evergreen shrub 2 to 8 feet high, usually leafy save in exposed situations. The leaves are numerous, pinnately 3-foliolate to 5-foliolate, and silky pubescent when young. The small purplish flowers are in lax racemes an inch long.

89220. *CARMICHAELIA ODORATA* Colenso.

A much-branched shrub 3 to 10 feet high, leafy in the spring and summer. The slender erect racemes of purple flowers are borne on pendulous branches.

For previous introduction see 77177.

89221. *CARMICHAELIA WILLIAMSII* T. Kirk.

An erect much-branched rigid shrub from the East Cape district of New Zealand. It is entirely leafless, with flat branches half an inch broad. The large yellow flowers, less than an inch across, are in lateral racemes.

89222 to 89233. *COPROSMA* spp. Rubiaceae.89222 and 89223. *COPROSMA BAUERI* Endl.

89222. A shrub or small tree, sometimes a large tree 25 feet high, with thick shining green leaves, broadly ovate, 1 to 3 inches long, and small greenish flowers in short-stalked dense heads.

89223. Variety *Crawfordii*. A variegated form.

89224. *COPROSMA CUNNINGHAMII* Hook. f.

A stout erect glossy evergreen shrub 5 to 15 feet high, with gray-brown bark and numerous elliptic-oblong, leathery, dark-green leaves 2 to 3 inches long. The inconspicuous flowers are in dense glomerules, succeeded by reddish-orange drupes.

89225. *COPROSMA KIRKII* Cheeseman.

A much-branched suberect evergreen shrub which often forms masses 2 to 4 feet high. The narrowly linear leaves, an inch or less long, are leathery or membranous. The flowers are small and inconspicuous.

89226. *COPROSMA LUCIDA* Forst.

A shrub about 15 feet in height, with leathery, glossy bright-green leaves, 2 to 5 inches long. The inconspicuous flowers are wind-pollinated. The plant is often cultivated in gardens for the beauty of its small berrylike drupes, which are brilliant orange red.

For previous introduction see 47879.

89227. *COPROSMA MICROCARPA* Hook. f.

A tall leafy evergreen shrub with slender, close-set, flattened, spreading branches. The small, flat, linear-lanceolate leaves are in pairs on short lateral branchlets.

89217 to 89382—Continued.

89228. *COPROSMA RHAMNOIDES* A. Cunn.

A small densely branched evergreen shrub 2 to 6 feet high, with reddish-brown uneven bark and numerous spreading, often rigid and interlaced branches. The leaves, very variable in shape and texture, are less than an inch long. The very small fruits, in axillary clusters, are bright red or reddish black.

89229. *COPROSMA RIGIDA* Cheeseman.

An erect evergreen shrub 5 to 15 feet high, of rather open habit. The leathery oblong or obovate leaves, one-half inch long, are in pairs on short lateral branchlets, and the small flowers are followed by yellow oblong drupes one-third inch long.

89230. *COPROSMA ROBUSTA* Raoul.

A stout shrub 2 to 12 feet high, with pale-brown bark, shining-green leaves up to 5 inches long and 2 inches broad, and small greenish flowers in dense heads. The small red or yellow drupes are thickly set.

89231. *COPROSMA TENUCAULIS* Hook. f.

A much-branched evergreen shrub 4 to 8 feet high, with purplish-brown bark and slender spreading branches which are often much interlaced. The orbicular or ovate flat leaves are up to half an inch long, and the fruits are very small shining black drupes.

89232. *COPROSMA TENUIFOLIA* Cheeseman.

A sparingly branched evergreen shrub 8 to 15 feet high with slender terete branches and membranous, pale-brown oblong-ovate leaves 2 to 4 inches long.

89233. *COPROSMA WILLIAMSII VARIEGATA* Hort.

A name for which a description has not been found.

89234. *DODONAEA VISCOSA* (L.) Jacq. Sapindaceae. Hopbush.

Variety *purpurea*. A rapid-growing shrub, up to 15 feet high, with oblong bronzy leaves which become rich purple in winter. The small greenish flowers are in dense terminal panicles.

89235. *DRIMYS AXILLARIS* Forst. Magnoliaceae.

A small evergreen tree 12 to 25 feet high, with ovate-elliptic glossy leaves 2 to 5 inches long and small greenish-yellow flowers in few-flowered axillary clusters. The reddish wood is used for inlaying.

89236. *DRIMYS COLORATA* Raoul. Magnoliaceae.

A low evergreen tree, very similar to *Drimys axillaris* but smaller, more compactly branched, and with shorter, stiffer leaves.

89237. *GAYA LYALLII* (Hook. f.) Baker f. Malvaceae.

A beautiful tree up to 30 feet high, graceful and spreading, with the branchlets covered with stellate hairs. The cordate crenate leaves are 2 to 4 inches long on slender petioles, and the large white flowers, an inch across, are borne in axillary clusters.

For previous introduction see 77560.

89217 to 89382—Continued.

89236 to 89314. *HEBE* spp. Scrophulariaceae.

A collection of evergreen woody species.

89236. *HEBE ACUTIFLORA* (Benth.) Cockayne (*Veronica acutiflora* Benth.).

A small erect sparingly branched shrub with slender branches and sessile spreading linear-lanceolate leaves 2 to 3 inches long. The very small flowers are in slender axillary racemes 2 to 4 inches long.

89239. *HEBE ALBICANS* (Petrie) Cockayne (*Veronica albicans* Petrie).

A low spreading much-branched shrub 2 to 4 feet high, with dark-brown bark. The spreading decussate leaves, oblong-ovate to almost orbicular, are up to an inch long, and the white flowers are in dense racemes in the axils of the upper leaves.

89240. *HEBE AMABILIS* (Cheeseman) Cockayne (*Veronica amabilis* Cheeseman).

A tall branching shrub 6 to 15 feet or more in height, with spreading oblong-lanceolate flat leaves 2 to 4 inches long and relatively large white flowers less than an inch across in slender axillary racemes.

89241. *HEBE AMPLEXICAULIS* (Armstrong) Cockayne and Allan (*Veronica amplexicaulis* Armstrong).

An erect or decumbent shrub 1 to 3 feet high, with stout spreading branches and decussate, sessile, very leathery, glaucous, broadly oblong leaves up to an inch in length. The small white flowers are in dense spikes about an inch long, borne near the tips of the branches.

89242. *HEBE ANGSTIFOLIA* (A. Rich.) Cockayne and Allan (*Veronica angustifolia* A. Rich.).

An erect bushy shrub 5 to 18 feet high, with purplish-brown bark and sessile, narrowly linear, dark-green leaves 1 to 3 inches long. The small pale-illiac flowers are in numerous axillary racemes near the ends of the branches.

89243. *HEBE ANNULATA* (Petrie) Cockayne and Allan (*Veronica annulata* Petrie).

A small bushy shrub with short stout branches and dark brown bark. The leaves, in opposite pairs, are but one-sixteenth of an inch long, forming a sheath surrounding the branch. The small white flowers are in small terminal heads.

89244. *HEBE ANOMALA* (Armstrong) Cockayne (*Veronica anomala* Armstrong).

An erect bush, 3 to 5 feet high, with spreading, sessile or nearly sessile, shining dark-green leathery linear-oblong leaves nearly an inch long. The small white or pale-pink flowers are in spikes crowded near the ends of the branches.

89245 and 89246. *HEBE ARMSTRONGII* (Johnson) Cockayne and Allan (*Veronica armstrongii* Johnson).

89245. A low bush about 2 feet high, with very numerous branchlets clothed in imbricating hairs. In

89217 to 89382—Continued.

mature plants the closely imbricate leathery leaves form sheaths inclosing the branches. The white flowers are in small terminal heads.

89246. Variety *minor*. A smaller form.89247. *HEBE BALFOURIANA* (Hook. f.) Cockayne (*Veronica balfouriana* Hook. f.).

An erect shrub about 3 feet high, with dark-brown bark and flexuose purplish-brown branches. The bright pale-green leathery leaves, margined with red-brown, are in loose pairs, and the pale violet-blue flowers are in opposite axillary racemes.

89248. *HEBE BARKERI* Cockayne (*Veronica barkeri* Cockayne).

A stout branching shrub with erect branches and spreading sessile thick fleshy dull-green lanceolate leaves about 2 inches long. The small pale-illiac flowers are in dense axillary racemes.

89249. *HEBE BIGGARI* Cockayne (*Veronica biggarii* Cockayne).

A low decumbent shrub up to 3 feet high, with slender spreading branches and close-set leathery oblong somewhat distichous leaves about half an inch long. The small white flowers are in numerous dense axillary racemes.

89250. *HEBE BLANDA* (Cheeseman) Pennell (*Veronica amabilis blanda* Cheeseman).

Closely related to *H. amabilis*, but with shorter leaves and denser, shorter flower clusters.

89251. *HEBE BOLLONSI* (Cockayne) Cockayne and Allan (*Veronica bollonsii* Cockayne).

A low erect bush 3 to 5 feet high, with smooth shining thick-margined oblong leaves 1 to 3 inches long and pale-illiac flowers in many-flowered racemes.

89252 and 89253. *HEBE BUCHANANI* (Hook. f.) Cockayne and Allan (*Veronica buchanani* Hook. f.).

89252. A small bush a foot or less high, with stout spreading branches, sometimes tortuous, and decussate closely imbricate leathery broadly oblong leaves about one-half inch in length. The small white flowers are in short spikes near the tips of the branches.

89253. Variety *major*. A taller and stouter variety, with larger leaves and flower spikes.89254 to 89265. *HEBE BUXIFOLIA* (Benth.) Cockayne and Allan (*Veronica buxifolia* Benth.).

89254. A stout erect shrub 1 to 5 feet high, with densely leafy strict branches and closely imbricate, broadly oblong, rigid dark-green leaves about one-fourth inch long. The small white flowers are in dense axillary spikes.

89255. Variety *compacta*. A form of more compact habit.

89217 to 89382—Continued.

89256. Variety *patens*. A variety with spreading leaves, larger flowers, and more numerous spikes.

89257. *HEBE CARNEA* Hort.

A garden hybrid of unknown origin. It is a shrub about 2 feet high, with rose-colored flowers.

89258. *HEBE CARNOSULA* (Hook. f.) Cockayne (*Veronica carnosula* Hook. f.).

An erect bush up to 3 feet high, with stout spreading branches and closely imbricating sessile broadly obovate leathery leaves about half an inch long. The small white flowers are in crowded spikes near the ends of the branches. Closely allied to *Veronica pinguifolia*.

89259. *HEBE CARSEI* (Petrie) Cockayne (*Veronica carsei* Petrie).

An erect shrub 2 to 6 feet high, with virgate branches, dark-brown bark, and close-set sessile leathery flat elliptic-oblong leaves about an inch long. The white flowers are in slender racemes 2 to 3 inches long.

89260. *HEBE CASSINIODES* (Matthews) Cockayne (*Veronica cassinoides* Matthews).

A low erect shrub with fastigiate branches, leathery decussate triangular-lanceolate leaves, and white flowers in spikelike racemes.

89261. *HEBE COARCTATA* (Cheeseman) Cockayne and Allan (*Veronica coarctata* Cheeseman).

A low stout much-branched shrub 1 to 3 feet high, with densely imbricating leaves one-tenth inch long and small white flowers which form small terminal heads near the tips of the branches.

89262. *HEBE COLENSOI* (Hook. f.) Cockayne (*Veronica colensoi* Hook. f.).

A low bush up to 18 inches high, with branches leafy above. The rather close-set sessile dark-green leathery lanceolate leaves are about an inch long, and the white flowers are in slender racemes slightly longer than the leaves.

89263. *HEBE CORRIGANII* Carse.

A small shrub 3 to 5 feet high, with smooth stout branchlets and linear-lanceolate irregularly toothed strongly keeled leaves less than an inch long. The pale-lilac or white flowers are in loose racemes about as long as the leaves. This species is usually found in situations close to running water.

89264. *HEBE DARTONI* (Petrie) Cockayne (*Veronica dartoni* Petrie).

A compact shrub 3 to 5 feet high, with reddish-brown branchlets and decussate narrowly obovate leaves nearly an inch long. The lavender flowers are in axillary racemes.

89265. *HEBE DECUMBENS* (Armstrong) Cockayne and Allan (*Veronica decumbens* Armstrong).

A small decumbent bush 3 feet or less in height, with purplish-black branches and small white flowers in

89217 to 89382—Continued.

short dense racemes. The leathery elliptic-oblong leaves, half an inch long, are dark green with bright-red margins.

89266. *HEBE DIFFENBACHII* (Benth.) Cockayne and Allan (*Veronica diffebachii* Benth.).

A robust, much-branched shrub with branches from 2 to over 5 feet long and spreading, often recurved, linear-oblong thick pale-green leaves 2 to 4 inches long. The usually lilac-purple flowers are in dense racemes 2 to 8 inches long.

89267. *HEBE DIOSMIFOLIA* (R. Cunn.) Cockayne and Allan (*Veronica diosmifolia* R. Cunn.).

A low, much-branched shrub some times over 5 feet high, with close-set oblong-lanceolate leathery dark-green leaves less than an inch long and white or pale lavender-blue flowers in small banded racemes.

89268. *HEBE DIVARICATA* (Cheeseman) Cockayne and Allan (*Veronica menziesii divaricata* Cheeseman).

A shrub 3 to 12 feet high, with slender spreading branches, narrowly lanceolate, often falcate, spreading or deflexed coriaceous leaves 1 to 2 inches long, and copiously branched racemes of small white or lavender flowers.

89269. *HEBE DORRIEN-SMITHII* (Cockayne and Allan) (*Veronica dorrien-smithii* Cockayne).

A low straggling shrub with slender branches, and sessile pale-green leaves, very variable in size and shape, 2 to 3 inches long. The white or pale-lavender flowers are in small racemes.

89270. *HEBE ELLIPTICA* (Forst. f.) Pennell (*Veronica elliptica* Forst. f.).

A copiously branched shrub or small tree 5 to 20 feet high, with horizontally spreading petiolate pale-green elliptic-oblong leaves about an inch long and sweet-scented white or purple-lined flowers in numerous short lax racemes.

89271. *HEBE ELLIPTICA CRASSIFOLIA* Cockayne and Allan.

A form confined to the coastal rocks and having pale-green branchlets, thick dark-green glistening leaves, and few-flowered racemes or large white flowers.

89272. *HEBE EVENOSA* (Petrie) Cockayne and Allan (*Veronica evenosa* Petrie).

A tall spreading shrub 4 to 8 feet high, with narrow elliptic thin dull-green leaves about an inch long and small white flowers in dense racemes twice as long as the leaves.

89273. *HEBE GLAUCCO-CAERULEA* (Armstrong) Cockayne (*Veronica glaucco-caerulea* Armstrong).

Closely related to *Hebe pimelloides* but stouter, and with more glaucous leaves.

89274. *HEBE GLAUCOPHYLLA* Cockayne (*Veronica glaucophylla* Cockayne).

A low compact rounded shrub with brownish-green bark and rather laxly set decussate thick ovate-lanceolate

## 89217 to 89382—Continued.

leaves half an inch long. The white flowers are in short dense racemes with tapering tips.

**89275. *HEBE HECTORI* (Hook. f.) Cockayne and Allan (*Veronica hectori* Hook. f.).**

A low robust bush 6 to 30 inches high, with rigid erect branches and thick densely imbricated leaves forming closely appressed rings around the branches. The small white flowers are in small terminal heads crowded near the tips of the branches.

**89276. *HEBE HULKEANA* (F. Muell.) Cockayne and Allan (*Veronica hulkeana* F. Muell.).**

A form with shining dark-green coarsely toothed leaves about 2 inches long and long sprays of lilac-colored flowers in panicles sometimes a foot long.

**89277. *HEBE IMBRICATA* (Petrie) Cockayne and Allan (*Veronica imbricata* Petrie).**

An erect compact shrub 1 to 2 feet high, with thick coriaceous scalelike leaves in opposite decussately arranged pairs and compact heads of small flowers.

**89278. *HEBE KIRKII* (Armstrong) Cockayne and Allan (*Veronica kirkii* Armstrong).**

A variety with dark-brown branches, small oblong-lanceolate leathery leaves, and white flowers in racemes 4 to 8 inches long.

**89279. *HEBE LAEVIS* (Benth.) Cockayne and Allan (*Veronica laevis* Benth.).**

A low densely branched bush 1 to 5 feet high, with erect branches densely leafy above and black bark. The thick rigid decussate close-set leaves, half an inch long, are ovate-oblong, and the small white flowers are in dense racemes.

**89280. *HEBE LAINGII* (Cockayne) Cockayne and Allan (*Veronica laingii* Cockayne).**

A small shrub 6 to 10 inches high, the erect branches freely branching toward the top. The ovoid deltoid leaves are densely imbricate in opposite pairs, and the white flowers are in little heads at the tips of the branchlets.

**89281. *HEBE LEIOPHYLLA* (Cheeseman) Cockayne and Allan (*Veronica leiophylla* Cheeseman).**

A large spreading shrub 4 to 12 feet high, with spreading sessile leathery linear-oblong leaves an inch long and dense racemes of small white flowers.

**89282. *HEBE LEWISII* (Armstrong) Cockayne and Allan (*Veronica lewisii* Armstrong).**

A handsome erect compact bush 3 to 6 feet high, with spreading pale-green elliptic-oblong leathery leaves about 2 inches long and pale-blue flowers in dense racemes an inch in diameter and nearly 3 inches long.

**89283. *HEBE LIGUSTRIFOLIA* (A. Cunn.) Cockayne and Allan (*Veronica ligustrifolia* A. Cunn.).**

A small laxly branched shrub 1 to 3 feet high, with oblong or linear-

## 89217 to 89382—Continued.

oblong flat leaves 1 or 2 inches long. The small white flowers are in long slender racemes near the tips of the branches.

**89284. *HEBE MACRANTHA* (Hook. f.) Cockayne and Allan (*Veronica macrantha* Hook. f.).**

A dwarf shrub 1 or 2 feet high, with rigid spreading branches and obovate-lanceolate very thick glossy leaves an inch long. The pure white flowers, less than an inch in diameter, are in few-flowered racemes.

**89285. *HEBE MACROCARPA AFFINIS* (Cheeseman) Cockayne and Allan (*Veronica macrocarpa affinis* Cheeseman).**

An erect spreading shrub 4 to 8 feet high, with oblong-lanceolate smooth dark-green stiff leaves 2 to 4 inches long and small white flowers in short racemes 3 to 5 inches long.

**89286. *HEBE MACROCARPA LATISEPALA* (Kirk) Cockayne and Allan (*Veronica macrocarpa latisejala* Kirk).**

A variety similar to the type in habit and foliage, but with deep-violet flowers in racemes usually shorter than the leaves.

**89287. *HEBE MACROURA* (Hook. f.) Cockayne and Allan (*Veronica macrooura* Hook. f.).**

A bushy shrub 1 to 5 feet high, with spreading obovate-lanceolate flat leaves 1 to 3 inches long and white or pale-bluish flowers in very dense racemes 2 to 4 inches long.

**89288. *HEBE MATTHEWSII* (Cheeseman) Cockayne (*Veronica matthewsii* Cheeseman).**

A spreading bush 2 to 4 feet high. The oblong-elliptic leaves, an inch long, are sessile, closely set on the branches, and thick and leathery. The racemes of white or purplish-white flowers, 2 to 4 inches long, grow from the axils of the leaves, the individual flowers being about one-third of an inch in diameter.

**89289. *HEBE MENZIESII* (Benth.) Cockayne and Allan (*Veronica menziesii* Benth.).**

A compact shrub 3 to 12 feet high, with leafy branches and rigid flat linear-oblong leaves about an inch long. The white or pale-lilac flowers are in short racemes, crowded near the ends of the branches.

**89290. *HEBE MONTANA* (Armstrong) Cockayne and Allan (*Veronica montana* Armstrong).**

A much-branched shrub 2 to 5 feet high, densely leafy above, with brown bark. The close-set, more or less imbricate, elliptic-oblong leathery leaves are about an inch long, and the small white flowers are in short compact racemes near the tips of the branches.

**89291. *HEBE OBOVATA* (Kirk) Cockayne (*Veronica obovata* Kirk).**

An erect shrub about 4 feet high, with stout branches and thick-leathery narrow-obovate erect leaves an inch long. The small white flowers are in slender erect lax-flowered racemes.

89217 to 89382—Continued.

**89292.** *HEBE OBTUSATA* (Cheeseman) Cockayne and Allan (*Veronica obtusata* Cheeseman).

A low shrub 2 or 3 feet high, with flat oblong-elliptic stiff leaves 1 or 2 inches long and pale bluish-white flowers in dense racemes a little longer than the leaves.

**89293.** *HEBE ODORA* (Hook. f.) Cockayne (*Veronica odora* Hook. f.).

A slender sparingly branched shrub 2 to 4 feet high, with erect strict branches leafy above and closely imbricate horizontally spreading dull-green ovate-elliptic leaves half an inch long. The spikes of small white flowers form a corymblike head in the axils of the upper leaves.

**89294.** *HEBE PIMELIOIDES* (Hook. f.) Cockayne and Allan (*Veronica pimeleoides* Hook. f.).

A small more or less prostrate shrub up to 8 inches high, with sessile leathery oblong-ovate glaucous leaves less than one-third inch long and dark purplish-blue flowers in spikes an inch long.

**89295.** *HEBE PINGUIFOLIA* (Hook. f.) Cockayne and Allan (*Veronica pinguiifolia* Hook. f.).

An erect or decumbent glaucous shrub up to 4 feet high, with very leathery, almost fleshy, broadly oblong leaves half an inch long and often red margined. The white flowers are in short compact spikes an inch long, crowded near the tips of the branches.

**89296 and 89297.** *HEBE PROPINQUA* (Cheeseman) Cockayne and Allan (*Veronica propinqua* Cheeseman).

A low bush 1 to 3 feet high, with spreading, sometimes tortuous branches, and densely imbricated leaves in opposite pairs, connate for the greater part of their length, forming a closed sheath around the branch. The white flowers are in small terminal heads.

**89296.** Variety *major*. Taller, more erect, and stouter than the type.

**89297.** Variety *minor*. A smaller form.

**89298.** *HEBE PUBESCENS* (Banks and Sol.) Cockayne and Allan (*Veronica pubescens* Banks and Sol.).

A slender diffusely branched shrub 4 to 6 feet high, with the young shoots covered with white hairs. The oblong-lanceolate leaves, white-hairy beneath, are 1 to 3 inches long, and the small white flowers are in rather slender many-flowered racemes 2 to 4 inches long.

**89299.** *HEBE RAKAIENSIS* (Armstrong) Cockayne (*Veronica rakaiensis* Armstrong).

A small rounded bush of compact habit, 2 to 5 feet high, with linear-oblong flat leaves about an inch long and white flowers in oblong dense clusters.

**89300.** *HEBE RAOULII* (Hook. f.) Cockayne and Allan (*Veronica raoulii* Hook. f.).

A stout, much-branched dwarf shrub a foot or less high, leafy above, with

89217 to 89382—Continued.

oblong-spatulate very thick yellow-green leaves half an inch long. The flowers are in very small spikes or heads 1 to 2 inches across.

**89301 and 89302.** *HEBE RIGIDULA* (Cheeseman) Cockayne and Allan (*Veronica rigidula* Cheeseman).

**89301.** A low shrub of erect habit up to 2 feet high, with erect stout almost black branches, leafy at the tips. The close-set linear-oblong very thick and rigid dark-green leaves are less than an inch in length, and the small white flowers are in small dense racemes.

**89302.** A form about 8 inches high.

**89303.** *HEBE RUPICOLA* (Cheeseman) Cockayne and Allan (*Veronica rupicola* Cheeseman).

An erect shrub 1 to 4 feet high, with a few stout branches and glaucous leathery elliptic oblong leaves less than an inch long. The flower spikes are 1 to 2 inches long, much exceeding the leaves.

**89304.** *HEBE SALICIFOLIA ANGUSTISSIMA* (Cockayne) Cockayne and Allan (*Veronica salicifolia angustissima* Cockayne).

An erect, much-branched shrub 5 to 12 feet high, with pale-green linear-lanceolate leaves. The small flowers, white with a pale-lilac tinge, are in dense slender racemes 3 to 6 inches in length.

**89305.** *HEBE SALICIFOLIA ATKINSONII* (Cockayne) Cockayne and Allan (*Veronica salicifolia atkinsonii* Cockayne).

A variety sometimes prostrate in habit, with pale-green rather thick ovate-oblong leaves over an inch long and white flowers in short dense racemes.

**89306.** *HEBE SALICIFOLIA PALUDOSA* (Cockayne) Cockayne and Allan (*Veronica salicifolia paludosa* Cockayne).

A variety with narrow-lanceolate long pointed leaves.

**89307.** *HEBE SALICIFOLIA STRICTA* (Banks and Sol.) Cockayne and Allan (*Veronica stricta* Banks and Sol.).

A variety in which the racemes are much more hairy than in the type.

**89308.** *HEBE SALICORNIOIDES* (Hook. f.) Cockayne and Allan (*Veronica salicornioides* Hook. f.).

A low shrub 1 to 3 feet high, with stout branches and densely imbricated, very small leaves, appressed to the branches in opposite pairs, connate to above the middle and forming a ring surrounding the branch. The white flowers are in small terminal heads near the tips of the branchlets.

**89309 to 89311.** *HEBE SPECIOSA* (R. Cunn.) Cockayne and Allan (*Veronica speciosa* R. Cunn.).

**89309.** A rare and beautiful stout shrub with crimson flowers in large dense racemes. The leaves are oblong, thick, shining, 1 to 4 inches long and an inch broad



89217 to 89382—Continued.

with a 2-layered epidermis. It flourishes best within reach of the sea spray. Many varieties of this plant are cultivated in gardens.

89310. A form with blue flowers.

89311. A subalpine form.

89312. *HEBE TOWNSONI* (Cheeseman) Cockayne and Allan (*Veronica townsoni* Cheeseman).

A shrub 3 to 6 feet or more in height, with very thick and leathery linear-lanceolate flat leaves 2 or 3 inches long and white flowers in lax racemes usually longer than the leaves.

89313. *HEBE TRAVERSII* (Hook. f.) Cockayne and Allan (*Veronica traversii* Hook. f.).

A small compact shrub 2 to 5 feet in diameter, with spreading leathery leaves an inch long and racemes of small white flowers at the tips of the branches.

For previous introduction see 77581.

89314. *HEBE TRISEPALA* (Colenso) Cockayne (*Veronica triseptala* Colenso).

Closely related to *Hebe diosmifolia*, but having narrower incised leaves and a 3-parted calyx.

89315 to 89331. *LEPTOSPERMUM* spp. Myrtaceae.

89315. *LEPTOSPERMUM ERICOIDES* A. Rich.

An evergreen shrub or tree, at times a large tree, with loose papery bark and slender branchlets. The very narrow-lanceolate leaves are but half an inch long, and the small white axillary flowers are usually produced in great profusion.

89316 to 89330. *LEPTOSPERMUM SCOPARIUM* Forst. Manuka.

89316. Variety *boscoventii*. A form with narrow green glaucous leaves and exceptionally large clear-pink flowers an inch across, with a dark eye.

89317. *Cerise*.

89318. *Deep rose pink*.

89319. *Double pink improved*.

89320. *Flush pink* (red in center).

89321. *Double white*.

89322. *Good red*.

89323. A good collection of hybrids.

89324. *Pink*.

89325. *Red center*.

89326. *Rose*.

89327. *Rose pink*.

89328. Variety *rosea*. A form with pale-pink flowers.

89329. Variety *rubra pygmeum*. A dwarf form about 2 feet high with dark-red foliage and flowers.

89330. Variety *sandersii*. A new hybrid, very floriferous, about 5 feet high. The large single pink flowers have a deep-pink center.

89217 to 89382—Continued.

89331. *LEPTOSPERMUM SCOPARIUM* NICHOLLII (Darr-Smith) Turhill.

Variety *rubra*.

89332 to 89339. *METROSIDEROS* spp. Myrtaceae.

89332. *METROSIDEROS COLENSOI* Hook. f.

A slender climbing evergreen shrub with numerous very slender branches and small narrowly oval distichous leaves. The small pink or whitish flowers are in terminal or lateral cymes about an inch long.

89333. *METROSIDEROS DIFFUSA* J. E. Smith.

A tall stout evergreen woody climber which reaches the tops of the tallest trees. The very stiff oval-oblong leaves are about an inch long, and the abundant bright crimson flowers are in terminal much-branched cymes.

89334. *METROSIDEROS LUCIDA* A. Rich.

An evergreen shrub or tree of erect habit with narrow pointed leathery leaves and broad terminal cymes of small bright-crimson flowers.

89335 and 89336. *METROSIDEROS PERFORATA* (Forst.) A. Rich. (*M. scandens* Sol.).

A high-climbing evergreen shrub with broadly oblong sessile leaves half an inch long and numerous small white flowers in axillary cymes.

89335. Variety *aurata*. A yellow-flowered form.

89336. Variety *magnifica*. A large-flowered form.

89337. *METROSIDEROS ROBUSTA* A. Cunn. Rata.

A large evergreen forest tree, sometimes 100 feet tall. The very leathery elliptic-oval leaves are about an inch long, and the dark scarlet flowers are in broad dense terminal clusters.

89338. *METROSIDEROS TOMENTOSA* A. Rich.

The *Christmas tree*, so called because of its season of bloom. It becomes eventually a tree 70 feet tall with leaves which vary from lanceolate to broadly oblong and from 1 to 4 inches long. The large dark-crimson flowers are in dense terminal cymes. This is a special form which has adult foliage on young plants.

89339. *METROSIDEROS VILLOSA* (L.) J. E. Smith.

A freely branching tree up to 60 feet high and 4 feet in diameter, with coriaceous broadly ovate gray-green leaves 2 inches long, white tomentose beneath, and terminal cymes of scarlet flowers conspicuous for their long scarlet stamens as in the other bottle-brushes.

For previous introduction see 77606.

89340 to 89345. *NAGEIA* spp. Taxaceae.

89340. *NAGEIA FERRUGINEA* (G. Benn.) Kuntze (*Podocarpus ferruginea* G. Benn.).

A large evergreen tree with gray or blackish bark which peels off in large flakes and small narrow pointed leaves

89217 to 89382—Continued.

arranged in two rows on the branches. The bright-red fruits, the size of small plums, have the taste and odor of turpentine but are eagerly eaten by native pigeons.

For previous introduction see 67893.

89341. *NAGEIA HALLII* (T. Kirk) Kuntze (*Podocarpus hallii* T. Kirk).

A moderate-sized evergreen tree 25 to 60 feet high, which has thin papery bark and linear rigid leathery close-set distichous leaves about an inch long. This species is very closely related to *Podocarpus totara*.

89342 and 89343. *NAGEIA NIVALIS* (Hook.) Kuntze (*Podocarpus nivalis* Hook.).

89342. A much-branched evergreen shrub erect or prostrate in habit, with widespreading branches, often rooting at the base. The sessile closely set stiff leathery very narrow leaves are about half an inch long and not distichous. The fruit is a small oblong-ovoid nut and the enlarged fleshy fruiting stems are bright red.

89343. Variety *erectus*. An erect form.

89344 and 89345. *NAGEIA TOTARA* (D. Don) Kuntze (*Podocarpus totara* D. Don).

89344. A lofty evergreen tree, sometimes 100 feet high, with thick stringy bark and rigid linear dull brownish-green leaves up to an inch in length. The red fruiting stems are usually much enlarged.

89345. A variety which appears to be quite a distinct form from the usual *totara*.

89346 to 89355. *VERONICA* spp. Scrophulariaceae.

89346. *VERONICA BIDWILLII* Hook.

A much-branched shrub with slender prostrate branches rooting and often densely matted. The thick leathery rather distant leaves are minute, and the white flowers are in small long-stemmed axillary clusters.

89347. *VERONICA BIRLEYI* N. E. Brown (*V. grahmi* Petrie).

A sparingly branched bush, with somewhat fleshy decumbent stems, forming patches 6 to 8 inches across. The thick fleshy crowded leaves are obovate, more or less tinged with red, and about half an inch long. The few rather large white flowers are in the axils of the upper leaves.

89348 to 89350. *VERONICA CATARRACTAE* Forst. f.

89348. A sparingly branched suberect shrub with rather distant spreading ovate-lanceolate coarsely serrate leaves 1 to 4 inches long and white or pale-rose flowers in slender racemes 3 to 9 inches long.

89349. Variety *diffusa*. A decumbent form, diffusely branched.

89350. Variety *irrigans*. A form with leaves about 3 inches long.

89217 to 89382—Continued.

89351. *VERONICA HOOKERIANA* Walp. (*V. nivalis* Benth.).

A small stout prostrate plant, with short stout ascending leafy branches and crowded spreading broadly ovate coarsely crenate rigid leaves half an inch long. The small flowers, varying in color from bluish to violet purple, are in small branched cymes.

89352. *VERONICA LOGANIOIDES* Armstrong.

A dwarf shrub a foot high, with ovate-lanceolate dull-green leathery leaves in opposite pairs and white or pink-veined flowers in short few-flowered racemes.

89353. *VERONICA LYALLII* SUBERECTA Cheeseman.

A prostrate plant with slender wiry suberect stems, rooting at the base, and thick narrowly oblong deeply serrate leaves and white pink-veined flowers in numerous racemes.

89354. *VERONICA MARTINI* Leveille.

An erect shrub with ovate serrate leaves and dark-purple flowers with exerted stamens in elongated spikes. Related to *V. spicata* and *V. sibirica*. Native to China.

89355. *VERONICA MUELLERI* J. Buchanan.

A prostrate veronica with stems up to 18 inches long, from which rise numerous suberect branchlets 1 or 2 inches long. The leaves, crowded toward the tips of the branchlets, are oblong-ovate, stiff, and about one-fourth inch long. The small solitary flowers are almost hidden in the axils of the leaves near the tips of the branches.

89356. *VERONICA OLSENI* Colenso.

A small prostrate plant with short densely hairy branches rooting at the nodes. The rather close-set thick dark-green broadly oval leaves are up to half an inch in length, and the flowers, white with pink veins, are in many-flowered racemes.

89357 to 89382. The following were received under names for which places of publication and descriptions have not been found.

89357. *VERONICA ANETIDA*.

89358. *VERONICA BANKSII*.

89359. *VERONICA BARNETTI*.

89360. *VERONICA BRYANTI*.

89361. *VERONICA BURROWSII*.

89362. *VERONICA CAMPBELLIENSIS*.

89363. *VERONICA CHRISTENSENSIS*.

89364. *VERONICA CHRISTICA*.

89365. *VERONICA COBBII*.

89366. *VERONICA DAVIESII*.

89367. *VERONICA DOUGLASI*.

89368. *VERONICA ELLIOTTII*.

89369. *VERONICA FENWICKII*.

89370. *VERONICA GARVEII*.

89371. *VERONICA HUNTERI*.

89372. *VERONICA LINDSAYI*.

89317 to 89332—Continued.

89373. *VERONICA LOBELLOIDES*.89374. *VERONICA MCRWANII*.89375. *VERONICA MCKENSIESII*.89376. *VERONICA PROCKUMBENS*.89377. *VERONICA REIDII*.89378. *VERONICA SEATONII*.89379. *VERONICA SUTHERLANDII*.89380. *VERONICA TANNOCKI*.89381. *VERONICA WALKERII*.89382. *VERONICA* sp.

Received without any label.

89383. *CUCUMIS MELO* L. Cucurbitaceae. **Melon.**

From Barcelona, Spain. Seeds presented by E. B. Babcock, University of California, Berkeley, Calif. Received October 7, 1930.

A melon with dark-green tough rind and pale-green fine-grained flesh, fairly sweet and of good flavor.

89384. *CASUARINA MONTANA* Leschen. Casuarinaceae.

From Ceylon. Seeds presented by K. J. A. Sylvester, Acting Curator, Botanic Gardens, Hakgala. Received October 8, 1930.

A beautiful species with drooping branches, growing in the cool rainy region of Hakgala.

For previous introduction see 66652.

89385. *PRUNUS ARMENIACA* L. Amygdalaceae. **Apricot.**

From Crete. Seeds presented by E. B. Babcock, University of California, through F. T. Bioletti, University of California, Berkeley, Calif. Received October 10, 1930.

An apricot of good size and fairly good quality.

89386. *CITRUS* sp. Rutaceae.

From the island of Guam. Bud sticks presented by the Agricultural Experiment Station. Received October 11, 1930.

*Oahit*, or native orange.89387. *OSTERDAMIA JAPONICA* (Steud.) Hitchc. Poaceae.**Japanese lawngrass.**

From Manchuria. Seeds purchased from Manchu Nosan, Shokai, Dairen. Received October 11, 1930.

A grass which makes a very compact sod, but only a short growth.

For previous introduction see 81298.

89388 to 89399.

From China. Seeds and tubers collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received October 9, 1930.

89388. *ASTRAGALUS* sp. Fabaceae. **Milkvetch.**

No. 7088. August 21, 1930, from Ching Lung Chiao. An astragalus with spikes of blue flowers, growing on a rocky mountain side near the Great Wall.

89388 to 89399—Continued.

89389. *THLADIANTHA DUBIA* Bunge. Cucurbitaceae.

No. 7044. August 13, 1930, from the grounds of the Temple of Heaven, Peiping. Tubers of a wild yellow-flowered cucumberlike plant with the under sides of the leaves very sticky.

89390. *ERODIUM STEPHANIANUM* Willd. Geraniaceae. **Heronbill.**

No. 7015. August 9, 1930, from the Shih Tzu Wo Temple. A villous branching annual or biennial with bipinnatifid leaves and dark-purple flowers in clusters of three to five. It is native to temperate Asia.

For previous introduction see 64770.

89391. *LESPEDEZA* sp. Fabaceae. **Bushclover.**

No. 7092. August 21, 1930, from the vicinity of the Great Wall, northeast of Nankou, Chihli.

89392. *MELILOTUS* sp. Fabaceae. **Sweetclover.**

No. 7094. August 21, 1930, from Ching Lung Chiao, near the Great Wall. A not very abundant yellow-flowered variety, growing on a rocky mountain side.

89393 to 89396. From the Ming Tao Tomb, August 22, 1930.

89393. *PHASEOLUS AUREUS* Roxb. Fabaceae. **Mung bean.**

No. 7098. Light-green bean with white hilum; purchased at Nankou.

89394. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. **Cowpea.**

No. 7100. A mottled variety.

89395 and 89396. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soybean.**

89395. No. 7096. A mixed lot of locally grown varieties purchased at Nankou.

89396. No. 7097. Seeds uniformly pea green, prominent black hilums; may prove valuable in the manufacture of salad oils.

89397. *ZEA MAYS* L. Poaceae. **Corn.**

No. 7085. From near Peiping, at Yen Chiao, August 17, 1930. A red variety, which is very rare in China, and the first I have ever seen.

89398. *SCUTELLARIA BAICALENSIS* Georgi. Menthaceae. **Skullcap.**

No. 7016. *Huang chin*, locally known as mountain tea. Collected at the Shih Tzu Wo Temple, August 8, 1930. An attractive plant, 6 to 12 inches high, with deep-blue flowers.

89399. *ASTRAGALUS CHINENSIS* L. f. Fabaceae. **Milkvetch.**

No. 7049. From Chun Shan An, Western Hills, Chihli Province. An erect herbaceous perennial, native to China, with smooth slender stems, elliptic-obtuse leaflets, and pendulous and few-flowered racemes of yellow flowers.

For previous introduction see 66539.

**89400. ALANGIUM CHINENSE (Lour.)**  
Rehder (*Marlea begoniaefolia*  
Roxb.). Cornaceae.

From Medan, Sumatra. Seeds purchased from J. A. Lorzling through Walter A. Foote, American consul, Medan. Received October 11, 1930.

Variety *tomentosum*. This Indian tree makes a remarkably rapid growth, reaching its full height of 50 feet in five years, after which the trunk merely thickens. It is being planted in Sumatra for its timber.

For previous introduction see 67175.

**89401 to 89419.**

From Canton, China. Plants presented by G. Weidman Groff, Lingnan University. Received October 13, 1930.

**89401. ATALANTIA sp.** Rutaceae.

No. 127. A tree form from Saigon.

**89402 to 89407. CITRUS spp.** Rutaceae.

**89402 and 89403. CITRUS GRANDIS (L.)**  
Osbeck. Grapefruit.

**89402.** No. 43. Kwangsi *Sha t'in yan*. Famous sandfield pomelo from Kwangsi.

**89403.** No. 129. Red-fleshed pomelo from Saigon.

**89404. CITRUS sp.**

No. 87. *Chan chi kam*.

**89405. CITRUS sp.**

No. 89. *Sz kwai kat*, four-season kat.

**89406. CITRUS sp.**

No. 91. *Sz wui*, fragrant water orange (*Heung shui ch'ang*).

**89407. CITRUS sp.**

No. 136. *Chue sha kat*, vermilion kat.

**89408. CLAUCEA LANSIUM (Lour.) Skeels**  
(*C. wampi* Oliver). Rutaceae. **Wampi.**

No. 131. Sour wampi from Canton.

For previous introduction see 74212.

**89409. DIMOCARPUS LONGAN Lour.** (*Nephelium longana* Cambess.). Sapindaceae. **Lungan.**

No. 171. Black-ball lungan from Canton.

**89410. DIPTEROCARPUS OBTUSIFOLIUS**  
Teijsm. Dipterocarpaceae.

No. 114. A tall tree with broadly ovate obtuse wavy-margined leaves 8 to 10 inches long, densely covered with stellate pubescence. The large reddish-white flowers are in racemes and the nutlike fruits are about 1 inch in diameter with two lanceolate wings almost 5 inches long. It is native to India.

**89411. DIPTEROCARPUS PUNCTULATUS**  
Pierre. Dipterocarpaceae.

No. 115. A tree up to 75 feet high with densely stellate pubescent, broadly ovate leaves 6 to 8 inches long, loose racemes of purplish flowers 2 to 3 inches across, and spherical fruits 1 to 2 inches in diameter with two wings 4 to 5 inches long. It is native to Siam.

**89401 to 89419—Continued.**

**89412. GARCINIA COCHINCHINENSIS (Lour.)**  
Choisy. Clusiaceae.

No. 113. A tree with ovate-oblong leaves, small white flowers, and pear-shaped, yellowish-red fruits which are said to be edible. It is related to the mangosteen and is native to southeastern Asia.

**89413 to 89415. LITCHI CHINENSIS Sonner.**  
Sapindaceae. **Lychee.**

**89413.** No. 144. Glutinous rice lychee from Canton.

**89414.** No. 145. Lingnan *Wai chi* lychee.

**89415.** No. 146. *Tsang sheng*, mountain lychee. Used for stock.

**89416. MANGIFERA INDICA L.** Anacardiaceae. **Mango.**

No. 126. From Saigon. A fine variety.

**89417. PENTACME SIAMENSIS (Miquel)**  
Kurz. Dipterocarpaceae.

No. 119. A shrub up to 10 feet high with panicles of fragrant citron-yellow flowers 1 inch across, appearing before the leaves. The cordate-oblong leaves are 5 to 6 inches long, and the fruits have linear wings 3 inches long. It is native to Siam.

**89418. SANDORICUM KOETJAPE (Burm. f.)**  
Merr. (*S. indicum* Cav.). Meliaceae. **Santol.**

No. 120. An evergreen tree, native to the Philippine Islands, which becomes 80 feet high. It has trifoliate hairy leaves and greenish-yellow or straw-colored flowers. The chief value resides in its yellowish fruits which are rounded or flattened about 2 inches in diameter, with rather large seeds inclosed in translucent acid edible pulp of good flavor. The fruit makes a delicious preserve. The tree is not suited for cultivation in the United States except perhaps in the warmest parts of Florida.

For previous introduction see 81926.

**89419. STERCULIA FOETIDA L.** Sterculiaceae. **Hazel bottle tree.**

No. 111. A tall handsome tropical Asiatic tree with large compound leaves and spreading panicles of dull-red flowers.

For previous introduction see 77170.

**89420 and 89421.**

From Giza, Egypt. Seeds presented by Thomas W. Brown, Director, Horticultural Section, Ministry of Agriculture. Received October 13, 1930.

**89420. CORDIA ALBA (Jacq.) Roem. and**  
Schult. Boraginaceae.

A large bushy shrub 15 to 18 feet high which branches close to the ground and sends up long stiff shoots well furnished with dark-green foliage. The leaves on terete petioles about an inch long are alternate, obovate to obovate-elliptic, 3 or 4 inches long, with entire margins, and the surface is covered with short bristly hairs. The pale-yellow flowers, about half an inch in diameter, are borne in flat-topped corymbs sometimes a foot across. The oblong-obovate fruits are half an inch in length and pearly white

## 89420 and 89421—Continued.

when ripe, inclosing a single large seed. It is, apparently, a good meliferous plant and of considerable ornamental value.

For previous introduction see 40988.

89421. *CORDIA ROTHII* Roem. and Schult. Boraginaceae.

A tall shrub or small tree up to 30 feet high with oblong leaves about 3 inches long and terminal cymes of small white flowers followed by ovoid reddish fruits. It is native to Ethiopia and India.

For previous introduction see 56531.

89422 to 89426. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

From Canberra, Australia. Seeds presented by the Director of Plant Industry. Received October 14, 1930.

89422. C. C. I. No. W. 12. *Abbott*.

89423. C. C. I. No. 45. *Ford*.

89424. C. C. I. No. W. 266. *Dundee*.

89425. C. C. I. No. 314. *Bolton*.

89426. C. C. I. No. 353. *Sultan*.

89427. *BIGNONIA* sp. Bignoniaceae. Trumpetreeper.

From Vicosá, Brazil. Seeds presented by P. H. Rolfs, Consultor Técnico de Agricultura do Estado de Minas Geraes. Received October 14, 1930.

In Brazil this vine grows near the frost line. The deep canary-yellow flowers are borne in great terminal clusters and appear a little earlier than those of *Bignonia venusta*.

89428. *SEDUM* sp. Crassulaceae. Stonecrop.

From Mexico. Plants collected by Paul Russell and Max Souviron, Bureau of Plant Industry. Received October 15, 1930.

No. 20. October 2, 1930. From Cerro da Pinar, northeast of Puebla City, Puebla. Found growing on moist rocky banks.

89429. *OSTERDAMIA JAPONICA* (Steud.) Hitchc. Poaceae.

Japanese lawngrass.

From Chosen. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received October 15, 1930.

No. 6283. September 3, 1930. Purchased from a Korean woman who had gathered the seed in the country around Keijo, Chosen.

For previous introduction and description see 89387.

89430 and 89431. *CROTALARIA* spp. Fabaceae.

From Mexico. Seeds collected by Paul Russell, Bureau of Plant Industry. Received October 15, 1930.

89430. *CROTALARIA* sp.

No. 18. Herbarium specimen No. 246. From Molinas, Puebla (about 25 miles southwest of Puebla City), October 3,

## 89430 and 89431—Continued.

1930. A plant about 8 inches high, found in pastures and in thickets; flowers not seen; pods small.

89431. *CROTALARIA* sp.

No. 19. Herbarium specimen No. 247. From Molinas, Puebla, October 3, 1930. A very low plant, 2 to 5 inches high, with larger pods than those of No. 18 [89430].

## 89432 to 89530.

From Mortefontaine, Oise, France. Plants purchased from Jules Chantrier. Received October 15, 1930.

89432 to 89446. *AECHMEA* spp. Bromeliaceae.89432. *AECHMEA CALYCVLATA* (Morren) Baker (*Hoplophytum calyculatum* Morren).

The small bright lemon-yellow flowers of this aechmea are borne in a dense globose head over 1 inch in diameter, on a scape a foot high. The plain-green leaves are 1 to 2 feet long. Native to southern Brazil.

89433. *AECHMEA COELESTIS* (Koch) Morren.

A tropical epiphytic plant with about 15 linear leaves almost a foot long, armed with minute marginal teeth, and forming a rosette from which rises the dense panicle 4 to 6 inches long. The petals of the small flowers are blue and the sepals white. Native to Brazil.

89434. *AECHMEA DRAKIANA* Andre.

The dozen leaves which compose the rosette of this Ecuadorian plant are strap-shaped, 1 to 2 feet long, chartaceous, and tinged with violet. The lax spike, about 6 inches long, bears flowers 2 inches long with sky-blue petals and bright-red sepals.

89435. *AECHMEA FASCIATA* (Lindl.) Baker (*Billbergia rhodocyanea* Le-maire).

An aechmea from southern Brazil, consisting of a rosette of about 20 strap-shaped leaves 1 to 2 feet long, green with abundant white spots and whitish crosslines on the back. The pink-petaled flowers, three-fourths inch long, are in an erect oblong head 2 to 4 inches long.

89436 and 89437. *AECHMEA FULGENS* Brongn.

89436. This species, which comes from French Guiana, has a rosette of about 20 strap-shaped leaves a foot or more long from which rises the bright-red peduncle bearing the numerous small pale-lilac flowers marked by red sepals.

89437. Variety *discolor*. A Brazilian variety with the lower surface of the leaves bright claret brown.

89438. *AECHMEA LEGRELLIANA* Baker (*Orgiesia legrelliana* Baker).

The plain-green sword-shaped leaves of this aechmea, about 20 in number, are a foot or more long, and the purplish-red flowers are in a dense erect oblong spike. Native to Uruguay.

89432 to 89530—Continued.

**89439. AECHMEA MINIATA DISCOLOR** (Beer) Baker.

With a rosette composed of a dozen leaves over a foot long, claret brown beneath, this Brazilian species produces a rather dense panicle of small lilac flowers with bright-red sepals.

**89440 and 89441. AECHMEA NUDICAULIS** (L.) Griseb. (*Bilbergia nudicaulis* Lindl.).

**89440.** A species widely distributed in tropical America. Its horny strap-shaped leaves, 2 to 3 feet long, are armed with small triangular marginal prickles, and the pale lemon-yellow flowers are in a lax drooping spike on a peduncle 1 to 2 feet long.

**89441.** Received as *Bilbergia nudicaulis*, which is now generally referred to *Aechmea*.

**89442. AECHMEA ORTGIESH** Baker (*Ortgiesia tillandsioides* Regel).

The sessile rosette of this Uruguayan aechmea consists of about 30 ensiform long-pointed leaves a foot long. The bright-red flowers are in a dense central head.

**89443. AECHMEA PINELIANA** (Brongn.) Baker (*Echinostachys pineliana* Baker).

A rather large aechmea 2 to 3 feet high, with spiny edged strap-shaped leaves 12 to 18 inches long, a brilliant red peduncle and bracts, and a dense spike of golden-yellow flowers that darken as they fade. It is native to southern Brazil.

**89444. AECHMEA VEITCHII** (Morren) Baker (*Chevalieria veitchii* Morren).

A Colombian aechmea with a dozen suberect plain-green leaves almost 2 feet long and pale-yellow flowers about 2 inches long in a dense oblong spike 2 inches in diameter and 3 to 4 inches in length.

**89445 and 89446. AECHMEA WEILBACHII** F. Didr.

**89445.** The rather short leaves of this species, which comes from southern Brazil, are overtopped by the red-stemmed and red-bracted scape. The small but numerous lilac flowers with bright-red sepals are in a narrow panicle 4 to 6 inches long.

**89446.** Variety *purpurata*. A form with purplish leaves.

**89447 to 89453. AREGELIA** spp. Bromeliaceae.**89447. AREGELIA CAROLINAE** (Beer) Mez (*Nidularium meyendorffii* Regel).

The rather horny leaves of this species, 20 in number, are a foot long and plain bright green on both sides. The lilac and white flowers are in a dense central head in the midst of the bright-red reduced inner leaves. Native to southern Brazil.

**89448. AREGELIA CHLOROSTICTA** (Baker) Mez (*Nidularium chlorostictum* Morren).

In habit this aregelia resembles a *Bilbergia*, with 12 to 20 strap-shaped leaves in a long rosette. The leaves

89432 to 89530—Continued.

are reddish brown, with copious green spots, and the flowers, with red-tinged sepals, are in a small head. Native to Brazil.

**89449. AREGELIA ELEGANS** Mez (*Nidularium elegans* Hort.).

The dozen sword-shaped leaves of this plant, up to 2 feet long, are marked on the back by distinct transverse bands of darker and paler green. The small violet flowers are in a small central head. Probably native to Brazil.

**89450. AREGELIA MARMORATA** (Baker) Mez (*Nidularium marmoratum* Hort.).

About a dozen spreading leaves a foot in length make up the rosette of this Brazilian aregelia. The pale-green surface of the leaves is copiously marbled with red-brown blotches. The small pale-violet flowers are in a dense central head 1 or 2 inches in diameter.

**89451. AREGELIA PRINCEPS** (Morren) Mez (*Nidularium princeps* Hort.).

A Brazilian aregelia with a short rosette of 15 to 20 glaucous green strap-shaped leaves a foot long and violet-red flowers in a globose head in the center of 6 to 10 ovate bright-red reduced leaves.

**89452. AREGELIA SPECTABILIS** (T. Moore) Mez (*Nidularium spectabile* T. Moore).

The 20 to 30 leaves of this Brazilian species are a foot or more long, green tinged with brown on the face, and on the back conspicuously marbled with transverse bands of reddish brown. The tip is spotted with bright red. The central flower head consists of nearly 50 small violet flowers.

**89453. AREGELIA TRISTIS** (Regel) Mez (*Nidularium triste* Regel).

With 10 or 12 short sword-shaped leaves, green mottled with brown spots, this Brazilian aregelia has white and violet flowers in a dense central cluster. Native to southern Brazil.

**89454 to 89468. BILLBERGIA** spp. Bromeliaceae.**89454. BILLBERGIA CAPPEI** Morren.

A hybrid between *Bilbergia spectiosa* and *B. vittata*. The rosette of this plant consists of 10 to 12 obtuse horny leaves 2 feet or more long, copiously banded with white on the back; the marginal prickles are minute. The peduncle is a foot long, with several large red bracts near the top, and the violet-blue flowers are in a lax panicle.

**89455. BILLBERGIA DECORA** Poepp. and Endl.

Variety *tenuifolia*. A form with thinner leaves. The 8 or 10 leaves, 1 to 2 feet long, which form the rosette of this plant are connivent for about 6 inches and are marked on the back with irregular transverse white mealy bands. The pale-green flowers are in a dense spike about 3 inches long, half hidden by the pink leafy bracts. Native to tropical South America.

**89456. BILLBERGIA FORGETTIANA** Sand.

A tropical American epiphyte with a rosette of large strap-shaped leaves, green with white bands.

89432 to 89530—Continued.

89457. *BILLBERGIA LEOPOLDI* (Lem.) Morren.

The horny, channeled leaves of this Brazilian species are 3 feet long, connivent for about a foot, and marked by irregular white blotches on the back. The flowers, with violet petals 2 inches long, are in a dense oblong spike 6 to 9 inches long.

89458. *BILLBERGIA LIBONIANA* DeJonghe.

With a rosette of five or six sword-shaped plain-green leaves 1 to 2 feet long, this Brazilian billbergia produces a spike a foot high bearing flowers with green violet-tipped petals 2 inches long and bright-red sepals an inch in length.

89459. *BILLBERGIA NUTANS* H. Wendl.

The linear, rather soft leaves, a foot long, of this billbergia are distinctive. The blue-edged petals of the flowers, which are in a lax drooping raceme, make a striking contrast with the bright-red leafy bracts. Native to Brazil.

89460 to 89462. *BILLBERGIA PYRAMIDALIS* (Sims) Lindl.

A Brazilian billbergia rather variable in many of its characters. The 10 to 12 thin-textured, dull-green leaves, about 2 feet long, are faintly white-mottled on the back and armed with minute marginal teeth. The flowers, with mauve-scarlet petals 2 inches long, are in a dense spike about 4 inches long, with narrow bright-red leafy bracts.

89460. Variety *splendida*. More robust than the type, with more numerous flowers, brighter in color.

89461. Variety *thyrsoides*. Flowers more numerous than the type; the petals are bright red with violet-purple tips.

89462. Variety *croynana*. Leaves erect; flowers more numerous with red petals edged with violet.

89463. *BILLBERGIA SAUNDERSII* Bull.

A Brazilian species closely allied to *Billbergia vittata*, with about five green to brownish-green leaves up to 2 feet long which have copious white spots and white transverse bands beneath and close-set small bright-brown marginal teeth. The flower petals are bright lilac at the tips, and the anthers are orange yellow.

89464 to 89467. *BILLBERGIA SPECIOSA* Thunb. (*B. amoena* Lindl.).

One of the more commonly cultivated billbergias, with many garden forms. The 10 or 12 strap-shaped leaves which form the rosette are over a foot long, connivent in the lower foot, with minute deltoid marginal prickles. The pale-green peduncle, with numerous bright-red leafy bracts 3 to 4 inches long, bears a lax panicle of flowers. The petals, 2 inches long, and the sepals are green with violet tips. Native to southern Brazil.

89464. Received as *B. amoena*, which is now referred to *B. speciosa*.

89465. Received as *B. pallida*, which is now considered the same as *B. speciosa*.

89432 to 89530—Continued.

89466. Variety *wiotiana*.89467. Variety *variegata*.89468. *BILLBERGIA ZEBRINA* Lindl.

The deep-green leaves of this South American species are mottled with gray-white blotches and have stout marginal spines. The green or yellow-green flowers are in a long loose drooping cluster.

89469. *CANISTRUM AMAZONICUM* (Linden and Andre) Mez (*Nidularium amazonicum* Linden and Andre). Bromeliaceae.

A stoloniferous canistrum from the Amazon Valley with 15 to 20 greenish-brown leaves, lanceolate, broader in the middle, uniformly claret brown on the back. The white flowers are in a dense head in the center of the rosette.

89470 to 89480. *CRYPTANTHUS* spp. Bromeliaceae.89470 and 89471. *CRYPTANTHUS ACAULIS* (Lindl.) Beer.

89470. A Brazilian epiphyte with stolons often overtopping the rosette, which consists of a dozen plain green leaves 4 to 6 inches long. The white flowers, with petals an inch long, are in a head more or less hidden among the leaves.

89471. Received as *C. undulatus*, which is now generally referred to *C. acaulis*.

89472. *CRYPTANTHUS BEUCKERII* Morren.

A Brazilian cryptanthus with 12 to 20 oblong-acute leaves 5 inches long, narrowed to a broad channeled petiole 2 to 3 inches long, pale brownish on the face and mottled with copious darker green spots. The white flowers are in a small head in the center of the rosette.

89473 to 89475. *CRYPTANTHUS BIVITTATUS* Regel.

89473. A species with a short stoloniferous rosette of 20 oblong-lanceolate leaves marked with two distinct vertical bands, often tinged with brown on the back and with close minute marginal prickles. The white flowers, an inch long, are in a tuft in the center of the rosette. Native to southern Brazil.

89474. Variety *moensis*. A form which is shorter and stouter than the type.

89475. Variety *ludemannii*. A form, stouter than the type, with leaves 2 inches wide, much tinged with brown.

89476. *CRYPTANTHUS LACERDAE* Antoine.

The depressed rosette of this species, about 2 inches high, is composed of a dozen somewhat ovate glaucous-green leaves about 3 inches long, scurfy white beneath. The white flowers are in a small cluster half hidden in the rosette. Native to South America.

89477. *CRYPTANTHUS OSYANUS* Makoy.

A small epiphyte with about 12 oblong acute leaves 4 inches long, armed with minute marginal teeth and small white flowers in a small head in the center of the rosette of leaves.

89432 to 89530—Continued.

89478 to 89480. *CRYPTANTHUS ZONATUS* Beer.

The 10 to 12 dark-green leaves of this Brazilian cryptanthus are oblong lanceolate and 6 to 9 inches long. The small tuft of white flowers is produced in the center of the rosette of leaves.

89478. Variety *fuscus*. A form with tawny leaves.

89479. Variety *brunceis*. A form with brownish leaves.

89480. Variety *viridis*. A form with leaves greener than the type.

89481 to 89485. *GUZMANIA* spp. Bromeliaceae.

89481 to 89483. *GUZMANIA LINGULATA* (L.) Mez.

The rosette of this guzmania consists of 30 to 40 thin lanceolate leaves nearly 2 feet long, striped vertically with red brown on the back. The yellowish-white flowers, 1 to 2 inches long, are in a globular cluster on a scape a foot long, overtopped by the bright-red leafy bracts 1 to 2 inches long. Native to the West Indies and northern South America.

89481. Variety *cardinalis*. A form with larger and more brightly colored outer bracts.

89482. Variety *splendens*. A form with larger and more brightly colored outer bracts.

89483. Received as *Nidularium splendens*, which is now referred to *Guzmania lingulata*.

89484. *GUZMANIA MUSAICA* (Linden) Mez (*Tillandsia musaica* Linden).

The 15 to 20, rather horny leaves of this species are copiously marked on the back with fine wavy red-brown lines on a purple-tinted green ground. The whitish flowers are in a globose head 3 inches in diameter with bright-red flower bracts up to an inch long. Native to Colombia.

89485. *GUZMANIA ZAHNII* (Hook. f.) Mez (*Tillandsia zahnii* Hort.).

A yellow flowered epiphyte from Panama, with a rosette of 20 to 30 thin lanceolate falcate leaves conspicuously striped with red brown on both sides near the base. The flowers are in a dense panicle 3 to 4 inches long.

89486 to 89491. *NIDULARIUM* spp. Bromeliaceae.

89486. *NIDULARIUM CHANTRIERI* Andre.

A hybrid between *Nidularium fulgens* and *N. innocentii*. The dark-green leaves are violet beneath, and the floral bracts are a brilliant blood red.

89487 and 89488. *NIDULARIUM FULGENS* Lemaire.

89487. The short dense rosette of this nidularium consists of 15 to 20 strap-shaped spreading bright-green leaves about a foot long, copiously marked with spots of darker green. The flowers, which have violet corollas and white tubes, are in a dense central cluster, surrounded by the brilliant scarlet reduced inner leaves. Native to southern Brazil.

89432 to 89530—Continued.

89488. Variety *joliboisy*.

89489. *NIDULARIUM INNOCENTII* Lemaire.

A stoloniferous plant from southern Brazil which consists of a rosette of 20 strap-shaped leaves less than a foot long, green tinged with brown, and white flowers.

89490. *NIDULARIUM NEGLECTUM* Andre.

The bright-green lanceolate leaves of this nidularium are about a foot long, and the white flowers are in a small central head, surrounded by a few brownish-green reduced leaves. Probably native to Brazil.

89491. *NIDULARIUM SCHEREMETIEWII* Regel.

A nidularium with 10 to 15 sharply serrated lanceolate leaves a foot or more long, which are bright green above, and violet flowers in a small head surrounded by the bright-scarlet reduced inner leaves. Native to southern Brazil.

89492 to 89497. *PITCAIRNIA* spp. Bromeliaceae.

89492. *PITCAIRNIA ALTENSTEINII* Lemaire (*Puya altensteinii* Klotzsch).

An alpine species from Venezuela with 12 to 20 weak recurving papery leaves 2 to 3 feet long, green on both surfaces. The simple raceme of white flowers is made showy by the bright-red bracts 1 to 2 inches long.

89493. *PITCAIRNIA ANDREANA* Linden.

A Venezuelan pitcairnia less than a foot high, of the *P. australis* group, with lanceolate drooping chartaceous leaves, white beneath, and bright-red flowers over 2 inches long in a moderately dense erect raceme 5 inches in length.

89494. *PITCAIRNIA CORALLINA* Linden.

The outer leaves of this Colombian species are hard, dry, and spineless; the inner leaves have brown-spined petioles and broad plicate recurved blades. The coral-red flowers, 3 inches long, are in a raceme borne on a bright-red scape a foot high.

89495. *PITCAIRNIA DARBLAYANA* Baker.

A hybrid between *P. corallina* and some unknown species.

89496. *PITCAIRNIA PLATYPHYLLA* Schrad.

With a dense tuft of linear leaves 2 to 3 feet long, covered beneath with white mealy scales and spiny margined near the base, this West Indian pitcairnia has bright-red flowers 2 inches long in a lax raceme on a scape a foot in length.

89497. *PITCAIRNIA TABULAEFORMIS* Linden.

The 20 to 30 spreading or reflexed leaves of this tropical Mexican species are 5 or 6 inches long, papery in texture, and green on both sides. The bright-red flowers, 30 to 40 in number, form a dense central head.

89498. *PORTEA KERMESINA* Brongn. Bromeliaceae.

The 8 or 10 leaves which form the rosette of this Brazilian plant are 2 feet or more long, bright purple on the back,



89432 to 89530—Continued.

plain green or purple spotted on the face, with small brown marginal prickles. The violet flowers, an inch long, are in an ample erect panicle 6 inches long.

**89499.** *STREPTOCALYX VALLERANDI* (Carr.) Morren. Bromeliaceae.

A large tropical epiphyte with a compact rosette of about 40 leaves, 3 to 4 feet long, bright green above and gray beneath. The violet flowers are in a dense panicle 1 to 2 feet high, with small oblong bright-red bracts. Native to the Amazon Valley.

**89500 to 89507.** *TILLANDSIA* spp. Bromeliaceae.

**89500.** *TILLANDSIA BULBOSA* Hook.

A small scurfy tillandsia, a few inches high, the stem swollen at the base, and much dilated leaves clasping at the base and terete above. The few purple flowers are in short racemose spikes. Native to the West Indies and northern South America.

**89501 and 89502.** *TILLANDSIA LINDENI* Regel.

An Andean tillandsia with a dense rosette of acuminate-ensiform leaves a foot or more long, longitudinally striped with brown on the back near the base, and bright-blue flowers with petals an inch wide in a compact spike up to 6 inches long.

**89501.** Variety *intermedia violacea*.

**89502.** Variety *regelliana*. A form with longer peduncle, green bracts, and a large white eye on the petals.

**89503.** *TILLANDSIA ORTGIESIANA* Morren.

A Mexican epiphyte with stout subulate densely white scurfy leaves a foot or more long and pale-violet flowers in a small sessile spike.

**89504.** *TILLANDSIA STRICTA* (Beer) Soland. (*Anoplophytum strictum* Beer).

The leafy stem of this epiphyte is either short or several inches long. The numerous rigid linear acuminate falcate leaves are 4 to 6 inches long, and the lilac or white flowers are in a simple dense spike an inch long. Native to South America.

**89505.** *TILLANDSIA TENUIFOLIA* L.

A small reddish tillandsia with numerous erect subulate scurfy leaves, and bluish-violet flowers in small dense spikes. Native to tropical America from Mexico to Brazil.

**89506.** *TILLANDSIA VESTITA* Cham. and Schlecht.

A Mexican tillandsia with a leafy stem 3 or 4 inches long, and rigid subulate densely scurfy leaves about 7 inches long. The yellow flowers are in a compact simple spike 1 or 2 inches long.

**89507.** *TILLANDSIA* sp.

These plants are suited for growing on the bark of trees.

**89508 to 89521.** *VRIESIA* spp. Bromeliaceae.

89432 to 89530—Continued.

**89508.** *VRIESIA BARILLIETI* Morren.

The 15 to 20 bright-green leaves of this Andean species are lanceolate, thin, and flexible, and over a foot long. The pale-yellow flowers are in a simple dense spike 8 to 12 inches in length.

**89509.** *VRIESIA CARINATA* Wawra (*V. brachystachys* Regel).

The rosette of this species consists of 15 to 20 thin flexible plain-green leaves, 6 to 8 inches long, and the pale-yellow flowers are in a dense spike 2 or 3 inches long. The oblong flower bracts, over an inch long, are bright red at the base and yellow in the upper half. Native to forests in southern Brazil.

**89510.** *VRIESIA DUVALIANA* Morren.

The thin strap-shaped leaves of this vriesia, 15 to 20 in number, are 6 inches long, green on the face, and tinged with purple beneath. The yellowish-green flowers, with petals an inch long, are in a fairly dense spike about 6 inches long. Native to southern Brazil.

**89511.** *VRIESIA FULGIDA* Duval.

A hybrid between *Vriesia duvalliana* and *V. incurvata*, distinguished by the brilliant red color of the flowers and the deep-green rosette of the leaves.

**89512.** *VRIESIA HIEROGLYPHICA* (Carr.) Morren.

A very showy vriesia with a dense rosette of 30 to 40 stout recurved leaves 2 or 3 feet long, green marked with very conspicuous broad irregular brown-purple transverse bands. The dull-yellow flowers are in a lax panicle over 2 feet long. Native to Brazil.

**89513.** *VRIESIA INCURVATA* Gaud.

With about a dozen plain-green thin flexible leaves a foot long, this vriesia has greenish-yellow flowers an inch long in a dense spike shorter than the leaves. The lower flower bracts are greenish yellow, the upper ones reddish yellow. Native to southern Brazil.

**89514.** *VRIESIA PLATYNEMA* Gaud. (*Encholirion roseum* Hort.).

A Brazilian epiphyte with 20 to 30 thin flexible green leaves up to 3 feet in length, purplish green below. The yellowish-green flowers, with bright-red bracts over an inch long, are in a lax spike up to 2 feet long.

**89515.** *VRIESIA PSITTACINA* Lindl.

The yellowish-green leaves of this species are 6 to 10 inches long, and the large flowers, yellow with green tips, are scattered along a distichous spike about as long as the leaves. The scape and rachis are bright red. The lower bracts are red and the upper ones yellow. Native to southern Brazil.

**89516.** *VRIESIA REGINA* (Vell.) Beer (*V. glaziouviana* Lemaire).

A very large tillandsialike epiphyte. The plant is sometimes 8 to 10 feet high. The dense rosette is made up of 30 to 50 thin pale-green leaves 3 to 4 feet long. The white flowers, with narrow petals 2 to 3 inches long, are in a detoid panicle 4 to 5 feet long. Native to southern Brazil.

89432 to 89530—Continued.

89517. *VRIESIA REX* L. Duval.

A hybrid between *Vriesia morrenabarilletii* and *V. cardinalis*. It is a very vigorous plant, developing large numbers of vivid carmine bracts.

89518. *VRIESIA SAUNDERSII* (Andre) Morren (*Enchochirion saundersii* Andre).

A Brazilian vriesia with a dense rosette of about 20 flexible recurved strap-shaped leaves a foot long, dull green above and copiously spotted with claret brown beneath. The yellow flowers with yellow bracts are in a lax panicle a foot long.

89519 and 89520. *VRIESIA SPLENDENS* (Brongn.) Lemaire.

89519. A plant with 12 to 30 leaves over a foot long, marked with distinct broad purplish-black, transverse bands, especially on the back. The pale-yellow flowers, with petals 2 inches long, are in a dense spike 6 to 12 inches long, with bright-red oblong-lanceolate bracts. Native to French Guiana.

89520. Variety *major*.89521. *VRIESIA TESSELLATA* (Linden) Morren (*Tillandsia tessellata* Linden).

A tillandsialike epiphyte from southern Brazil, with 20 to 40 short, rather broad, stiff leaves, tessellated with yellow and green, and yellow flowers in a panicle over 3 feet long.

## 89522 to 89530.

The following were received under names for which places of publication and descriptions have not been found.

89522. *BILLBERGIA NOBILIS* Hort.89523. *CANISTRUM CAPPEI* Hort.89524. *CRYPTANTHUS CANDIDUS* Hort.89525. *CRYPTANTHUS PUMILUS* Hort.89526. *HECETIA MEXICANA* Hort.89527. *NIDULARIUM ANGUSTINUM* Hort.89528. *NIDULARIUM AUREO-STRIATUM* Hort.89529. *NIDULARIUM LONGIFOLIUM* PICTUM Hort.89530. *VRIESIA POELMANNI* Hort.89531 to 89542. *SOLANUM* spp. Solanaceae.

From Mexico. Tubers collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received October 16, 1930.

89531 to 89535. *SOLANUM* DEMISSUM Lindl.

89531. No. 29. *Papa silvestre*. From Rio Frio, Puebla, October 8, 1930. Tubers found growing in rich sandy loam in open woods at 9,000 feet altitude.

89532. No. 10. From El Desierto, Distrito Federal, October 6, 1930. No flowers or fruit seen.

89533. No. 40. From Rio Frio, Puebla, about a mile above the village, October 8, 1930. Smooth white tubers

89531 to 89542—Continued.

found on the dry bank of a ditch in open sandy loam. The oval fruit was smooth and green.

89534. No. 42. From Rio Frio, Puebla, October 8, 1930. A white tuber found in rich sandy loam in an open field at 9,000 feet altitude. Flowers not seen.

89535. No. 44. From Rio Frio, Puebla, October 8, 1930. A white tuber found in very rich soil at 9,000 feet altitude. The oval fruits were smooth and green.

89536 to 89542. *SOLANUM* spp.89536. *SOLANUM* sp.

No. 9. From El Desierto, Distrito Federal, October 6, 1930. Tubers found growing in very rich soil under a large fir tree at 8,000 feet altitude.

89537. *SOLANUM* sp.

No. 11. From near Cuernavaca, Morelos, October 7, 1930. Seeds and tubers collected at 9,000 feet altitude. The flowers are white and perfectly smooth; the fruit is green with no spots nor streaks.

89538. *SOLANUM* sp.

No. 30. From above Rio Frio, Puebla, on the road from Mexico City to Puebla, October 8, 1930. A plant about a foot high with smooth green berries, somewhat laterally depressed, and small tubers; found at 9,000 feet altitude in rich sandy soil in open woods at the base of a large spruce.

89539. *SOLANUM* sp.

No. 31. *Papa*. From east of Rio Frio, Puebla, on the road from Mexico City to Puebla, October 8, 1930. A plant about 8 inches high with smooth green obconic fruits covered with whitish flecks, found at 9,000 feet altitude in rich sandy loam in open woods at the base of a large spruce.

89540. *SOLANUM* sp.

No. 38. From above Rio Frio, Puebla, at 9,000 feet altitude, October 8, 1930. A plant with pink flowers and white tubers, found in rich soil.

89541. *SOLANUM* sp.

No. 41. From Rio Frio, Puebla, October 8, 1930. A plant with green oval seed pods and large pink tubers, found at 9,000 feet altitude growing along a ditch bank in rich soil in an open field.

89542. *SOLANUM* sp.

No. 45. From Rio Frio, Puebla, October 8, 1930. Found growing in rich soil in an open field along a ditch. As the tubers were almost 2 inches in diameter, it is probably an escape from cultivation.

89543. *PEPEROMIA* sp. Piperaceae.

From Mexico. Plants collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received October 16, 1930.

From north of Cuernavaca, Morelos, October 7, 1930.

**89544 to 89546. LUPINUS spp. Fabaceae. Lupine.**

From Perth, Western Australia. Seeds presented by the Chapman Experiment Farm, Department of Agriculture. Received October 18, 1930.

**89544. LUPINUS ANGUSTIFOLIUS L.**

A narrow-leaved, blue-flowered lupine used for fodder.

**89545. LUPINUS HIRSUTUS L. European blue lupine.**

An ovate-leaved lupine used for forage and green manure.

For previous introduction see 81945.

**89546. LUPINUS PILOSUS Murray.**

A hairy annual 2 to 4 feet high, with compound leaves of 9 to 11 oblong-lanceolate leaflets and a raceme of rose-colored flowers arranged in whorls. It is native to southern Europe.

For previous introduction see 39198.

**89547 to 89549. SOLANUM spp. Solanaceae.**

From Lima, Peru. Seeds presented by M. E. Odriozola, Chief, Estación Experimental Agrícola de La Molina. Received October 18, 1930.

**89547. SOLANUM MURICATUM Ait. Pepino.**

A plant indigenous to Peru, which is cultivated as far south as northern Chile. The sweet juicy fruits are highly prized among the natives. They are sold in the markets.

For previous introduction see 61434.

**89548. SOLANUM QUITOENSE Lam. Naranjilla.**

A shrub about 3 feet high of very good appearance. The wide plushy leaves are a fine iridescent green, and the purple flowers are comparatively large. The aromatic orange-colored fruits are nearly spherical and about 2 inches in diameter; they are used in the preparation of refreshing drinks. The plant is indigenous to the mountain regions of Peru.

For previous introduction see 52866.

**89549. SOLANUM TORVUM Swartz.**

A shrub about 10 feet high which grows wild in humid places or on the banks of rivers, isolated or forming heaths together with other shrubs. The stems are prickly, and the unarmed hairy leaves are 4 inches long and 6 inches wide. The white flowers occur in many-flowered racemes and are over 1 inch in diameter. The berries are small, smooth, and globose. The shrub is distributed throughout tropical America, the Philippines, China, and the Malay Archipelago.

For previous introduction see 43780.

**89550 to 89584. SOLANUM spp. Solanaceae.**

From Mexico. Tubers collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received in October and November, 1930.

Nos. 89550 to 89562 were collected October 13, 1930, in rich loam in the garden of the convent at 9,800 feet altitude in El Desierto, Distrito Federal.

**89550 to 89584—Continued.****89550. SOLANUM sp.**

No. 51, A and B. Apparently two kinds of plants are growing together. The fruits of one are solid green; those of the other are green spotted with small white specks. The white or purple tubers are on stolons, sometimes 3 feet long.

**89551. SOLANUM sp.**

No. 54. A plant with smooth green oval fruits having a slight lateral depression.

**89552. SOLANUM sp.**

No. 56.

**89553. SOLANUM sp.**

No. 58. A plant with smooth green oval to obconic fruits and white tubers which are irregularly oval.

**89554 and 89555. SOLANUM spp.**

These two plants were growing so closely together that it could not be determined which seeds and tubers belonged to the same plant as the tuber-bearing stolons were sometimes 3 feet long, and the plants were dead at the time the tubers were collected. The fruits of one plant were smooth, green, and globular; those of the other were smooth, green, obconic, with a slight lateral depression. Some of the tubers were white, others purple.

**89554. SOLANUM sp.**

No. 59-C.

**89555. SOLANUM sp.**

No. 59-D.

**89556. SOLANUM sp.**

No. 60. Small white tubers.

**89557. SOLANUM sp.**

No. 61. A tall plant with smooth, green, cordate fruit and marked with white specks and a lateral suture. The tubers are white. Found growing in dense shade.

**89558. SOLANUM sp.**

No. 62. A tall plant with smooth, green, cordate fruits marked with faint white specks and having a lateral suture. The oblong tubers are pale purple.

**89559. SOLANUM sp.**

No. 63. A plant with white oval tubers.

**89560. SOLANUM sp.**

No. 65. A low plant with very large purple flowers and white oval tubers.

**89561. SOLANUM sp.**

No. 66. A tall plant with pale purple tubers which are irregularly oval; found growing in dense shade at 10,000 feet altitude.

**89562. SOLANUM sp.**

No. 67. A plant with smooth, green, elliptic to obconic fruits marked with faint white specks and having a vertical suture. The oval tubers are white and smooth.

Nos. 89563 to 89569 were collected October 15, 1930, in rich loam along the roadside at El Vigia, Puebla, about 30 miles from Mexico City on the road to Puebla City, at 12,500 feet altitude.

## 89550 to 89584—Continued.

## 89563. SOLANUM sp.

No. 72. A plant 3 feet high, with white tubers.

## 89564. SOLANUM sp.

No. 73. A plant about 2 feet high, with purple flowers and white tubers.

## 89565. SOLANUM sp.

No. 74. A plant about 2 feet high, with oval to oblong white tubers.

## 89566. SOLANUM sp.

No. 76. A plant 3 feet high, with oval white tubers.

## 89567. SOLANUM sp.

No. 78. A plant 3 feet high, with purple flowers, white fruits, and white tubers.

## 89568. SOLANUM sp.

No. 80. A plant 3 feet high, with green fruit covered with very numerous small white warts and white tubers.

## 89569. SOLANUM sp.

No. 82. A plant with green fruits covered with very numerous small white warts and white tubers.

## 89570. SOLANUM sp.

No. 86. Collected near El Mirador, on the road between Mexico City and Puebla, at 12,000 feet altitude, October 15, 1930. A plant with white tubers found in rich soil.

## 89571. SOLANUM sp.

No. 87. Collected at El Caragon, on the road between Mexico City and Puebla, at 12,000 feet altitude, October 15, 1930. A plant 3 feet high, with green fruit, covered with very numerous small white warts, and white tubers.

## 89572. SOLANUM sp.

No. 90. Collected at El Mascaron, on the road between Mexico City and Puebla, at 12,000 feet altitude, October 15, 1930. A plant found in the rich loam in an open field with seed balls marked like *S. fendleri* and white tubers.

## 89573. SOLANUM sp.

No. 91. From El Polvorin, on the road to Puebla, at 12,000 feet altitude, October 15, 1930. A plant very much like No. 90 [89572], but the green fruit is not marked like *S. fendleri*; the tubers are white.

## 89574. SOLANUM sp.

No. 92. From El Mascaron, on the road between Mexico City and Puebla, at 12,000 feet altitude, October 15, 1930. A plant with white tubers.

## 89575. SOLANUM sp.

No. 54. From El Desierto, Distrito Federal. [Received without further notes.]

Nos. 89576 to 89582 were collected October 17, 1930, on the side of the mountain Pic de Xitle, Distrito Federal.

## 89576. SOLANUM sp.

No. 102. A plant with smooth green fruits having a slight vertical depression, also small white tubers; found under a pine tree in lava formation at 9,000 feet altitude.

## 89550 to 89584—Continued.

## 89577. SOLANUM sp.

No. 105. A plant with green fruit, marked with faint, darker green broad bands; collected halfway up the mountain side under a pine tree in lava rubble, at 8,500 feet altitude.

## 89578. SOLANUM sp.

No. 106. A plant with smooth green fruit and small white oval tubers; collected in lava rubble at 8,700 feet altitude.

## 89579. SOLANUM sp.

No. 107. A plant with smooth green oval fruit and white oval tubers; collected in lava rubble at 8,500 feet altitude.

## 89580. SOLANUM sp.

No. 108. A plant with green fruit of a uniform color and a slight vertical depression; tubers small and white; collected in lava rubble at 8,600 feet altitude.

## 89581. SOLANUM sp.

No. 116. A plant with smooth green fruit and purplish tubers; collected in the volcanic crater at 9,000 feet altitude.

## 89582. SOLANUM sp.

No. 118. A plant with round white tubers, collected in lava rubble at 9,000 feet altitude.

Nos. 89583 and 89584 were collected November 3, 1930, in the woods above the Trinidad mine at Real del Monte, Hidalgo, at 9,000 feet altitude.

## 89583. SOLANUM sp.

No. 221. A plant with round white tubers.

## 89584. SOLANUM sp.

No. 219. A plant with white tubers.

## 89585. ACACIA ADANSONII Guill. and Perr. Mimosaceae.

From Gambia, Africa. Seeds presented by the Department of Agriculture. Received November 13, 1930.

A much-branched tropical tree 30 to 40 feet high, with densely pubescent branchlets and bipinnate leaves of 4 to 6 pairs of pinnae each bearing 12 to 16 pairs of small linear-oblong leaflets. The yellow flowers are in heads and the undulate-margined thick brown pods, 5 to 6 inches long, are used for tanning. It is native to the Senegambia region of tropical Africa.

## 89586. CYCLAMEN AFRICANUM Boiss. and Reut. Primulaceae.

From Haarlem, Netherlands. Bulbs purchased from C. G. Van Tubergen (Ltd.). Received October 23, 1930.

A summer-blooming tuberous perennial with coarsely toothed kidney-shaped or heart-shaped leaves dull and pale green marbled above and nearly white, purple-tinged flowers an inch long. It is native to Algeria.

For previous introduction see 79186.

## 89587 and 89588.

From Belgian Congo, Africa. Seeds presented by A. Corbisier-Baland, Directeur, Jardin Botanique, D'Esala. Received October 23, 1930.

89587 and 89588—Continued.

89587. *ALBIZZIA CORBISIERI* Wildem.  
Mimosaceae.

A large handsome tropical tree, native to the Belgian Congo. The pinnate leaves are 4 to 6 inches long, and the flower clusters are usually in the axils of the upper leaves. The hard wood is used to make gongs and canoes.

89588. *Pithecolobium altissimum* (Hook. f.) Oliver. Mimosaceae.

A tall tree native to the Niger Valley in tropical Africa. The bipinnate leaves, 4 to 8 inches long, are made up of numerous linear-oblong leaflets less than half an inch long. The heads of small flowers are in racemose clusters and are followed by compressed, spirally contorted pods 8 to 10 inches long.

89589. *Solanum tuberosum* L. Solanaceae. Potato.

From Oslo, Norway. Tubers presented by Karl A. Jensen. Received October 24, 1930.

Introduced for experimental purposes.

89590 to 89609.

From China. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received October 23, 1930.

89590 and 89591. *Amygdalus persica* *Platycarpa* (Decaisne) Ricker (*Prunus persica platycarpa* Bailey). Amygdalaceae. Flat peach.

For previous introduction see 63295.

89590. No. 7128. *Pan tao* (saucer or flat peach). From the market at Peiping, September 1, 1930, but said to have been grown near Wang-chaiyu, about 30 miles northeast of Peiping. The peaches are about 3 inches across and 1 inch thick; a few have a tinge of pink at the base and peak; both base and peak are slightly depressed. The fruit is quite fuzzy and greenish yellow as a base color; flesh creamy white with a tinge of red about the pit, very fragrant, juicy, and sweet and of excellent quality as compared with other peaches the explorers have eaten in China.

89591. No. 7148. Secured in the Eastern Market, Peiping, September 10, 1930, but said to have come from Huailai, above the Great Wall. The very large fruits are 3 inches in diameter and nearly 2 inches through, green to yellowish green in color, and blotched and tinted with red. The flesh is creamy white, firm, juicy, and of sweet flavor, very slightly tinted with red about the pit, but not of as good quality as No. 7128 [89590].

89592. *Asparagus dauricus* Fischer. Convallariaceae.

No. 7103. Collected August 22, 1930, in the rocky compound of the Ming Tao Tomb. A wild ornamental asparagus with beautiful light-green foliage and straight stems 2 to 4 feet high. The Chinese boil the young shoots and use them as a vegetable.

For previous introduction see 36766.

89590 to 89609—Continued.

89593 and 89594. *Astragalus melilotoides* Pall. Fabaceae.

For previous introduction see 65294.

89593. No. 7164. Collected in the grounds of the Summer Palace, Peiping, September 12, 1930. "We have found the white variety less abundant and much later ripening than the yellow. The color of the flowers varies from white to more or less pink or lavender."

89594. No. 7227. From Nankou, September 19, 1930. Mixed seed of lavender and white flowered plants collected at the Yung Lo Ming Tomb.

89595 to 89598. *Melilotus* spp. Fabaceae. Sweetclover.

89595 to 89597. *Melilotus officinalis* (L.) Lam.

From Peiping, August 30, 1930.

89595. No. 7124. Seed from a single plant of the yellow-flowered sweetclover, found growing at the base of the steps of the Altar of Rain at the Temple of Agriculture.

89596. No. 7125. A yellow-flowered form about 4 feet high, growing in a crack in the flagstone paving of the Altar of Rain at the Temple of Agriculture.

89597. Collected from plants growing between flagstones of the Altar of Rain and the Altar of Snow at the Temple of Agriculture, and in the Temple of the Superior World near the Altar of the Temple of Heaven.

89598. *Melilotus suaveolens* Ledeb.

No. 7179. From Tangshan, China, September 15, 1930. Seed from plants up to 4 feet high, with yellow flowers which appear to be more abundant and perhaps a little larger than the one from which seed was collected in the Summer Palace grounds; the seed ripens fully three weeks later.

For previous introduction see 61320.

89599 to 89603. *Phaseolus* spp. Fabaceae.

89599 to 89601. *Phaseolus aureus* Roxb. Mung bean.

89599. No. 7180. From Tangshan, China, September 15, 1930. Possibly a wild form of the cultivated mung bean, found growing among grass and shrubby vegetation on dry rocky situations. It is perhaps an escaped cultivated variety, which, on account of conditions, appears smaller and of a slightly different color. Flowers not seen.

89600. No. 7216. From the Fa Hua Ssu Temple, September 13, 1930. A gray mung bean found in a field growing on decomposed granite in dry arid situations.

89601. No. 7217. From the Fa Hua Ssu Temple, September 13, 1930. A light-green mung bean collected in a field on a mountain side growing on decomposed granitic soil in dry arid situations.

89590 to 89609—Continued.

**89602. PHASEOLUS CALCARATUS Roxb.**  
**Rice bean.**

No. 7218. From the Fa Hua Ssu Temple, September 18, 1930. A small oblong green pole bean growing on decomposed granitic soil in dry arid situations in a field on a mountain side. The beans are ground into flour and used to make noodles.

**89603. PHASEOLUS MINIMUS Roxb.**

No. 7159. From Changli, China, September 7, 1930. A bean with yellow pea-shaped flowers and long narrow pods, found growing near the Shui Yen Ssu Temple in decomposed granitic soil.

**89604. PINUS BUNGEANA Zucc.** Pinaceae.  
**Lacebark pine.**

No. 7231. From Nankou, China, September 19, 1930. Collected from trees growing in the grounds of the Yung Ling Ming Tomb. This is the famed Chinese white-bark pine.

**89605. QUERCUS DENTATA Thunb.** Fagaceae.  
**Daimyo oak.**

No. 7169. From the Patachu, near Peiping, September 12, 1930. An oak with long leaves, narrow at the base and broad at the extremity. The cups sometimes extend over the acorn. Many plants from 18 inches to 3 feet high and well fruited were seen.

For previous introduction see 78659.

**89606. QUERCUS VARIABILIS Blume.** Fagaceae.  
**Oriental oak.**

No. 7168. From the Patachu (Western Hills), near Peiping, September 12, 1930. Attractive-looking trees which were bearing a large crop of acorns.

For previous introduction see 44669.

**89607 to 89609. VIGNA SINENSIS (Torner)** Savi, Fabaceae.  
**Cowpea.**

Some of the principal varieties grown in the Fa Hua Ssu Temple grounds, September 18, 1930.

**89607. No. 7202.** A red pea, found in decomposed granitic soil.

**89608. No. 7200.** A light and dark brown cowpea, found growing in decomposed granitic soil in a very dry situation.

**89609. No. 7220.** A creamy white and brown mottled cowpea. The mottling is lighter than No. 7200 [89608], and it may be a different variety; collected in a field on a mountain side in decomposed granitic soil in a very dry situation.

**89610 to 89621. SOLANUM spp.** Solanaceae.

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received October 23, 1930.

Nos. 89610 to 89620 were collected at the convent in El Desierto, Distrito Federal, October 13, 1930, at 9,800 feet altitude.

**89610. SOLANUM DEMISSUM Lindl.**

No. 57. A smooth green obconic fruit with a slight lateral depression. No tubers were found.

89610 to 89621—Continued.

**89611. SOLANUM sp.**

No. 51-a. A plant with solid green seed balls. For introduction of tubers, see 89550.

**89612. SOLANUM sp.**

No. 51-b. A plant with green seed balls, spotted with white. For introduction of tubers, see 89550.

**89613. SOLANUM sp.**

No. 54. A plant with smooth green oval fruits having a slight lateral depression.

**89614. SOLANUM sp.**

No. 55. A plant with smooth green fruit spotted with white; no tubers found.

**89615. SOLANUM sp.**

No. 58. A plant with smooth green, oval to obconic fruits, and white tubers which are irregularly oval. Tubers introduced under 89553.

**89616. SOLANUM sp.**

No. 59. Apparently two kinds of plants growing so closely together that it could not be determined which seeds and tubers belong to the same plant, as the tuber-bearing stolons are sometimes 3 feet long, and the plants were dead at the time the seed and tubers were collected. The fruit of one plant is green, smooth, and globular; that of the other is smooth, green, obconic with slight lateral depression. Some of the tubers are white, others purple.

**89617. SOLANUM sp.**

No. 61. A tall plant found growing in dense shade, with smooth green cordate fruits with white specks and a lateral suture. Tubers of this number were introduced under 89557.

**89618. SOLANUM sp.**

No. 62. A tall plant with smooth green cordate fruits marked with faint white specks and having a lateral suture. The oblong tubers are pale purple. For introduction of tubers, see 89558.

**89619. SOLANUM sp.**

No. 67. A plant with smooth green elliptic to obconic fruits marked with faint white specks and having a vertical suture. The oval tubers are white and smooth. For introduction of tubers, see 89562.

**89620. SOLANUM sp.**

No. 68. A plant with smooth green obconic fruits marked with faint white specks and with a vertical suture.

**89621. SOLANUM sp.**

No. 218. From Oaxaca, Mexico. A woody vine with edible red fruits, called a tomato, collected in Mr. Conzatti's garden.

**89622. AMYGDALUS PERSICA L. (Prunus persica Stokes).** Amygdalaceae.**Peach.**

From the Union of Soviet Socialist Republics. Seeds presented by Vale Lichagov, Lochi, Chernomorsh. Received October 24, 1930.

A handsome late freestone peach which comes true from seed. It is large to very

## 89622—Continued.

large, oval and pointed; the skin is greenish or yellowish white marked with red, and the flesh is firm, greenish or creamy white stained carmine red at the pit. The peach is a good shipper, very prolific, and ripens near Lochi the first part of September.

**89623. SELENICEREUS CONIFLOBUS**  
(Weingart) Britt. and Rose. Cactaceae.

From Mexico. Cuttings purchased from Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz. Received October 27, 1930.

A night-blooming cactus with high-climbing, pale-green stems having five to six low, purplish ribs and pale-yellow spines. The globular flower buds, covered with white hairs, develop into flowers 8 to 10 inches long, with the outer segments bronze to lemon yellow and the inner segments pure white. It is native to Mexico.

**89624. FRAGARIA SP.** Rosaceae.

Strawberry.

From Long Ashton, England. Plants collected by E. C. Auchter, Bureau of Plant Industry. Received October 27, 1930.

A strain of the Royal Sovereign strawberry.

**89625. PRUNUS ARMENIACA L.** Amygdalaceae. Apricot.

From Sanaa, Yemen, Arabia. Seeds presented by Dr. K. S. Twitchell (forwarded from Burlington, Vt.). Received October 27, 1930.

A small fruit of good flavor, grown at 7,500 feet altitude.

**89626. PENNISETUM PURPUREUM Schumacher.** Poaceae. Napier grass.

From Northern Rhodesia. Seeds presented by J. Burt-Davy, University of Oxford, England. Received October 27, 1930.

*Banga reed.* From the Minga River, between 3,500 and 4,000 feet altitude. A grass which grows on river banks in alluvial soil and is used extensively for mat and basket making. It is also an excellent fodder grass for somewhat dry hot regions with cold nights and some slight frost.

**89627 to 89640. MEDICAGO SATIVA L.** Fabaceae. Alfalfa.

From Spain. Seeds collected by H. L. Westover, Bureau of Plant Industry. Received October 28, 1930.

**89627. No. 240.** Wild alfalfa collected along the roadside near Balaguer, Spain, October 9, 1930.

**89628. No. 234.** Produced at Lerida, but purchased from Nonell in Barcelona.

**89629. No. 238.** Grown in the Province of Murcia, but purchased from G. Truffant in Barcelona.

**89630. No. 233.** Purchased in the seed market at Castellon; grown in the Province of Valencia.

**89631. No. 235.** Purchased in the market at Castellon; grown at Albaida, Spain.

## 89627 to 89640—Continued.

**89632. No. 236.** Purchased in the market at Castellon; grown in the Province of Valencia.

**89633. No. 230.** From near Cervera, October 8, 1930. Wild alfalfa collected along the roadside.

**89634. No. 237.** From near Cervera, October 8, 1930. Cultivated alfalfa, collected from the border of a field.

**89635. No. 229.** October 8, 1930. Cultivated alfalfa purchased in the market at Lerida. Local production.

**89636. No. 232.** Locally grown seed, purchased in the market at Lerida, October 8, 1930.

**89637. No. 241.** Wild alfalfa collected along the roadside northeast of Lerida.

**89638. No. 243.** Wild alfalfa collected along the roadside near Turiana, October 9, 1930.

**89639. No. 231.** Seed purchased from a dealer at Vich but grown at Mollerusa, about 15 miles south of Lerida.

**89640. No. 242.** From near Vich, October 9, 1930. Wild alfalfa collected along the roadside.

## 89641 and 89642.

From San Pedro Sula, Honduras. Seeds presented by Miss Soledad Fernandez Cruz. Received October 28, 1930.

**89641. HORDEUM VULGARE COELESTE L.** Poaceae. Six-rowed barley.

**89642. TRITICUM DURUM Desf.** Poaceae. Durum wheat.

**89643 to 89646. CYRTANTHUS spp.** Amaryllidaceae.

From Haarlem, Netherlands. Bulbs purchased from C. C. Van Tubergen (Ltd.), Zwabenburg Nurseries. Received November 1, 1930.

A collection of bulbous perennials, native to southern Africa.

**89643. CYRTANTHUS ANGUSTIFOLIUS (L. f.) Ait.**

A plant with two or three narrowly linear flaccid leaves 12 to 13 inches long and a stalk about the same height, bearing an umbel of 4 to 10 bright-red tubular flowers 1 to 2 inches long.

**89644. CYRTANTHUS LUTESCENS** Herbart.

The two to four linear green flaccid leaves 1 foot long appear with or after the flowers, which are tubular, yellowish, 2 inches long, and in umbels of two to three.

**89645. CYRTANTHUS MACKENII** Hook. f.

A plant with two to six linear leaves 1 foot long. They appear with the flower stem, which is 1 foot high, reddish-brown at the base, and bears an umbel of 4 to 10 pure-white tubular flowers 2 inches long.

**89646. CYRTANTHUS PARVIFLORUS** Baker.

A plant with several linear flaccid leaves about 1 foot long and a flower stem 6 to 12 inches high, bearing an umbel of six to eight bright-red tubular flowers 1 inch or more long.

**89647 to 89653. SOLANUM spp. Solanaceae.**

From Mexico. Tubers collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November 6, 1930.

**89647. SOLANUM sp.**

No. 193. Collected along the roadside about 30 miles from Mexico City, October 23, 1930, at 10,000 feet altitude. A plant with nearly white fruits, some of which show spots of green near the base, and white kidney-shaped tubers.

Nos. 89648 to 89653 were collected near Tres Marias, Morelos, October 29, 1930, at 10,000 feet altitude, about 35 miles from Mexico City, Distrito Federal.

**89648. SOLANUM sp.**

No. 207.

**89649. SOLANUM sp.**

No. 208. A plant with white oval tubers.

**89650. SOLANUM sp.**

No. 209. A small plant 4 to 8 inches high found in rich loam under a pine tree. The white tubers are oval.

**89651. SOLANUM sp.**

No. 211. A plant with white oval tubers found in rich loam under a pine tree.

**89652. SOLANUM sp.**

No. 212. A plant with white oval tubers collected west of Tres Marias on the road to Cuernavaca.

**89653. SOLANUM sp.**

No. 214. A plant with white oval tubers, found in loam under a pine tree.

**89654 to 89673.**

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November 5, 1930.

**89654. LUPINUS sp. Fabaceae. Lupine.**

No. 121. From Pic de Xitle, Distrito Federal, October 17, 1930. A small plant collected at 9,000 feet altitude, in lava rubble.

Nos. 89655 to 89658 were collected on the Puebla Road, between the City of Mexico and the city of Puebla, October 15, 1930.

**89655. PHASEOLUS CARACALLA L. Fabaceae. Snail bean.**

No. 88. From El Mirador, about 25 miles from the City of Mexico. A vine with red flowers found at 10,000 feet altitude in the rich soil along the roadside.

For previous introduction see 73253.

**89656 to 89672. SOLANUM spp. Solanaceae.****89656. SOLANUM sp.**

No. 22. [Received without notes.]

**89657. SOLANUM sp.**

No. 92. From El Mascarón, at 12,000 feet altitude. A plant with white tubers.

**89654 to 89673—Continued.****89658. SOLANUM sp.**

No. 114. [Received without notes.]

**89659. SOLANUM sp.**

No. 105. For introduction of tubers and description, see 89577.

**89660. SOLANUM sp.**

No. 106. For introduction of tubers and description, see 89578.

**89661. SOLANUM sp.**

No. 107. For introduction of tubers and description, see 89579.

**89662. SOLANUM sp.**

No. 90. For introduction of tubers and description, see 89572.

**89663. SOLANUM sp.**

No. 87. For introduction of tubers and description, see 89571.

**89664. SOLANUM sp.**

No. 91. For introduction of tubers and description, see 89573.

**89665. SOLANUM sp.**

No. 93. Collected at El Polvorín, Distrito Federal, about 25 miles from the City of Mexico, on the Puebla Road at 11,800 feet altitude, October 15, 1930. A plant with green fruits that have dark-red markings.

**89666. SOLANUM sp.**

No. 79. Collected at El Vigía, Puebla, about 40 miles from the City of Mexico on the road to Puebla, at 12,200 feet altitude, October 15, 1930. A plant 8 to 12 inches high, with green fruits, thickly covered with small white warts; found in dry soil along the roadside.

**89667. SOLANUM sp.**

No. 80. For introduction of tubers and description, see 89568.

**89668. SOLANUM sp.**

No. 82. For introduction of tubers and description, see 89569.

**89669. SOLANUM sp.**

No. 158. Collected near Jalapa, Vera Cruz, at 5,300 feet altitude, October 22, 1930. A spiny bush, about 3 feet high, found along the railroad.

**89670. SOLANUM sp.**

No. 108. For introduction of tubers and description, see 89680.

**89671. SOLANUM sp.**

No. 102. For introduction of tubers and description, see 89576.

**89672. SOLANUM sp.**

No. 116. For introduction of tubers and description, see 89581.

**89673. SYMPHORICARPOS MICROPHYLLUS H. B. K. Caprifoliaceae. Pink snowberry.**

No. 100. Collected at El Vigía, Puebla, October 15, 1930. A bush 3 to 5 feet high, with attractive pinkish flowers and white translucent fruit. A very common plant found along the roadside at 12,500 feet altitude.



**89674 to 89677.**

From Gladwyne, Pa. Plants presented by Mrs. J. Norman Henry. Received November 5, 1930.

**89674. BEGONIA CATHECARTII** Hook. f. Begoniaceae.

A begonia with a creeping rhizome, decumbent stems covered with deflexed brown hairs, and sharp-pointed cordate leaves 2 to 5 inches long. The axillary few-flowered peduncles, 3 inches long, bear clusters of showy butter-yellow flowers. It is native to the Himalayas of northeastern India.

**89675. BIGNONIA** sp. Bignoniaceae. Trumpet creeper.

Grown from seed received from Yucatan.

**89676. LONICERA RUPICOLA** Hook. f. and Thoms. Caprifoliaceae. Honeysuckle.

A rigid shrub 2 to 4 feet high, with pubescent branchlets, oblong leaves half an inch long, and pale-purple flowers one-quarter of an inch long. It is native to Tibet.

**89677. RHAMNUS RUPESTRIS** Scop. Rhamnaceae. Buckthorn.

A low-spreading shrub 2 to 3 feet high, with hairy branchlets, ovate to orbicular dull-green leaves 1 to 2 inches long, and umbels of inconspicuous flowers followed by top-shaded fruits a quarter of an inch across, first red then black. It is native to the mountains of southeastern Europe.

For previous introduction see 66306.

**89678. ALOE VAOMBE** Decorse. Liliaceae.

From Madagascar. Seeds presented by Rev. Andrew Burgess, Behara, through C. F. Swingle, Bureau of Plant Industry. Received November 5, 1930.

A large fleshy plant, native to sandy places in southwestern Madagascar. It becomes about 25 feet high with incurved reddish spiny leaves 4 feet long and reddish-orange flowers in an erect head of 50 to 70 flowers.

For previous introduction see 77888.

**89679 to 89685.**

From the Mediterranean region. Seeds collected by Knowles A. Ryerson, agricultural explorer, Bureau of Plant Industry. Received November 5, 1930.

**89679 to 89684. PISTACIA VERA** L. Anacardiaceae. Pistache.

Collected in the Sfax district, Tunisia, Africa.

**89679.** No. 1.

**89680.** No. 2.

**89681.** No. 3.

**89682.** No. 4.

**89683.** Mixed nuts.

**89684.** Collected in Sicily.

**89685. (Undetermined.)**

From San Remo, Italy. A spreading ornamental evergreen tree about 8 feet high, which grows under very dry conditions.

**89686 to 89692. SOLANUM** spp.

From Mexico. Tubers collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November 18, 1930.

Nos. 89686 and 89687 were collected on a mountain about 2 miles southeast of Amecameca, State of Mexico, November 10, 1930, at 8,000 feet altitude.

**89686. SOLANUM** sp.

No. 312. A small plant 4 to 6 inches high, with few white tubers, found in rich loam in pine woods.

**89687. SOLANUM** sp.

No. 310. A plant with nearly spherical green fruits, marked with purplish bands or streaks, and white oval tubers; found in pine woods.

Nos. 89688 and 89689 were collected on Cerro de San Miguel, El Desierto, Distrito Federal, November 5, 1930.

**89688. SOLANUM** sp.

No. 258. A plant with white tubers, found under a spruce tree.

**89689. SOLANUM** sp.

No. 261. A plant with smooth green fruits which have a vertical depression and tubers which are both pink and white.

Nos. 89690 to 89692 were collected over a mile above the convent in El Desierto, Distrito Federal, November 5, 1930.

**89690. SOLANUM** sp.

No. 262. A plant with round to oval white tubers, found in pine humus.

**89691. SOLANUM** sp.

No. 263. A plant with oblong purplish tubers, found under a pine tree.

**89692. SOLANUM** sp.

No. 264. A plant with large oblong white tubers, found under a pine tree in rich loam and humus.

**89693. STRYCHNOS MITIS** S. Moore. Loganiaceae.

From Mount Silinda, Southern Rhodesia, Africa. Seeds presented by Dr. W. L. Thompson. Received November 8, 1930.

A tall tree with oblong-lanceolate coriaceous leaves 2 to 4 inches long and axillary cymes of small creamy yellow flowers followed by yellow fruits about half an inch long. It is native to tropical Africa.

**89694 to 89698.**

From China. Tubers and seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received November 7, 1930.

**89694. IPOMOEA BATATAS** (L.) Poir. Convolvulaceae. Sweetpotato.

No. 7327. From Peiping, Chihli Province, October 6, 1930. Tubers of a pink-skinned variety. Sweetpotatoes are very much liked by the Chinese and are eaten both boiled and baked.

**89695 to 89698. QUERCUS** spp. Fagaceae. Oak.

89694 to 89698—Continued.

**89695. QUERCUS MONGOLICA** Fisch.  
Mongolian oak.

No. 7181. From the Fa Hua Ssu Temple, September 16, 1930. Seeds of a handsome oak which becomes 100 feet tall. The short-stemmed, dark-green, coarsely toothed, fairly broad leaves, 6 to 8 inches long, are crowded toward the ends of the twigs.

For previous introduction see 85025.

**89696. QUERCUS DENTATA** Thunb.  
Daimyo oak.

No. 7196. Collected September 17, 1930, in the mountains west of Fa Hua Ssu Temple.

For previous introduction and description see 89605.

**89697. QUERCUS DENTATA** Thunb.  
Daimyo oak.

No. 7229. From Nankou, September 19, 1930. Acorns of broad-leaved oaks from trees growing in abundance at Changling (Yung Lo Ming Tomb). A most beautiful oak with large shining green leaves which in the fall turn to warm red hues. It is a slow grower, but well worth while.

**89698. QUERCUS ACUTISSIMA** Carruthers.  
Bristletooth oak.

No. 7230. From the Yung Ling Ming Tomb, Nankou, September 19, 1930. Acorns from two young trees with narrow, attractive, bright-green leaves. The cups and acorns of this narrow-leaved oak are quite different from those at the Fa Hua Ssu Temple or on the hills at Patachu, from both of which places seed has been secured.

89699 to 89719.

From Chiddingfold, Surrey, England. Plants purchased from V. N. Gauntlett & Co. (Ltd.). Received November 7, 1930.

**89699. ARUNDINARIA ANCEPS** Mitf.  
Bamboo.

The botanical name of this attractive bamboo means the doubtful arundinaria, referring to an uncertainty as to its origin. It is now believed to have come from northeastern India. The culms are round and slender and are reported to grow 10 to 15 feet high in England. On small plants there are two or three branches at each node, with rather long branchlets, having 8 to 10 linear-lanceolate leaves. The leaves are light green and up to 3½ inches by ¾ inch in size. The auricular hairs on the leaf sheaths, although not conspicuous, are unusually persistent. The secondary veins are three or four on each side of the midrib, with four to seven intermediates between. The tessellation (cross venation) is minute and unusually regular.

**89700. ARUNDINARIA HINDSII** GRAMINEA  
Mitf. Poaceae. Bamboo.

This variety of *Arundinaria hindsii* does not grow so tall as the type, but will probably reach 8 feet or more. The dark-green leaves are very narrow, and small ones often have only one or two pairs of secondary veins. There are three to four intermediate veins. The leaves may reach a length of 9 inches with a width of one-half inch.

89699 to 89719—Continued.

**89701. PHYLLOSTACHYS BAMBUSOIDES** CASTILLONI (Marl.) H. de Lehaie. Poaceae.  
Castillon bamboo.

A smaller and more slender Japanese form of *Phyllostachys bambusoides* with yellow stems striped with green and the shorter and narrower leaves often striped with yellow. It grows to a height of 35 feet or more. As in the type, the rhizomes are vigorous and spread rapidly.

For previous introduction see 75155.

**89702 to 89704. ARUNDINARIA** spp. Poaceae.  
Bamboo.**89702. ARUNDINARIA MURIELAE** Gamble.

A handsome bamboo understood to grow to a height of 10 to 15 feet. It is reported to produce dense masses of culms, which is unusual for hardy bamboos. The culms turn to a rich yellow with age, and there are one to many branches at the nodes. On small plants the branches bear two to three leaves up to 2¾ inches long by ¼ of an inch wide. There are usually three pairs of secondary veins, and the intermediates are five to eight. The tessellation is rather close.

**89703. ARUNDINARIA NEPALENSIS** Hort.

A small plant of this bamboo has six to seven leaves on a branch. The leaves are up to 3 inches long by ¾ of an inch wide and rather thin. There are two to three secondary veins, and five to six intermediates. The cross veinlets are unusually far apart.

**89704. ARUNDINARIA NITIA** Mitf.

The plant received under this name does not agree well with the original description. The most striking point of difference is that in the plant received the secondary veins, of which there are three pairs, are prominent instead of being nearly indistinguishable from the intermediates. There are six of the latter. The leaves are light green, four to six on a branch, and, in size, up to 2¼ by ¾ inch. The tessellation is close and regular. The culm sheaths are rather persistent. The species is reported to reach a height of 15 feet in England. It prefers shade.

For previous introduction see 75150.

**89705. SASA VEITCHII** (Carr.) Rehder. Poaceae. Bamboo.

Received as *Arundinaria senanensis*. The description and illustration of this bamboo in the catalogue of Gauntlett & Co. agree with those elsewhere of *Sasa veitchii*. Some authorities have believed *Arundinaria (Sasa) senanensis* to be the same as *S. veitchii*, but others consider them to be distinct species. On a greenhouse plant 10 inches high the leaves are up to 4 by 1½ inches and there are five to seven pairs of secondary veins with about seven intermediates. The decayed or whitish margins which are characteristic of *S. veitchii* do not appear on this greenhouse specimen.

**89706. ARUNDINARIA SPATHIFLORA** Trin. Poaceae. Bamboo.

A bamboo native to the northwestern Himalayas, said to grow 20 to 25 feet high. In England it has reached 10 feet. The small plant received has only three or four branches at each node, but mature plants are stated to have many branches. The thin delicate leaves are

## 89699 to 89719—Continued.

three to six on a branch and range in size up to 3 inches long by  $\frac{1}{4}$  inch wide. The midrib and secondary veins are inconspicuous. There are three pairs of the latter and five to seven intermediate veins between. The tessellation is rather close and regular. In its native habitat the species is said to occur as undergrowth in coniferous forests, and it is inferred that it will prefer partial shade.

89707. *ARUNDINARIA* sp. Poaceae.  
Bamboo.

Received as *Bambusa angustifolia*. On a plant 26 inches high in the greenhouse, the rather narrow leaves are six to eight on a branch and are from less than one-fourth to three-eighths of an inch wide and up to  $2\frac{1}{4}$  inches long. The leaves are medium green and usually are one-half to 1 inch apart except near the end of the branch, where they are very close and are distinctly two-ranked. There are two to three pairs of secondary veins which are not very prominent; the intermediates are four to five in number. The plants reach a height of 6 to 8 feet in England.

89708. *SASA DISTICHA* (Mitf.) E. G. Camus. Poaceae. Bamboo.

Received as *Bambusa disticha*. A small compact-growing bamboo, originally from Japan. The small plant received has usually one branch to a node, with 8 to 16 brilliant medium-green leaves crowded on a branch. The leaves are up to  $2\frac{1}{2}$  inches long by  $\frac{1}{2}$  inch wide, with four pairs of secondary veins and about five intermediate veins. The tessellation is somewhat irregular.

89709. *ARUNDINARIA* sp. Poaceae.  
Bamboo.

Received as *Bambusa laydeckeri*. A bamboo believed to reach a height of over 6 feet. The dark-green oblong-lanceolate leaves are up to 6 inches long by  $\frac{3}{4}$  inch wide and are six to seven in number on branches with long internodes. There are four to five pairs of secondary veins and the intermediates are five to six. The plant is not so ornamental as many other bamboos and is said to have a rampant rhizome.

89710. *ARUNDINARIA MARMOREA* (Mitf.) Makino. Poaceae. Bamboo.

Received as *Bambusa marmorata*. The small plant received flowered in the greenhouse late in November, 1930. Flowers appeared on nearly every one of the little culms and all but one of the latter died. The plant has four to six light-green leaves, somewhat crowded on each branch, and the largest are  $1\frac{1}{2}$  inches long by  $\frac{1}{8}$  inch wide. There are three pairs of secondary veins and five to six intermediates.

89711 to 89713. *BAMBUSA* spp. Poaceae.  
Bamboo.

89711. *BAMBUSA* sp.

Received as *Arundinaria falcata*. On a small plant of this bamboo, grown in the greenhouse, there are six leaves on a branch. They are up to  $1\frac{1}{4}$  inches long by  $\frac{1}{8}$  inch wide and are nontessellated. The secondary veins are two to three on each side of the midrib and are very inconspicuous; the intermediates are five to six. In England the species has attained a height of 10 feet. It is said to be very hardy.

## 89699 to 89719—Continued.

89712. *BAMBUSA* sp.

Received as *Arundinaria gracilis*. A greenhouse-grown plant with culms cut back, bears 10 to 15 branches at each node. The thin, light-green nontessellated leaves are five to seven on a branch and are up to  $3\frac{1}{2}$  inches long by  $\frac{1}{8}$  inch wide. The secondary veins are two to three and the intermediates five in number. The culms grow 6 to 8 feet high in England.

89713. *BAMBUSA* sp.

Received as *Arundinaria nobilis*. This is said to be a very handsome bamboo and to have reached a height of 30 feet in the warmest parts of England. A plant in the greenhouse has a flexuous 6-foot culm one-fourth inch in diameter. There are 10 to 13 branches at a node. The leaves are up to  $2\frac{1}{4}$  inches long and  $\frac{1}{2}$  inch wide. The inconspicuous secondary veins are three on each side of the midrib and the intermediates five to seven. The species is hardy only in mild-wintered regions. It is said by Mitford to have held its leaves through 8° F. of frost.

89714 to 89719. *PHYLLOSTACHYS* spp. Poaceae.  
Bamboo.

89714. *PHYLLOSTACHYS BAMBUSOIDES* MARLIACEA (Mitf.) H. de Lehaie.  
Wrinkled bamboo.

Received as *Phyllostachys mariacea*. This variety of the timber bamboo is said to be indistinguishable from the type except by the wrinkled basal part of the culm. The maximum height which may be attained is not known. The Japanese name of the variety, *Shibo-chiku*, means wrinkled bamboo.

89715. *PHYLLOSTACHYS FLEXUOSA* A. and C. Riviere.

This bamboo is described as of neat and compact habit, with two branches at each node. Its greatest height is said to be 10 feet. The slightly zig-zagged culms are at first green but change to a bright yellow. The leaves on the small plant received are 8 to 14 on a branch and are up to 3 inches long by more than half an inch in width. There are four to six pairs of secondary veins and five to seven intermediate ones.

For previous introduction see 75156.

89716. *PHYLLOSTACHYS KUMASASA* (Zoll.) Munro (*P. ruscifolia* Nicholson).  
Bamboo.

Received as *Phyllostachys ruscifolia*. This is a dwarf bamboo believed to grow only 2 to 3 feet high. It bears two to five very short branches at a node and is the only known phyllostachys having more than three branches at a node. On the small plant received, each branch bears 3 to 10 leaves which range in size from  $\frac{3}{4}$  inch to  $1\frac{1}{4}$  inches long by  $\frac{1}{8}$  to  $\frac{3}{8}$  inch wide. They are reported to grow larger. There are three to five pairs of secondary veins and four to eight intermediates. The tessellation is rather close. Both edges of the leaf are serrate, and the lower surface is finely pubescent.

For previous introduction see 75157.

89699 to 89719—Continued.

**89717. PHYLLOSTACHYS PUBERULA NIGRA-PUNCTATA** H. de Lehaie.

Received as *Phyllostachys nigra punctata*. This bamboo grows over 15 feet high, the culms changing from olive green to a speckled black in the second year. Three branches, one much larger than the other two, are borne at each node. The leaves, up to 2¼ inches long by ½ inch wide, are 6 to 14 on a branch. There are three to five pairs of secondary veins and five to nine intermediate ones. The foliage, color of culm, and general habit of the plant make it a handsome bamboo. It may be added that the culm of the plant received changed to practically solid black instead of speckled.

**89718. PHYLLOSTACHYS SULFUREA** (Carr.) A. and C. Riviere.

On the small plant received there are 10 to 12 leaves on a branch, and the largest leaf is 2¾ inches long by ⅝ inch wide. There are three to five pairs of secondary veins and five to eight intermediates. The tessellation is normal. In England the culms are said to reach a height of 20 feet and to be somewhat golden, with a fine line of vivid green.

**89719. PHYLLOSTACHYS VIOLASCENS** A. and C. Riviere.

This bamboo is said to reach a height of 13 feet in England. The young culms are violet but change to brown the second year. On the small plant received, there are two to three branches at a node and 6 to 10 leaves, dark green above, on a branch. The leaves are 2½ to 4 inches long and ⅜ to ¾ inch wide. There are three to six pairs of secondary veins and five to nine intermediates. The auricular hairs are unusually persistent.

For previous introduction see 7824.

**89720 to 89793.**

From China. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received November 7, 1930.

**89720. ABELMOSCHUS MANIHOT** (L.) Medic. (*Hibiscus manihot* L.). Malvaceae.

No. 7133. From the Botanical Garden, outside of Peiping, September 2, 1930. The white flowers are over 6 inches across and quite ornamental. The fruit is good but mealy.

For previous introduction see 76892.

**89721. AERCHYNOMENE INDICA** L. Fabaceae.

No. 7143. From near the Kuan Yiu Miao Temple, Changli, China, September 6, 1930. An interesting sensitive beggar-weedlike plant over 3 feet high, found on poor, clayey, gravelly, decomposed granitic soil.

For previous introduction see 82103.

**89722. ASPARAGUS** sp. Convallariaceae.

No. 7251. From Chinglungchiao, September 21, 1930. A wild asparagus collected near the Great Wall. It is an open-growing variety and was found on a rocky mountain side on the north exposure.

89720 to 89793—Continued.

**89723 to 89727. ASTRAGALUS** spp. Fabaceae. **Milkvetch.**

**89723. ASTRAGALUS ADSURGENS** Pall.

No. 7238. From Chinglungchiao, September 20, 1930. A decumbent astragalus, collected on the Great Wall, and found there primarily. This may prove of value as a cover or green-manure crop on poor soils and in exposed positions.

For previous introduction see 21636.

**89724. ASTRAGALUS DAVURICUS** (Pall.) DC.

No. 7172. From Peiping, September 11, 1930. A plant 3 to 5 feet high which seeds profusely; collected in the grounds of the Temple of Heaven.

**89725 and 89726. ASTRAGALUS MELILOTOIDES** Pall.

For previous introduction see 65294.

**89725. No. 7247.** From Chinglungchiao, September 20, 1930. A white-flowered type, collected on the mountain side near the Great Wall, growing in a dry rocky situation.

**89726. No. 7255.** From Chinglungchiao, September 21, 1930. A white-flowered type which is inclined to be shrubby, and, judging from the base of the stem, it is a perennial which, if cut or broken, would readily grow new shoots. The upper side of the leaves is dark green, the under side has a silvery tinge; the seed pods are larger than any other we have seen.

**89727. ASTRAGALUS** sp.

No. 7178. From Langshan, September 15, 1930. A plant with purple pea-shaped flowers and flattened pods with the keel and hinge on the back.

**89728. BEGONIA** sp. Begoniaceae.

No. 7293. Collected near the Chieh Tai Ssu Temple, September 28, 1930, in the mountains.

**89729. CAMPANULA** sp. Campanulaceae. **Bellflower.**

No. 7244. From Chinglungchiao, September 20, 1930, near the Great Wall. A plant with small bell-shaped blue flowers which are produced abundantly over a long flowering season. It is well worthy of trial in the herbaceous border and also in rock gardens.

**89730. CASSIA MIMOSOIDES** L. Caesalpinaceae.

No. 7167. From near Peiping, Chihli Province, September 12, 1930. A sensitive plant with pea-shaped flowers, collected at Patachu, Western Hills, from dry rocky situations.

**89731. CELASTREUS ARTICULATUS** Thunb. Celastraceae. **Oriental bittersweet.**

No. 7206. Near Fa Hua Ssu Temple, September 17, 1930. A shrub with round yellow fruits, found growing on the mountain sides on decomposed granitic soil in very dry situations.

For previous introduction see 82507.

**89732 to 89734. CLEMATIS** spp. Ranunculaceae.

89720 to 89793—Continued.

**89732 and 89733. CLEMATIS ORIENTALIS**  
L. Oriental clematis.

From Chinglungchiao, September 20, 1930.

For previous introduction see 53040.

**89732. No. 7239.** A vine with very finely cut leaves, found in abundance near the Great Wall. The seeds are borne in terminal clusters, each seed having a fluffy or featherlike appendage.**89733. No. 7240.** A vine very much like the preceding number, except that the leaves are not so finely cut.**89734. CLEMATIS sp.**

No. 7265. From Patachu, near the Chieh Tai Ssu Temple, September 27, 1930. A vine with leaves not so finely cut as No. 7239 [89732].

**89735. CROTALABIA sp. Fabaceae.**

No. 7242. From Chinglungchiao, September 20, 1930. A vine found on the mountain side growing over piles of rock and bush. It may prove of value as a cover crop or as a green manure.

**89736. FEDIA SCABIOSAEFOLIA (Fisch.)**  
Trev. Valerianaceae.

No. 7253. (Herbarium specimen No. 5546.) From Chinglungchiao, September 26, 1930. An attractive plant with flower heads 3 to 4 inches across, made up of small bright-yellow flowers. Found growing quite abundantly in dry rocky situations.

For previous introduction see 26431.

**89737. GLEDITSIA HETEROPHYLLA Bunge.**  
Caesalpiniaceae. Honeylocust.

No. 7294. From Chieh Tai Ssu Temple, September 28, 1930. A rather tall growing, very thorny, small-leaved shrub with pods less than an inch wide and over 2 inches long. This may prove interesting as an ornamental or as a hedge plant.

**89738. GOSSYPIUM sp. Malvaceae.**

Cotton.

No. 7266. From near the Chieh Tai Ssu Temple, September 27, 1930. A native cotton, collected in a valley field, en route from Patachu to the Chieh Tai Ssu Temple.

**89739. JUGLANS MANDSHURICA Maxim.**  
Juglandaceae.

No. 7285. From the Chieh Tai Ssu Temple, September 27, 1930. Nuts collected from trees growing in the temple grounds. They are smaller, on an average, than the nuts collected in Manchuria on the Dorsett and Dorsett expedition in 1925-26. These small-sized nuts are polished and used as rosaries or beads by the priests of the temple. When polished they are really quite handsome.

**89740 to 89747. LESPEDEZA spp. Fabaceae.**  
Bushclover.**89740 to 89742. LESPEDEZA DAURICA**  
(Laxm.) Schindler.

For previous introduction see 65493.

**89740. No. 7197.** From the Fa Hua Ssu Temple, September 17, 1930. A plant growing on a mountain

89720 to 89793—Continued.

side south of the temple in dry arid situations on poor granitic soil. The leaves are long and narrow, the center leaf being longer than the two side ones. The plant is quite abundant and seeds well.

**89741. No. 7232.** From near Nankou, September 19, 1930. A small-leaved creeping lespedeza growing on very poor thin soil in extremely dry situations along the fields and trails north of Nankou.**89742. No. 7259.** From Peiping, September 24, 1930. A shrubby plant over 4 feet tall, collected in the grounds of Coal Hill.**89743. LESPEDEZA JUNCEA Pers.**

No. 7233. From Chinglungchiao, September 20, 1930. A rather tall, more or less shrubby, much-branched species, with white flowers and very narrow but fairly long leaves. This plant may possibly be of value for green manure or forage purposes; it may also prove of value as a small ornamental flowering shrub.

For previous introduction see 62327.

**89744. LESPEDEZA STRIATA (Thunb.)**  
Hook. and Arn.

No. 7234. From Chinglungchiao, September 20, 1930. A very low-growing species found on a rocky mountain side near the Great Wall.

**89745. LESPEDEZA TOMENTOSA (Thunb.)**  
Sieb.

No. 7123. From the Temple of Heaven, Peiping, August 20, 1930. A rather tall coarse herbaceous plant which appears to flower and seed quite freely.

**89746. LESPEDEZA sp.**

No. 7171. From the Temple of Heaven grounds, Peiping, September 11, 1930. A rather coarse tall-growing plant, with a rather heavy herbaceous stem, which seeds abundantly.

**89747. LESPEDEZA sp.**

No. 7256. From Chinglungchiao, September 21, 1930. A shrubby plant with small short leaves, found growing on very dry rocky soil in an exposed position on the mountain side near the Great Wall. Only one plant was found.

**89748. MEDICAGO SATIVA L. Fabaceae.**

Alfalfa.

No. 7261. From Peiping, September 24, 1930. Plants found growing in a paved court in the grounds of Coal Hill, in a good-sized patch, but not much seed was found.

**89749. MELILOTUS sp. Fabaceae.**

Sweetclover.

No. 7246. From Chinglungchiao, September 20, 1930. A yellow-flowered species found in dry rocky situations on the mountain side, near the Great Wall.

**89750. MENISPERMUM DAURICUM DC.**  
Menispermaceae. Asiatic moonseed.

No. 7222. From near the Fa Hua Ssu Temple, September 18, 1930. An ornamental vine found on the mountain side, growing in decomposed granitic soil in dry, arid situations.

89720 to 89793—Continued.

**89751. ORYZA SATIVA L. Poaceae. Rice.**

No. 7272. From near the Chieh Tai Ssu Temple, September 27, 1930. The plants were about 20 inches high, in an unharvested rice paddy.

**89752. PANICUM MILIACUM L. Poaceae. Froso.**

No. 7276. From Peihsinan, September 27, 1930. A locally grown, glutinous millet. It is so small, it could be grown for bird feed, if for nothing else.

**89753 to 89763. PHASEOLUS spp. Fabaceae.****89753 to 89757. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Adzuki bean.**

**89753.** No. 7203. Near the Fa Hua Ssu Temple, September 17, 1930. A green mottled bean collected in a field on the mountain side south of the temple, on decomposed granitic soil in very dry situations. It is grown quite extensively here.

**89754.** No. 7219. Near the Fa Hua Ssu Temple, September 18, 1930. A mottled gray and green bean, collected on the mountain side in a field near the temple. It was growing on decomposed granitic soil in dry, arid situations.

**89755.** No. 7307. From Nonhsinfang, September 29, 1930. A small bright-red bean secured from a farmer in the village. The region is most uncongenial for farming, as about 90 per cent of the farming area is on narrow terraces on mountain sides, and the ground is very rocky and exceedingly poor.

**89756.** No. 7301. Near the Tan Chou Ssu Temple, September 29, 1930. A dull creamy yellow bean purchased from a farmer at Nonhsinfang, en route to the above temple.

**89757.** No. 7302. From Nonhsinfang, September 29, 1930. A black and green mottled bean received from a farmer.

**89758 to 89762. PHASEOLUS AUREUS Roxb. Mungbean.**

**89758.** No. 7268. From the village of Ssutaochiao, near the Hun River, September 27, 1930. A smooth green variety grown in an irrigated field.

**89759.** No. 7274. Near the Chieh Tai Ssu Temple, September 27, 1930. A locally grown, dull-green bean purchased in the village of Peihsinan.

**89760.** No. 7303. From Nonhsinfang, September 29, 1930. A brown bean secured from a farmer.

**89761.** No. 7304. From Nonhsinfang, September 29, 1930. A dull-green bean secured from a farmer.

**89762.** No. 7306. From Nonhsinfang, September 29, 1930. An interesting small yellow bean secured from a farmer.

**89763. PHASEOLUS VULGARIS L. Common bean.**

No. 7270. From Peihsinan, September 27, 1930. An oblong red bush garden bean with a white hilum; said to be grown locally.

89720 to 89793—Continued.

**89764. PINUS BUNGEANA Zucc. Pinaceae. Lacebark pine.**

No. 7283. From the Chieh Tai Ssu Temple, September 27, 1930. A tree growing in the temple grounds, said to be about 900 years old. It branches 8 or 10 feet from the ground and has nine main branches, therefore it is known locally as the Nine Dragon pine. At 2 feet above the ground the tree measures 228 inches in circumference; it is a fine spreading specimen.

**89765. PINUS BUNGEANA Zucc. Pinaceae. Lacebark pine.**

No. 7312. From the Tao Chou Ssu Temple, September 29, 1930. A fine branching specimen growing in one of the courts of the temple. "This is the finest specimen of lacebark pine we have seen, and if the seedlings carry out its characters, they will certainly be an acquisition in our ornamental plantings."

**89766. PISUM SATIVUM L. Fabaceae. Pea.**

No. 7269. From Ssutaochiao, September 27, 1930. A medium-sized slightly wrinkled yellow field pea, probably grown under irrigation.

**89767. PISUM SATIVUM L. Fabaceae. Pea.**

No. 7277. From Peihsinan, September 27, 1930. A locally grown variety of medium small yellow field pea.

**89768. RHAMNUS PARVIFOLIA Bunge. Rhamnaceae. Buckthorn.**

No. 7223. From near the Fa Hua Ssu Temple, September 18, 1930. A low-growing thorny shrub with black fruits, found on the mountain side on decomposed granitic soil in dry, arid places. It may make a good hedge or ornamental shrub, especially for rock gardens.

**89769 to 89784. SOJA MAX (L.) Piper (Glycine hispida Maxim.). Fabaceae. Soybean.**

Nos. 89769 to 89775 were collected near the Fa Hua Ssu Temple, September 16, 1930.

**89769.** No. 7190. Collected in a valley en route from Tongshan to the temple. A yellow bean with rather small oblong hilum. A single plant contained 110 pods.

**89770.** No. 7191. Collected en route from Tongshan to the temple, but near mountains. Seed from a single plant which contained 118 pods. The beans were yellow.

**89771.** No. 7192. A black-seeded variety collected en route from Tongshan, near a dry river. A single plant contained 161 pods.

**89772.** No. 7193. A black-seeded variety growing on granitic soil, 2 or 3 miles from the temple.

**89773.** No. 7204. A pale green soybean collected in a terraced field near the temple. The decomposed granitic soil was very dry. This variety is not extensively grown here.

**89774.** No. 7205. A black soybean found in a field growing on decomposed granitic soil in very dry situations. This variety is not grown extensively here.

## 89720 to 89793—Continued.

89775. No. 7221. A yellow soybean collected in a field on the mountain side, growing on poor decomposed granitic soil in dry and arid situations.

89776. No. 7245. From Chinglungchiao, September 20, 1930. A black-seeded variety collected in a field on the mountain side just north of the Great Wall, in dry, arid, rocky situations. The black soybean is extensively used by the Chinese as a stock feed.

89777. No. 7267. From the village of Hontien, en route to the Chieh Tai Ssu Temple. A locally grown variety of large yellow soybean which is rather flattened and has a brown hilum.

89778. No. 7271. From the village of Ssutaochiao, September 27, 1930. A large-seeded yellow variety with rather large brown hilum; probably grown under irrigation.

89779. No. 7273. Near the village of Ssutaochiao, September 27, 1930. A small flat black-seeded variety, collected in a field, probably grown under irrigation.

Nos. 89780 to 89782 were secured in the village of Peihshinan en route from Patachu to the Chieh Tai Ssu Temple, September 27, 1930. Said to be locally grown varieties.

89780. No. 7275. A slightly flattened green soybean with a pronounced black hilum.

89781. No. 7281. An oblong flattened black soybean.

89782. No. 7282. An oblong yellow soybean with very light-brown hilum.

Nos. 89783 and 89784 were collected at Nonhsinfang, September 29, 1930. About 90 per cent of the farming area of this region is on narrow terraces on mountain sides; the land is rocky and exceedingly poor.

89783. No. 7308. A small flat black soybean.

89784. No. 7309. A small, more or less flattened yellow soybean.

89785. *SORGHUM VULGARE* Pers. Poaceae.  
Sorghum.

No. 7280. From the village of Peihshinan, September 27, 1930, en route from Patachu to the Chieh Tai Ssu Temple. A red sorghum, said to be locally grown.

89786. *SYRINGA* sp. Oleaceae. Lilac.

No. 7299. From the Chieh Tai Ssu Temple, September 28, 1930. Seeds from a very old bush, said to produce white flowers.

89787. *VICIA PSEUDO-OROBUS* Fisch. and Mey. Fabaceae. Vetch.

No. 7254. *Wild mountain pea*. From Chinglungchiao, September 21, 1930. A plant almost shrubby in character, with dark purple pea-shaped flowers and quite uniformly 3-seeded pods. Found mixed with other vegetation, and one plant was growing from a crevice in the rocks in the railway cut. It is said to frequently grow in such places.

## 89720 to 89793—Continued.

89788 to 89793. *VIGNA SINENSIS* (Torner) Savi. Fabaceae. Cowpea.

89788. No. 7278. From the village of Peihshinan, September 27, 1930, en route from Patachu to the Chieh Tai Ssu Temple. A red cowpea, said to be a locally grown variety.

Nos. 89789 to 89791 were collected near the Fa Hua Ssu Temple, September 18, 1930.

89789. No. 7198. Brown-eyed and black-eyed cowpeas growing in a terraced field on decomposed granitic soil in a very dry situation.

89790. No. 7199. A pink cowpea growing on a mountain side in decomposed granitic soil in a very dry situation. This variety is not extensively grown.

89791. No. 7201. Seeds of a light tan cowpea with a brown hilum, found growing on the mountain side in decomposed granite in very dry situations. This variety is not grown extensively in the temple fields.

89792. No. 7270. From the village of Sanlaochiao, September 27, 1930, en route from Patachu to the Chieh Tai Ssu Temple. A brown-eyed cowpea, quite probably grown under irrigation.

89793. No. 7305. From the village of Nonhsinfang, September 29, 1930. A pink cowpea, grown on very poor soil, and secured from a farmer in the village.

## 89794 and 89795.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Plant Industry, Department of Agriculture and Natural Resources, Manila. Received November 8, 1930.

89794. *ANNONA SPINOSISSIMA* Mart. Annonaceae.

*Alagadisso*. A spiny shrub up to 15 feet high, with small leathery leaves and brilliant orange-red, heart-shaped fruits 3 inches long, which are edible but insipid. It is native to Brazil.

For previous introduction see 77708.

89795. *PHASEOLUS LATHYROIDES* L. (*P. semierectus* L.). Fabaceae.

An upright annual legume which makes a good growth on poor land. Since it springs up with the arrival of the rainy season, it may be useful as a cover crop in the southern half of Florida, as well as in Puerto Rico and Hawaii.

For previous introduction see 76441.

89796 to 89798. *SOLANUM* spp. Solanaceae.

From Mexico. Tubers collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November 19, 1930.

Collected in El Desierto, Distrito Federal, November 5, 1930.

89796. *SOLANUM* sp.

No. 265. From above the convent. A plant with very abundant smooth green fruits which have a vertical depression.

89796 to 89798—Continued.

## 89797. SOLANUM sp.

No. 270. From near the summit, on the east side of Cerro de San Miguel. White tubers, found in very rich loam at the base of a large pine tree.

## 89798. SOLANUM sp.

No. 271. Near the summit, on the east side of Cerro de San Miguel. Russet tubers, found in very rich loam in a pine forest.

89799 to 89803. MALUS SYLVESTRIS Mill.  
(*Pyrus malus* L.). Malaceae.

## Apple.

From Sinoleka, Poland. Scions presented by Doctor Filewicz. Received November 10, 1930.

89799. *Coulon*.89800. *Jitocoka*.89801. *Kosztela*.89802. *Lithuanian pippin*.89803. *Strimitowka*.

89804 to 89841.

From Spain and Portugal. Seeds collected by H. L. Westover, agricultural explorer, Bureau of Plant Industry. Received November 10, 1930.

89804 to 89808. AGROSTIS spp. Poaceae.  
Grass.

## 89804. AGROSTIS CASTELLANA Boiss. and Reut.

No. 135. Collected in the mountains west of Esconal, Spain, August 6, 1930.

## 89805. AGROSTIS MARITIMA Lam.

No. 109. From the experiment station near Leon, Spain, August 9, 1930.

For previous introduction see 66624.

## 89806. AGROSTIS SCABRIGLUMIS Boiss. and Reut.

No. 175. Collected in a gorge south-east of Granada, Spain, September 2, 1930.

## 89807. AGROSTIS SETACEA Curt.

No. 93. From the north slope of the Cantabrian Mountains, Spain, August, 1930.

## 89808. AGROSTIS sp.

No. 90. A common grass collected on the north slope of the Cantabrian Mountains, Spain, August 19, 1930.

89809. ANTIRRHINUM LATIFOLIUM Mill.  
Scrophulariaceae. Snapdragon.

No. 125. From the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

89810. AQUILEGIA sp. Ranunculaceae.  
Columbine.

No. 111. Collected on the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

## 89811. ARRHENATHERUM ELATIUS (L.) Beauv. Poaceae. Tall oatgrass.

No. 126. From the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

89804 to 89841—Continued.

89812. ASPRIS PRAECOX (L.) Nash (*Atra praecox* L.). Poaceae. Grass.

No. 123. Collected in the mountains west of Esconal, Spain, August 6, 1930.

## 89813 to 89816. AVENA BROMOIDES Gouan. Poaceae. Grass.

Collected in the Genil River Canyon, 5 miles east of Granada, Spain, September 2, 1930.

## 89813. No. 172. 89815. No. 174.

## 89814. No. 173. 89816. No. 177.

## 89817 to 89821. BRACHYPODIUM spp. Poaceae. Grass.

## 89817 and 89818. BRACHYPODIUM MUCRONATUM Willk.

89817. No. 139. From Huesca, Spain, August 18, 1930.

89818. No. 89. From Valencia, Spain, August 8, 1930.

## 89819 and 89820. BRACHYPODIUM PINNATUM (L.) Beauv.

89819. No. 142. From the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

89820. No. 182. From the Genil River Canyon, 5 miles east of Granada, Spain, September 2, 1930.

## 89821. BRACHYPODIUM sp.

No. 181. From the Genil River Canyon, 5 miles east of Granada, Spain, September 2, 1930.

## 89822. BROMUS MADRITENSIS L. Poaceae. Madrid bromegrass.

No. 124. From the mountains west of Esconal, Spain, August 6, 1930.

For previous introduction see 49806.

## 89823. CYTISUS SCOPARIUS (L.) Link. Fabaceae. Scotch broom.

No. 184. From Oporto, Portugal, September 26, 1930. A legume used in this vicinity as a green manure.

For previous introduction see 80324.

## 89824. DACTYLIS GLOMERATA L. Poaceae. Orchard grass.

No. 178. From the Genil River Canyon, 5 miles east of Granada, Spain, September 2, 1930.

## 89825 to 89830. FESTUCA spp. Poaceae. Fescue.

## 89825. FESTUCA OVINA L. Sheep fescue.

No. 121. From the Pyrenees Mountains, Canfranc, Spain, August 15, 1930.

## 89826. FESTUCA PSEUDOESKIA Boiss.

No. 179. From the Genil River Canyon, east of Granada, Spain, September 2, 1930.

## 89827. FESTUCA SPADICEA L.

No. 104. From the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

## 89828. FESTUCA VARIA Haenke.

No. 131. From the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.



## 89804 to 89841—Continued.

89829. *FESTUCA* sp.

No. 101. Collected on the north slope of the Cantabrian Mountains, Spain, August, 1930.

89830. *FESTUCA* sp.

No. 117. From the Pyrenees Mountains, Canfranc, Spain, August 15, 1930.

89831. *HELLEBORUS* sp. Ranunculaceae.  
Hellebore.

No. 138. From the Pyrenees Mountains, Canfranc, Spain, August 15, 1930.

89832. *HYPARRHENIA HIRTA* (L.) Stapf.  
Poaceae. Grass.

No. 180. From the Genil River Canyon, 5 miles east of Granada, Spain, September 2, 1930.

For previous introduction see 75897.

89833 to 89837. *LATHYRUS* spp. Fabaceae.89833 and 89834. *LATHYRUS SATIVUS* L.  
Bittervetch.

89833. No. 186. *Mullas*. Purchased in Lisbon, Portugal. Used as a vegetable, and cooked and eaten as beans.

89834. No. 197. Purchased from Robustiano Diez Obeso, in Madrid, Spain.

Nos. 89835 to 89837 were collected in the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

89835. *LATHYRUS* sp.

No. 116.

89836. *LATHYRUS* sp.

No. 118.

89837. *LATHYRUS* sp.

No. 119.

89838. *LOTUS* sp. Fabaceae.

No. 107. From Huesca, Spain, August 18, 1930.

89839. *LUPINUS ALBUS* L. Fabaceae.  
White lupine.

No. 185. *Chicharos*. Purchased at Lisbon, Portugal. It is soaked in salt water and sold on the streets of Madrid and other cities of Spain.

For previous introduction see 75911.

89840. *LUPINUS ANGUSTIFOLIUS* L.  
Lupine.

No. 213. Purchased from Robustiano Diez Obeso, Madrid, Spain, September 29, 1930.

89841. *MEDICAGO ARBOREA* L. Fabaceae.  
Tree alfalfa.

No. 66. Purchased from Robustiano Diez Obeso, Madrid, Spain, September 29, 1930.

For previous introduction see 65024.

## 89842 to 89912.

From Africa, Spain, and Portugal. Plants and seeds collected by H. L. Westover, agricultural explorer, Bureau of Plant Industry. Received November 11, 1930.

89842 to 89908. *MEDICAGO SATIVA* L. Fa-  
baceae. Alfalfa.

## 89842 to 89912—Continued.

89842. No. 283. Plants collected at Constantine, Algeria, Africa.

89843. No. 62. Seed purchased at Madrid, but grown near Lerida, Spain.

89844. No. 63. Wild alfalfa, collected at the experiment station near Madrid, Spain.

89845. No. 64. Locally grown seed, purchased at Granada, Spain.

89846. No. 65. Seed purchased in Madrid, but grown near Saragossa, Spain.

89847. No. 67. Seed purchased in Madrid, but grown near Totana, Spain.

89848. No. 69. Seed purchased at Jaca, but grown at Saragossa, Spain.

89849. No. 70. Seed purchased at Bilbao, but grown at Saragossa, Spain.

89850. No. 71. Seed purchased at Bilbao, but grown at Lerida, Spain.

89851. No. 72. Seed purchased at Valladolid, but grown at Aragon, Spain.

89852. No. 73. Locally grown seed purchased at Epila, Spain.

89853. No. 74. *Mielga*. Seed purchased in Valladolid, but grown in France.

89854. No. 75. Locally grown seed purchased at Saragossa, Spain.

89855. No. 76. Seed purchased at Huesca, but grown at Lerida, Spain.

89856. No. 77. Locally grown seed purchased at Leon, Spain.

89857. No. 78. Seed purchased in Valladolid, Spain, but grown in Argentine.

89858. No. 79. Seed purchased at Bilbao, but grown near Murica, Spain.

89859. No. 80. Seed purchased at Burgos, Spain.

89860. No. 81. Seed purchased at Leon, but grown at Saragossa, Spain.

89861. No. 82. Seed purchased at Valladolid, Spain.

89862. No. 83. Seed purchased at Calatayud, Spain, but grown in Germany.

89863. No. 84. Locally grown seed, purchased at Huesca, Spain.

89864. No. 85. Seed purchased at Salamanca, but grown in Saragossa, Spain.

89865. No. 86. Wild alfalfa collected along the roadside near Avila, Spain, August 6, 1930.

89866. No. 87. Wild alfalfa collected along the roadside north of Salamanca, Spain, August 7, 1930.

89867. No. 88. Wild alfalfa collected along the roadside at Jaca, Spain, August 17, 1930.

89868. No. 91. Wild alfalfa collected along the roadside south of Valladolid, Spain, August 8, 1930.

89869. No. 92. Wild alfalfa from Saragossa, Spain, August 16, 1930.

89870. No. 95. Wild alfalfa collected along the roadside south of Burgos, Spain, August 7, 1930.

## 89842 to 89912—Continued.

89871. No. 96. Wild alfalfa collected along the roadside near Salamanca, Spain, August 7, 1930.
89872. No. 98. Wild alfalfa collected along the roadside near Valencia, Spain, August, 1930.
89873. No. 99. Wild alfalfa collected along the roadside near Valencia, Spain, August, 1930.
89874. No. 108. Wild alfalfa collected along the roadside near Jaca, Spain, August, 1930.
89875. No. 113. Wild alfalfa from Huesca, Spain, August, 1930.
89876. No. 127. Wild alfalfa from Calatayud, Spain, August, 1930.
89877. No. 133. Cultivated alfalfa from a field near Sahagun, Spain, August, 1930.
89878. No. 143. Purchased at Jativa, but grown at Olleria, Spain.
89879. No. 144. Seed purchased at a store in Alicante, Spain, which had purchased the seed from a Barcelona store.
89880. No. 145. Locally grown seed from Onteniente, Spain.
89881. No. 146. Purchased at Palma, Majorca, but grown at Murcia, Spain.
89882. No. 147. Purchased at Alicante, but grown at Elche, Spain.
89883. No. 148. Locally grown seed from Almoradi, Spain.
89884. No. 149. Locally grown seed from Elche, Spain.
89885. No. 150. Seed purchased at Murcia, but grown at Totana, Spain.
89886. No. 151. Seed purchased at Murcia, but grown at Totana, Spain.
89887. No. 152. Seed purchased at Malaga, but grown at Alicante, Spain.
89888. No. 153. Locally grown seed from Valencia, Spain.
89889. No. 154. Seed purchased at Cordova, Spain, but probably grown in Provence.
89890. No. 183. Collected in a field near Albaida, Spain, September 9, 1930.
89891. No. 155. Seed purchased at Murcia, but grown at Totana, Spain.
89892. No. 156. Provence seed, purchased at Granada, Spain.
89893. No. 157. Seed purchased at Seville, Spain; probably grown in Murcia.
89894. No. 158. Seed purchased at Almeria, probably from Valencia, Spain.
89895. No. 159. Seed purchased at Murcia, produced in Totana, Spain.
89896. No. 160. Seed purchased at Almeria, but grown near Valencia, Spain.
89897. No. 161. Seed purchased at Almeria, but grown at Elche, Spain.
89898. No. 162. Seed purchased at Inca, Majorca, Spain.

## 89842 to 89912—Continued.

89899. No. 163. Wild alfalfa collected near the Sierra Nevada hotel, about 7 miles from Granada, Spain.
89900. No. 164. Wild alfalfa collected along the highway between Granada and Loja, Spain.
89901. No. 165. Wild alfalfa collected in Spain in a gorge between Pinos Genil and the Sierra Nevada hotel.
89902. No. 166. Wild alfalfa collected in the Genil Canyon, 2 miles east of Granada, Spain.
89903. No. 167. Cultivated alfalfa collected near Dolores, Spain.
89904. No. 168. French alfalfa seed purchased in Lisbon, Portugal.
89905. No. 169. Seed purchased in Coimbra, but grown in Alentejo, Portugal.
89906. No. 170. Seed purchased in Lisbon, Portugal, and said to have come from France.
89907. No. 171. Provence seed purchased in Oporto, Portugal.
89908. No. 227. Seed purchased in Valencia and grown in the Province of Valencia, Spain.
- 89909 to 89912. MELILOTUS spp. Fabaceae.
89909. MELILOTUS ALBA Desr.  
White sweetclover.  
No. 176. Collected in the Genil Canyon, southeast of Granada, Spain.
- 89910 to 89912. MELILOTUS OFFICINALIS (L.) Lam.  
Sweetclover.
89910. No. 103. From Huesca, Spain, August, 1930.
89911. No. 106. From Burgos, Spain, August, 1930.
89912. No. 136. From Jaca, Spain, August, 1930.
89913. EREMOCITRUS GLAUCA (Lindl.) Swingle (*Atalantia glauca* Benth.).  
Rutaceae.  
Australian desert kumquat.  
From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received November 14, 1930.  
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 the sweetish flavor of the kumquat. It is the hardiest of all the evergreen citrus fruits and is of promise to plant breeders.  
For previous introduction see 72694.
- 89914 to 89920. SOLANUM spp. Solanaceae.  
From Mexico. Tubers collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November and December, 1930.

## 89914 to 89920—Continued.

## 89914. SOLANUM sp.

No. 332. Collected 6 miles south of Toluca, Mexico, November 12, 1930. A plant with smooth green globular fruits and irregular shaped white tubers, some of which were tinged with purple; found along the roadside in rich loam at 8,700 feet altitude.

Nos. 89915 to 89917 were collected in Mr. Zapeda's garden, Toluca, Mexico, November 12, 1930, at 8,700 feet altitude.

## 89915. SOLANUM sp.

No. 333. A plant about 3 feet high with white oval tubers on very long stolons, which, according to Mr. Zapeda, is growing wild in his garden.

## 89916. SOLANUM sp.

No. 334. A dark warty tuber, dug by Mr. Zapeda's boy in the garden. The plant was not seen.

## 89917. SOLANUM sp.

No. 335. A red tuber, dug by Mr. Zapeda's boy in the garden. It has the appearance of the potato common on the market.

## 89918. SOLANUM sp.

No. 344. From Tenancingo, Mexico, about 50 miles from the City of Mexico, November 13, 1930. A plant with globular fruits which are whitish at first, with darker green longitudinal streaks or splotches, finally becoming mostly dark green with some darker streaks and a few white specks. The white tubers are oval; found along the roadside in stony red clay.

## 89919. SOLANUM TUBEROSUM L. Potato.

No. 422. Collected from a cultivated field about 1 mile east of San Antonio, Puebla, at 8,500 feet altitude, November 20, 1930.

## 89920. SOLANUM SAMBUCINUM Rydb.

No. 442. From San Juan del Rio, Queretaro, November 25, 1930. A plant about 2 feet high with white tubers, found growing in a stone fence at 1,200 feet altitude.

## 89921 to 89968.

From Spain. Seeds collected by H. L. Westover, agricultural explorer, Bureau of Plant Industry. Received November 10, 1930.

## 89921 to 89951. PHASEOLUS spp. Fabaceae.

Purchased from Robustiano Diez Obeso, Madrid, September 29, 1930.

89921. PHASEOLUS CALCARATUS Roxb.  
Rice bean.

No. 188. *Frijol Americano*.

89922 to 89951. PHASEOLUS VULGARIS L.  
Common bean.

89922. No. 189. *Mantecosa de Atguille*. A dwarf bean with yellow pods.

89923. No. 190. *Saint Fiaret*. A stringless pole bean.

89924. No. 191. *Inagotable*. A n everbearing dwarf bean.

89925. No. 192. *Blanca de Argel*.

## 89921 to 89968—Continued.

89926. No. 194. *De Borseat*. A dwarf bean.

89927. No. 195. *Monte de Oro*. A stringless pole bean with yellow pods.

89928. No. 198. *Incomparable*. A dwarf bean.

89929. No. 199. *Reina de las Mantecosa*. A dwarf bean with yellow pods.

89930. No. 200. *Cembre gris*. A stringless pole bean.

89931. No. 201. A yellow dwarf bean which bears abundantly.

89932. No. 202. *De la granja*. A stringless pole bean.

89933. No. 203. *Mantecosa de Argel*. A dwarf stringless bean with yellow pods.

89934. No. 204. *De la Virgen*. A pole bean.

89935. No. 205. *Cresta de gallo*. A dwarf bean.

89936. No. 206. *Aspeitia*.

89937. No. 207. *Inglesa*. A stringless pole bean.

89938. No. 209. *Soisson roja*.

89939. No. 210. *De Villafranca*.

89940. No. 211. *Flageolet*. A green bean.

89941. No. 214. *Gloria de Vitry*. A dwarf bean.

89942. No. 215. *Amarilla mantecosa*. A yellow stringless pole bean.

89943. No. 217. *Coca del Pilar*. A stringless pole bean.

89944. No. 218. *Monte de Oro*. A stringless pole bean with green pods.

89945. No. 219. *Pintas*.

89946. No. 220. *Bagnolet*. A dwarf bean.

89947. No. 222. *De Herrera blanca*. A white bean.

89948. No. 223. *Mantecosa de Argel*. A pole bean with yellow pods.

89949. No. 224. *De Pravia*. A pole bean.

89950. No. 225. *De Herrera*. A flesh-colored bean.

89951. No. 226. *Gloria de Douill or Parisien*. A dwarf bean.

89952. PHLEUM PRATENSE L. Poaceae.  
Timothy.

No. 128. Collected in the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

89953. POA COMPRESSA L. Poaceae.  
Canada bluegrass.

No. 110. From the experiment station at Leon, Spain, August 9, 1930.

## 89954. POA sp. Poaceae. Grass.

No. 105. From the Pyrenees Mountains, near Canfranc, Spain, August 15, 1930.

89921 to 89968—Continued.

89955. *STIPA CALAMAGROSTIS* (L.) Wahlenb.  
Poaceae. Feathergrass.

No. 112. From Canfranc, Spain, August 15, 1930.

89956. *STIPA TENACISSIMA* Jusl. Poaceae.  
Feathergrass.

No. 228. Collected north of Cartagena, Spain.

89957. *TRIFOLIUM ALEXANDRINUM* L. Fabaceae.  
Berseem.

No. 68. Purchased in a grain store at Granada, Spain.

89958. *TRIFOLIUM PRATENSE* L. Fabaceae.  
Red clover.

No. 102. Collected near Canfranc, Spain, August 15, 1930.

89959. *TRisetum FLAVESCENS* (L.) Beauv.  
Poaceae. Grass.

No. 120. Collected at Canfranc, Spain, August 15, 1930.

89960 to 89968. *VICIA* spp. Fabaceae.  
Vetch.89960. *VICIA DASYCARPA* Ten.

No. 132. Collected near Canfranc, Spain, August 15, 1930.

For previous introduction see 58718.

89961. *VICIA ERVILLA* (L.) Willd.No. 216. *Yerro de Espana*. Purchased from Robustiano Diez Obeso, Madrid, September 29, 1930.89962. *VICIA FABA* L. Broadbean.No. 212. *Habas de Egipto*. Purchased from Robustiano Diez Obeso, Madrid, September 29, 1930.89963 and 89964. *VICIA MONANTHOS* (L.) Desv.

For previous introduction see 40294.

89963. No. 114. *Algaroba*. Collected in a field near Avila, Spain, August 6, 1930. Used for feed for cattle and goats.89964. No. 193. *Algaroba*. Purchased from Robustiano Diez Obeso, Madrid, September 29, 1930.89965. *VICIA NARBONENSIS* L.No. 196. *Averja de Narbona*. Purchased from Robustiano Diez Obeso, Madrid, September 29, 1930.

For previous introduction see 80216.

89966 and 89967. *VICIA SATIVA* L.  
Common vetch.89966. No. 187. *Yeros*. Purchased in Lisbon, Portugal, September 24, 1930. Grown as cattle feed.89967. No. 221. *Albeya Vellude*. Purchased from Robustiano Diez Obeso, Madrid, September 29, 1930.89968. *VICIA SATIVA LEUCOSPERMA* (Moench) Seringe.No. 208. *Averja blanca*. Purchased from Robustiano Diez Obeso, Madrid, September 29, 1930.89969. *AMYGDALUS PERSICA* L. (*Prunus persica* Stokes). Amygdalaceae.  
Peach.

From the island of St. Helena, South Atlantic Ocean. Seeds presented by H. Bruins-Lich, Agricultural and Forestry Department. Received November 13, 1930.

Seeds grown locally.

89970 to 89984. *MEDICAGO SATIVA* L.  
Fabaceae. Alfalfa.

From Morocco, Africa. Seeds presented by Guy Roberty, Station de Selection et d'Essais de Semences, Rabat, through H. L. Westover, agricultural explorer, Bureau of Plant Industry. Received November 13, 1930.

89970. C. A. M. 1. *Tiallaline*.89971. C. A. M. 2. *Bouklouf-Tillicht*.89972. C. A. M. 3. *M'azel*.89973. C. A. M. 4. *Amougueur*.89974. C. A. M. 5. *Tiouzaghim*.89975. C. A. M. 6. *Talahirt*.89976. C. A. M. 7. *Gourrama*.89977. C. A. M. 8. *Toutal-Mellaha*.89978. C. A. M. 9. *Baknou-Irara*.89979. C. A. M. 10. *Ksar es Souk*.89980. C. A. M. 11. *Tarda*.89981. C. A. M. 12. *Tizimi*.89982. C. A. M. 13. *Arab Sebbah*.89983. C. A. M. 14. *Aoufous*.89984. S. S. 1. *Mezquita-s*. From Oued Dzaa, northern Sahara.89985. *DRACAENA DRACO* L. Liliaceae.  
Dragon tree.

From Tunisia, Africa. Seeds presented by F. Boeuf, Chief, Botanical Service, Ariana, near Tunis. Received November 14, 1930.

A curious ornamental tropical tree which becomes 60 feet high, with numerous crowded sword-shaped, glaucous-green leaves, greenish flowers, and orange berries.

For previous introduction see 79567.

89986 to 89990.

From Dedamsvaart, Netherlands. Plants purchased from B. Ruys (Ltd.), Royal Moerheim Nurseries. Received November 15, 1930.

89986 to 89988. *HELENIUM AUTUMNALE* L.  
Asteraceae.89986. *Crimson beauty*. A striking variety about 24 inches high with bronze-carmine flowers.89987. *Madame Camivet*. A tall plant 4 feet high with large yellow flowers which have dark centers.89988. *Wyndley*. A strong plant, 3 feet high, which does not require staking. The large flowers are bronze and yellow.89989 and 89990. *HELENIUM BIGELOVIA* A. Gray. Asteraceae. Bigelow sneezeweed.

89989. A low herbaceous perennial, 2 to 3 feet high, with spatulate to oblong-lanceolate entire leaves, and

## 89986 to 89990—Continued.

flower heads over 2 inches across with yellow ray and purple disk flowers, borne on long slender stalks. It prefers damp situations and blossoms in August in California, where it is native.

**89990.** Variety *Aurantiacum*. A new variety about 3 feet high with golden yellow flowers which appear in the early spring.

**89991 to 89994.** ALOE spp. Liliaceae.

From Barberton, Transvaal, South Africa. Seeds presented by George Thorncroft. Received November 17, 1930.

**89991.** ALOE BARBERTONIAE Pole Evans.

A stemless herbaceous succulent with a rosette of lanceolate spiny margined leaves blotched with white above and greenish white and unspotted below. The flower stalks, often two from the same rosette, are 3 to 4 feet high, and bear loosely flowered racemes of jaspered tubular flowers. It is native to South Africa.

**89992.** ALOE GLOBULIGEMMA Pole Evans.

A stemless herbaceous succulent with a rosette of erect-spreading sword-shaped leaves 1 to 2 feet long, having cartilaginous, wavy-toothed margins. The flower stalk, 3 to 4 feet high, carries a dense raceme 1 foot long of tubular flowers which are globular and red in the bud, becoming elongated and sulphur yellow tinged with red at the base. It is native to South Africa.

**89993.** ALOE PETRICOLA Pole Evans.

A stemless herbaceous succulent with a rosette of lanceolate spiny margined leaves, and a branched flower stalk 2 to 3 feet high, bearing a dense cylindrical raceme of tubular flowers which are nopal red in bud and become yellow to orange buff. It is native to South Africa.

**89994.** ALOE THORNCROFTII Pole Evans.

A short-stemmed herbaceous succulent with a rosette of lanceolate dark-green leaves having a narrow sinuous purple toothed margin. The flower stalks are 3 to 5 feet high and bear loose racemes of large rose-colored, tubular flowers. It is native to South Africa.

**89995.** JUBAEA CHILENSIS (Molina) Bail. (*J. spectabilis* H. B. K.). Phoenicaceae. Sirup palm.

From Santiago, Chile. Seeds presented by Salvador Izquierdo. Received November 18, 1930.

A Chilean palm, 40 feet high, which thrives on very dry soil. The pinnate leaves are 6 to 12 feet long, and the coconutlike fruits are 2 inches in diameter. It is an ornamental palm, but a slow grower.

For previous introduction see 77154.

**89996 to 90008.**

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November 18, 1930.

## 89996 to 90008—Continued.

**89996.** COSMOS DIVERSIFOLIUS Otto. Asteraceae. Black cosmos.

From north of Cuernavaca, Morelos, October 7, 1930. A cosmos 2 or 3 feet high with dark velvety red flowers.

**89997 to 90008.** SOLANUM spp. Solanaceae.**89997.** SOLANUM sp.

No. 11. For introduction of tubers and description, see 89537.

Nos. 89998 to 90007 were collected at Rio Frio, Puebla, at 9,000 feet altitude, October 8, 1930.

**89998.** SOLANUM sp.

No. 29. *Papa silvestre*. For introduction of tubers and description, see 89531.

**89999.** SOLANUM sp.

No. 30. For introduction of tubers and description, see 89538.

**90000.** SOLANUM sp.

No. 31. *Papa*. For introduction of tubers and description, see 89539.

**90001.** SOLANUM sp.

No. 38. For introduction of tubers and description, see 89540.

**90002.** SOLANUM sp.

No. 40. For introduction of tubers and description, see 89533.

**90003.** SOLANUM sp.

No. 41. For introduction of tubers and description, see 89541.

**90004.** SOLANUM sp.

No. 42. For introduction of tubers and description, see 89542.

**90005.** SOLANUM sp.

No. 43. A plant with a smooth obconic seed ball which has a few rather obscure white flecks on the surface; found growing along a ditch bank in rich soil in an open field.

**90006.** SOLANUM sp.

No. 44. For introduction of tubers and description see 89535.

**90007.** SOLANUM sp.

No. 50. A plant with smooth green obconic fruits, found growing along a ditch in an open field.

**90008.** SOLANUM sp.

No. 218. A cultivated woody vine found in Dr. C. Conzatti's garden, Oaxaca, September 25, 1930.

**90009.** ASPARAGUS RACEMOSUS Willd. Convallariaceae.

From Barberton, Transvaal, South Africa. Seeds presented by George Thorncroft. Received November 19, 1930.

A succulent climbing plant found among trees on poor stony soil at 1,000 feet altitude, where the summers are very hot and there is no rain for the four winter months. Its masses of snow-white flowers make it a fine ornamental.

For previous introduction see 76896.

90010 to 90048.

From Spain. Seeds collected at the Botanic Garden, Madrid, by H. L. Westover, agricultural explorer, Bureau of Plant Industry. Received November 19, 1930.

90010 to 90030. *MEDICAGO* spp. Fabaceae.90010. *MEDICAGO ARBOREA* L.  
Tree alfalfa.

No. 264.

90011. *MEDICAGO ASCHEESONIANA* Urban.

No. 252.

90012. *MEDICAGO CRETACEA* Bieb.

No. 261.

90013. *MEDICAGO DECANDOLLEI* Tineo.

No. 259.

90014. *MEDICAGO DISCIFORMIS* DC.

No. 253.

90015. *MEDICAGO FALCATA* L.  
Yellow-flowered alfalfa.

No. 260.

90016. *MEDICAGO GLOBULOSA* Desv.

No. 263.

90017. *MEDICAGO HISPIDA* Gaertn.

No. 257.

90018. *MEDICAGO HISPIDA DENTICULATA*  
(Willd.) Urban. Bur clover.

No. 244.

90019. *MEDICAGO LACINIATA* (L.) Mill.

No. 250.

90020. *MEDICAGO LUPULINA* L.  
Black medic.

No. 255.

90021. *MEDICAGO MURICATA* (L.) All.

No. 258.

90022. *MEDICAGO OBSCURA HELIX*  
(Willd.) Urban.

No. 262.

90023. *MEDICAGO ORBICULARIS* (L.) All.

No. 248.

90024. *MEDICAGO PRAECOX* DC.

No. 247.

90025. *MEDICAGO PROSTRATA* Jacq.

No. 251.

90026. *MEDICAGO SATIVA* L. Alfalfa.

No. 249.

90027. *MEDICAGO SCUTELLATA* (L.) Mill.  
Snail medic.

No. 245.

For previous introduction see 44559.

90028. *MEDICAGO SUFFRUTICOSA* Ramond.

No. 246.

90029. *MEDICAGO TRUNCATULA* Gaertn.

No. 256.

90030. *MEDICAGO TUBERCULATA* (Retz.)  
(Willd.)

No. 254.

90031 to 90038. *MELILOTUS* spp. Fabaceae.  
Sweetclover.

90010 to 90048—Continued.

90031. *MELILOTUS ALBA* Desf.  
White sweetclover.

No. 270.

90032. *MELILOTUS BICOLOR* Boiss. and  
Bal.

No. 269.

90033. *MELILOTUS INDICA* (L.) All.

No. 265.

90034. *MELILOTUS ITALICA* (L.) Lam.

No. 267.

90035. *MELILOTUS NEAPOLITANA* Ten.  
(*M. gracilis* DC.).

No. 266.

For previous introduction see 78795.

90036. *MELILOTUS OFFICINALIS* (L.)  
Lam.

No. 268.

90037. *MELILOTUS SUAVEOLENS* Ledeb.

No. 271.

90038. *MELILOTUS SULCATA* Desf.

No. 272.

90039 to 90048. *TRIGONELLA* spp. Fabaceae.90039. *TRIGONELLA BALANSÆ* Boiss. and  
Reut.

No. 274.

90040. *TRIGONELLA BRACHYCARPA*  
(Fisch.) Moris.

No. 275. A low hairy annual legume with trifoliate leaves of obovate-serrulate leaflets a quarter of an inch long and light-yellow flowers in axillary heads. It is native to Asia Minor.

90041. *TRIGONELLA CAERULEA* (L.)  
Seringe.

No. 279.

For previous introduction see 66954.

90042. *TRIGONELLA CALLICERAS* Fisch.

No. 282.

For previous introduction see 66530.

90043. *TRIGONELLA CORNICULATA* L.

No. 280.

For previous introduction see 58714.

90044. *TRIGONELLA GLADIATA* Stev.

No. 276.

For previous introduction see 33300.

90045. *TRIGONELLA HAMOSA* L.

No. 281.

For previous introduction see 63997.

90046. *TRIGONELLA MONSPELIACA* L.

No. 277.

For previous introduction see 58716.

90047. *TRIGONELLA POLYCERATA* L.

No. 273.

For previous introduction see 72818.

90048. *TRIGONELLA SPINOSA* L.

No. 278.

For previous introduction see 31087.

**90049. PISTACIA TEREBINTHUS × VERA.**  
Anacardiaceae. **Hybrid pistache.**

From Chios Island, Greece. Seeds presented by George J. Choremis, at the request of David Fairchild, agricultural explorer, with the Allison V. Armour expedition. Received November 19, 1930.

A hybrid between the true pistache (*Pistacia vera*) and the terebinth tree (*P. terebinthus*).

**90050 to 90093.**

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November 19, 1930.

**90050. ANNESLIA STRIGILLOSA** Britt. and Rose. Mimosaceae.

No. 150. From Nogales, Vera Cruz, October 24, 1930. A plant 10 to 15 feet high, found at 5,000 feet altitude.

**90051. ARBUTUS XALAPENSIS** H. B. K. Ericaceae.

No. 290. *Madrono*. From the mountains southeast of Real del Monte, Hidalgo, November 6, 1930. A tree up to 15 feet high found near the rocky summits of the mountains. The red fruits are less than an inch in diameter.

**90052. COLOGANIA AFFINIS** Mart. and Gal. Fabaceae.

No. 202. From west of Tres Marias, Morelos, 35 miles from Mexico City. An evergreen climber, native to south-central Mexico, with hairy ovate leaves and small purplish-red flowers.

**90053. DOLICHOLUS LONGERACEMOSUS** (Mart. and Gal.) Rose. Fabaceae.

No. 141. From Nogales, Vera Cruz, October 24, 1930. A vine collected in the mountains north of the town at 5,500 feet altitude.

**90054. COSMOS DIVERSIFOLIUS** Otto. Asteraceae. **Black cosmos.**

No. 216. From west of Tres Marias, Morelos, October 29, 1930, at 10,000 feet altitude.

For previous introduction see 89996.

**90055. CROTALARIA INCANA** L. Fabaceae.

No. 124. From Nogales, Vera Cruz, October 24, 1930. A plant 20 to 24 inches high with yellow flowers, found in red clay at 4,300 feet altitude.

**90056. CROTALARIA PURSHII** DC. Fabaceae.

No. 142. From Nogales, Vera Cruz, October 24, 1930. A plant 12 to 18 inches high with yellow flowers, found at 5,500 feet altitude in the mountains north of the town.

**90057. PAROSELA SEEMANNI** (S. Wats.) Rose. Fabaceae.

No. 182. From Estrella, Morelos, October 28, 1930. A plant 20 to 40 inches high with purple flowers, found in open rocky lava formation at 7,500 feet altitude.

**90058. ECHEVERIA** sp. Crassulaceae.

No. 175. From Nogales, Vera Cruz, October 24, 1930. A plant found among rocks at 5,500 feet altitude.

**90050 to 90093—Continued.**

**90059. FALCATA** sp. Fabaceae.

No. 115. From Mexico.

**90060. FALCATA** sp. Fabaceae.

No. 237. From Real del Monte, Hidalgo, November 3, 1930. A legume secured at 9,000 feet altitude.

**90061. QUAMOCLIT COCCINEA** (L.) Moench. Convolvulaceae. **Scarlet starglory.**

No. 152. From Nogales, Vera Cruz, October 24, 1930. A vine with bright-red flowers and foliage like a morning-glory, found at 6,200 feet altitude in rich soil. It was found climbing over a tree.

**90062. LUPINUS** sp. Fabaceae. **Lupine.**

No. 145. From Nogales, Vera Cruz, October 24, 1930. A plant with purple flowers, secured at 5,700 feet altitude.

**90063. LUPINUS** sp. Fabaceae. **Lupine.**

No. 217. Collected about 4 miles west of Tres Marias, Morelos, October 29, 1930.

**90064. MAMMILLARIA** sp. Cactaceae. **Cactus.**

No. 172. From Santa Rosa, Vera Cruz, October 23, 1930. A round cactus collected at 6,500 feet altitude.

**90065. MAMMILLARIA** sp. Cactaceae. **Cactus.**

No. 289. Collected at Real del Monte, Hidalgo, November 6, 1930. A cactus with pink flowers found on open bare rock.

**90066. MEIBOMIA** sp. Fabaceae.

No. 130. From Nogales, Vera Cruz, October 24, 1930. A plant found growing in red clay at 4,300 feet altitude.

**90067. MONTANOA FRUTESCENS** (Maire) Hemsl. Asteraceae.

No. 210. From Tres Marias, Morelos, October 29, 1930. An herb 5 to 10 feet high with many attractive white flowers, collected at 10,000 feet altitude.

**90068. PASSIFLORA EXSUDANS** Zucc. Passifloraceae.

No. 200. From Canada de Contreras, a few miles southwest of Mexico City, Distrito Federal, October 25, 1930. A woody vine with heart-shaped, 3-lobed leaves and white flowers more than an inch across in the leaf axils. It is native to Mexico.

**90069. PENTSTEMON** sp. Scrophulariaceae.

No. 242. From Real del Monte, Hidalgo, November 3, 1930. Collected on the mountain slope east of the Trinidad mine at over 9,000 feet altitude.

**90070. DOLICHOLUS LONGERACEMOSUS** (M. and G.) Rose. Fabaceae.

No. 165. From Santa Rosa, Vera Cruz, October 23, 1930. A perennial leguminous vine with hairy trifoliate leaves and pale-purple flowers in axillary racemes. Native to south-central Mexico.

For previous introduction see 73253.

**90071 and 90072. PHASEOLUS ADENANTHUS** G. Meyer. Fabaceae. **Bean.**

Collected west of Tres Marias, Morelos, about 35 miles from Mexico City, at 10,000 feet altitude.

For previous introduction see 56685.

90050 to 90093—Continued.

90071. No. 204. 90072. No. 206.

90073 and 90074. *QUERCUS* spp. Fagaceae.  
Oak.

Collected on the mountain side above the Trinidad mine, near Real del Monte, Hidalgo, November 3, 1930, at 9,000 feet altitude.

90073. *QUERCUS* sp.

No. 232. A tree 30 to 40 feet high with nearly globular fruits.

90074. *QUERCUS* sp.

No. 233. A tree 30 to 45 feet high with ellipsoid fruits and wider leaves than the preceding, No. 232 [90073]. It is very common.

90075 to 90077. *SALVIA* spp. Menthaceae.  
Sage.90075. *SALVIA* sp.

No. 195. From Tres Marias, Morelos, about 30 miles from Mexico City, October 18, 1930. A common ornamental plant up to 3 feet high with blue flowers, collected at 10,000 feet altitude.

90076. *SALVIA* sp.

No. 274. From El Desierto, Distrito Federal, November 5, 1930. A mint with large, dark-blue flowers which appear late in the season.

90077. *SALVIA* sp.

No. 272. From El Desierto, Distrito Federal, November 5, 1930. A mint with fine red flowers.

90078. *ALTAMIRANOA* sp. Crassulaceae.

No. 292. From southeast of Real del Monte, Hidalgo, November 6, 1930. A woody plant found on a rocky summit, growing among mammillaria.

90079. *TEBAMNUS UNCINATUS* (L.) Swartz.  
Fabaceae.

No. 126. From Nogales, Vera Cruz, October 24, 1930. A legume found at 4,300 feet altitude, growing in red clay.

90080 to 90083. *SOLANUM* spp. Solanaceae.90080. *SOLANUM* sp.

No. 193. For introduction of tubers and description, see 89647.

90081. *SOLANUM* sp.

No. 207. From near Tres Marias, Morelos. For introduction of tubers, see 89648.

90082. *SOLANUM* sp.

No. 261. For introduction of tubers and description, see 89689.

90083. *SOLANUM* sp.

No. 265. For introduction of tubers and description, see 89796.

90084. *CRUSEA CALOCEPHALA* DC. Rubiaceae.

No. 136. From Nogales, Vera Cruz, October 24, 1930. A plant about 12 inches high with purple flowers, collected north of the town at 5,500 feet altitude.

90050 to 90093—Continued.

90085. *VERNONIA ARCTIOIDES* Less. Asteraceae.

No. 135. From Nogales, Vera Cruz, October 24, 1930. An aster 15 to 20 feet high, with large purple flowers which form a large head.

90086. *SISTRINCHIUM ALATUM ANGUSSIMUM* Rob. and Greenm. Iridaceae.

No. 103. From Pic de Xitle, Distrito Federal, October 17, 1930. A plant with yellow flowers, found in a lava field at 9,000 feet altitude.

90087. *BOMAREA OVATA* (Cav.) Mirb.  
Amaryllidaceae.

No. 151. From Nogales, Vera Cruz, October 14, 1930. A plant collected at 6,000 feet altitude.

90088. *ARENARIA DECUSSATA* Willd. Silenaceae.

No. 284. From Real del Monte, Hidalgo, November 6, 1930. A prostrate, herbaceous perennial from south-central Mexico, with rigid subulate leaves and terminal white flowers.

90089. *MINKELERSIA GALACTIOIDES* Mart. and Gal. Fabaceae.

No. 203. From west of Tres Marias, Morelos, about 35 miles from the City of Mexico, October 29, 1930. A leguminous herbaceous vine collected at 10,000 feet altitude, with trifoliate leaves and axillary blue-violet flowers 1 inch long on stems 3 inches long. Native to Oaxaca, Mexico.

90090. *CASTILLEJA ARVENSIS* Cham. and Schlecht. Scrophulariaceae.

No. 194. From Tres Marias, Morelos, October 28, 1930. An ornamental plant up to 10 feet high with narrowly spatulate hairy leaves and very bright-red flowers. Found in a cornfield, in rich loam, at 10,000 feet altitude.

90091. *FUCHSIA THYMIFOLIA* H. B. K.  
Onagraceae.

No. 236. From Real del Monte, Hidalgo, on the mountain side near the Trinidad mine, at 9,000 feet altitude, November 3, 1930. A shrub about 3 feet high with red berries.

For previous introduction see 40583.

90092 and 90093. *CLITORIA MEXICANA* Link.  
Fabaceae.

From Nogales, Vera Cruz, October 24, 1930. Collected north of the town.

90092. No. 140. Collected at 5,500 feet altitude.

90093. No. 149. Collected at 6,400 feet altitude.

90094 to 90106. *KNIPHOFIA HYBRIDA*  
Hort. Liliaceae. Torchlily.

From England. Plants purchased from Maurice Prichard & Sons (Ltd.), Christchurch, Hants. Received November 20, 1930.

90094. Variety *aurantiaca*. A very fine tall sort.90095. Variety *Bertram O. Prichard*. Orange ochre.90096. Variety *F. Burbidge*. Small spikes of orange-yellow flowers, 4 to 5 feet high, flowering in June and July.



## 90094 to 90106—Continued.

90097. Variety *Glitter*. Yellow.  
 90098. Variety *Grand Pyramid*.  
 90099. Variety *Mount Etna*, also called *The Rocket*. Intense scarlet, flowering in August and September.  
 90100. Variety *Mrs. Walker Munro*. Tall with extra fine large flowers.  
 90101. Variety *Mrs. Wynne Hood*. Deep red.  
 90102. Variety *Ruby*.  
 90103. Variety *R. Wilson Kerr*.  
 90104. Variety *Sir C. K. Butler*. Stout spikes 5 feet high of sulphur and light-red flowers which appear in July and August.  
 90105. Variety *Sunset*. Red.  
 90106. Variety *Triumph*. Golden apricot, height 3 feet, flowering in September and October.

## 90107 to 90110.

From Japan. Seeds presented by K. Yashiroda, Tonosho-Kyoku, Kagawaken. Received November 19, 1930.

90107. *ASTRAGALUS SINICUS* L. Fabaceae.

A red-flowered variety, quite common in the farming area about Tokyo, where it is said to be used for green manure and forage. It is a winter crop, being planted early in the fall.

For previous introduction see 81727.

90108. *BUXUS MICROPHYLLA* Sieb. and Zucc. Buxaceae. Box.

An evergreen shrub up to 3 feet high or often prostrate. The stems are sharply quadrangular, and the obovate leaves are less than an inch long. It is native to Japan.

90109. *MAGNOLIA PARVIFLORA* Sieb. and Zucc. Magnoliaceae. Oyama magnolia.

A small Japanese magnolia with oblong leaves 4 to 6 inches long and fragrant white cup-shaped flowers 3 to 4 inches across, with large pink sepals and crimson stamens.

For previous introduction see 66584.

90110. *OSTERDAMIA JAPONICA* (Steud.) Hitchc. Poaceae. Japanese lawngrass.

For previous introduction and description see 89387.

90111. *SOLANUM CILIOLATUM* Mart. and Gal. Solanaceae.

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souvron, Bureau of Plant Industry. Received November 18, 1930.

No. 230. From Cerro San Felipe, Oaxaca, September 26, 1930. A low perennial herb with a thick root, like manioc, and large white fragrant night-blooming flowers. It is native to Mexico.

For previous introduction see 41487.

90112 to 90119. *ERICA* spp. Ericaceae.

From Dedemsvaart, Netherlands. Plants purchased from B. Ruys (Ltd.), Royal Moerheim Nurseries. Received November 20, 1930.

## 90112 to 90119—Continued.

90112 and 90113. *ERICA CARNEA* L.

Spring heath.

For previous introduction see 80913.

A variety 4 to 5 feet high, with soft green asparaguslike foliage and sweet-scented flowers which appear between March and May.

90112. Variety *Vivelli*. A red-flowered variety.

90113. Variety *Winter Beauty*. A variety bearing rosy pink flowers during midwinter.

90114. *ERICA CILIARIS* L. Fringed heath.

Variety *Mrs. C. H. Gill*.

For previous introduction see 80922.

90115 and 90116. *ERICA DARLEYENSIS* Bean, Darley heath.

90115. Variety *Stuartii*.

90116. Variety *Dawn*.

90117 to 90119. *ERICA VAGANS* L.

Cornish heath.

For previous introduction see 85856.

A low shrub, native to Europe, a foot or more high, with the leaves in whorls of four or five and pale purplish-red flowers.

90117. Variety *Lyonese*.

90118. Variety *Mrs. B. F. Maxwell*.

90119. Variety *St. Keverne*.

## 90120 to 90297.

From Manchuria and Chosen. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received November 21, 1930.

90120. *ACER* sp. Aceraceae. Maple.

From the forestry garden of the Agricultural School, Shariin, Chosen, September 10, 1930. Said to be a native of Chosen.

90121 to 90123. *AESCHYNOMENE INDICA* L. Fabaceae.

For previous introduction see 82103.

90121. No. 6245. From plants along the road about 2 miles north of Chuwa, Chosen, August 27, 1930. This species was seen in the green-manure experiments at the Kotoni Experiment Station, Kokushu, last year and looked very promising. It looks as though it may have great value as a summer green manure either on wet or dry lands.

90122. No. 6311. From a soybean and millet field on a farm west of Shariin, Chosen, September 11, 1930. This species grew very abundantly in the field and should make an excellent summer green manure.

90123. No. 6403. From a field near Makaton, Manchuria, October 7, 1930. In Manchuria this species is smaller than in Chosen. It may be of value for green manure.

90124 to 90126. *AGROPYRON* spp. Poaceae.

Received through M. Kosal, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, Manchuria, October 2, 1930.

## 90120 to 90297—Continued.

90124. *AGROPYRON CANINUM* (L.) Beauv. Poaceae. Grass.  
No. 6383. A promising wild grass for forage.
90125. *AGROPYRON CRISTATUM* (L.) Gaertn. Poaceae. Wheatgrass.  
No. 6381. One of the promising forage grasses at the experiment station.
90126. *AGROPYRON SEMICOSTATUM* Nees. Poaceae. Grass.  
No. 6385.
90127. *ANDROPOGON MICRANTHUS* Kunth. Poaceae. Grass.  
No. 6407. From the mountain region near Oshozan, Manchuria, October 7, 1930. A wild grass about 20 inches high; grows well on poor soil.
90128. *ARACHIS HYPOGAEA* L. Fabaceae. Peanut.  
No. 6418. A native variety of peanut, obtained from a farmer near Nanzan village, Manchuria, October 10, 1930. Many of the pods contain four nuts.
- 90129 and 90130. *ARUNDINELLA ANOMALA* Steud. Poaceae. Grass.  
90129. No. 6390. From the Botandai hill region, Heijo (Pyongyang), Chosen, September 28, 1930.
90130. No. 6408. From the mountain region near Oshozan, Manchuria, October 7, 1930. A wild grass found on poor soil.
- 90131 and 90132. *ASTRAGALUS DAVURICUS* DC. Fabaceae. Milkvetch.  
Obtained through M. Kosai, forage-crop expert, South Manchurian Experiment Station, Kungchuling, Manchuria, October 2, 1930.  
For previous introduction see 89724.
90131. No. 6374. Should be of value as a green-manure crop.
90132. No. 6375. Promising as a green-manure and forage crop.
90133. *CALAMAGROSTIS EPIGEJOS* (L.) Roth. Poaceae. Grass.  
No. 6178. Collected in and near a Chinese farm-village graveyard, about 2 miles southwest of Chinchon, Manchuria, August 13, 1930. This grass grows on rather poor soil and is fairly abundant.  
For previous introduction see 84282.
- 90134 to 90136. *CASSIA MIMOSOIDES* L. Caesalpinaceae.  
90134. No. 6335. Along the road near Rikho, Chosen, September 15, 1930. This species occurs very abundantly in waste places and fields. It grows well on poor soil and may be of value for green manure.
90135. No. 6339. From the hill section near Ritsuri, Chosen, September 16, 1930. The plants, 10 to 18 inches high, found on poor soil, grow very abundantly throughout this section.
90136. No. 6405. From a field in the mountain region near Oshozan, Manchuria, October 7, 1930. The plant grows on very poor soil and may be of value for green manure.

## 90120 to 90297—Continued.

90137. *CHLORIS VIRGATA* Swartz. Poaceae. Feather fingergrass.  
No. 6362. From the side of a field near Ritsuri, Chosen, September 26, 1930. This grass, about 24 inches high, was found growing on poor soil.
90138. *DOLICHOS LABLAB* L. Fabaceae. Hyacinth-bean.  
No. 6406. From plants along a stone wall in a farm village, near Oshozan, Manchuria, October 7, 1930. Seed medium large and black; pods long and narrow. It is used as a green vegetable bean and also as a dry bean.
90139. *ELYMUS SIBIRICUS* L. Poaceae. Grass.  
No. 6382. Received through M. Kosai, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, Manchuria, October 2, 1930. A promising grass for forage.  
For previous introduction see 75738.
90140. *ERAGROSTIS FERRUGINEA* (Thunb.) Beauv. Poaceae. Grass.  
No. 6363. From the side of a field near Ritsuri, Chosen, September 26, 1930. The grass, 24 to 30 inches high, makes a good growth on poor soil.
- 90141 and 90142. *EUONYMUS* spp. Celastraceae.  
90141. *EUONYMUS* sp.  
No. 6395. From the mountain region near Dairen, Manchuria, October 5, 1930. Bushes 2 to 3 feet high; fruit yellow with red aril.
90142. *EUONYMUS* sp.  
No. 6426. From shrubs 3 to 4 feet high along the mountain side south of Dairen, Manchuria, October 14, 1930. Fruit bright red; a rather pretty ornamental.
90143. *EVODIA HUPBENSIS* Dode. Rutaceae.  
No. 6427. From trees, 10 to 20 feet high, found along gullies in the mountain region south of Dairen, Manchuria, October 15, 1930. The seed is said to be used for medicinal purposes.  
For previous introduction see 77861.
90144. *FESTUCA* sp. Poaceae. Fescue.  
No. 6380. Received through M. Kosai, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, Manchuria, October 2, 1930. A promising forage grass.
90145. *GLYCYRRHIZA* sp. Fabaceae. Licorice.  
No. 6186. From plants 3 to 4 feet high along the roadside near a Chinese farm village, 2 miles northwest of Chinchon, Manchuria, August 13, 1930.
- 90146 to 90151. *HEMEROCALLIS* spp. Liliaceae. Daylily.  
90146. *HEMEROCALLIS* sp.  
No. 6270. From the Senkyori region, about 6 miles east of Heijo, Chosen, September 1, 1930. The plants, 24 to 36 inches high, have lemon-colored flowers.

90120 to 90297—Continued.

90147. *HEMEROCALLIS* sp.

No. 6307. Collected about 4 miles northeast of Heijo, Chosen, September 8, 1930. A low-growing early variety 12 to 18 inches high.

90148. *HEMEROCALLIS* sp.

No. 6320. From the hill region southwest of Heijo, Chosen, September 12, 1930. The plants, 18 to 24 inches high, are not very abundant.

90149. *HEMEROCALLIS* sp.

No. 6340. From the hill section near Ritsuri, Chosen, September 16, 1930. The plants, 30 to 40 inches high, are said to have lemon-yellow flowers.

90150. *HEMEROCALLIS* sp.

No. 6435. From the mountain region south of Dairen, Manchuria, October 15, 1930. The plants, 2 to 3 feet high, have bright lemon-yellow flowers.

90151. *HEMEROCALLIS* sp.

No. 6413. From the mountain region near Oshozan, Manchuria, October 7, 1930. The plants, 2 to 3 feet high, have bright lemon-yellow flowers.

90152. *HORDEUM NODOSUM* L. Poaceae.  
Grass.

No. 6384. Received through M. Kosai, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, Manchuria, October 2, 1930.

For previous introduction see 61319.

90153. *INDIGOFERA* sp. Fabaceae.

No. 6442. From the mountain region south of Dairen, Manchuria, October 15, 1930. Woody plants 18 to 30 inches high, found on poor dry rocky soil.

90154. *IRIS DICHOTOMA* Pall. Iridaceae.  
Vesper iris.

No. 6410. From the mountain region near Oshozan, Manchuria, October 7, 1930. A plant with flower stems 18 to 24 inches high and somewhat small lavender flowers.

90155 to 90176. *LESPEDEZA* spp. Fabaceae.  
Bushclover.90155 and 90156. *LESPEDEZA DAURICA* (Laxm.) Schindler.

90155. No. 6388. From Botandai hill region, Heijo (Pyongyang), Chosen, September 28, 1930.

90156. No. 6411. From the mountain region near Oshozan, Manchuria, October 7, 1930. A bushclover found growing on poor soil.

90157 to 90159. *LESPEDEZA STIPULACEA* Maxim.

90157. No. 6360. Along the road near Chuwa, Chosen, September 26, 1930. The plants, 6 to 12 inches high, grow very abundantly in this section.

90158. No. 6391. From the mountains near Dairen, Manchuria, October 5, 1930. This species grows on very poor soil.

90159. No. 6425. From mountains south of Dairen, Manchuria, October 14, 1930. This species grows abundantly in dry waste places and on poor soils.

90120 to 90297—Continued.

90160. *LESPEDEZA STRIATA* (Thunb.) Hook. and Arn.

No. 6354. From a hillside near Ritsuri, Chosen, September 23, 1930. The plants, 12 to 16 inches high, were just beginning to mature seed.

90161 to 90166. *LESPEDEZA TOMENTOSA* (Thunb.) Sieb.

90161. No. 6355. From the hill section near Ritsuri, Chosen, September 23, 1930. Plants 30 to 40 inches high were quite common in this section.

90162. No. 6392. From the mountains near Dairen, Manchuria, October 5, 1930. This species grows abundantly in the lower mountain regions and is found on rather poor soils.

90163. No. 6412. From the mountain region near Oshozan, Manchuria, October 7, 1930. Found growing on poor soil.

90164. No. 6432. From plants 30 to 40 inches high, collected in the mountain region south of Dairen, Manchuria, October 15, 1930.

90165. No. 6438. From the mountain region south of Dairen, Manchuria, October 15, 1930. Plants 30 to 40 inches high, found growing on poor soils.

90166. No. 6439. From a single plant, over 3 feet high, collected on poor dry soil in the mountain region south of Dairen, Manchuria, October 15, 1930.

90167. *LESPEDEZA VIRGATA* (Thunb.) DC.

No. 6356. From the hill region near Ritsuri, Chosen, September 23, 1930. Plants 20 to 26 inches high, which may have value as pasture or hay.

For previous introduction see 62182.

90168. *LESPEDEZA* sp.

No. 6338. From the hill section near Ritsuri, Chosen, September 16, 1930. Plants 36 to 42 inches high; may have value for forage or green manure.

Nos. 90169 to 90176 were collected in the mountain region south of Dairen, Manchuria, October 5, 1930.

90169. *LESPEDEZA* sp.

No. 6394. A plant which made an excellent growth on poor soil.

90170. *LESPEDEZA* sp.

No. 6428. Plants 20 to 30 inches high.

90171. *LESPEDEZA* sp.

No. 6429. Plants 18 to 24 inches high, found on rather poor dry soils.

90172. *LESPEDEZA* sp.

No. 6431. Plants 20 to 30 inches high, found growing abundantly on poor dry soils.

90173. *LESPEDEZA* sp.

No. 6433. Plants 12 to 24 inches high, very leafy, and found in poor dry soils.

90120 to 90297—Continued.

90174. *LESPEDEZA* sp.

No. 6434. Found on poor dry soils.

90175. *LESPEDEZA* sp.

No. 6436. Plants 24 to 36 inches high, found growing on poor dry soils.

90176. *LESPEDEZA* sp.

No. 6347. Plants 20 to 30 inches high, found growing on poor dry soils.

90177. *LOTUS CORNICULATUS* L. Fabaceae.  
Birdsfoot trefoil.

No. 6347. Collected along the roadside near Selryori, Chosen, September 20, 1930. A semiprocumbent plant which makes an abundant growth on very poor soil. Blossoms and mature seed were found on the same plants. The seed shatters easily. May be of value for green manure and pasture.

90178 to 90182. *MEDICAGO* spp. Fabaceae.90178. *MEDICAGO RUTHENICA* (L.) Trautv.

No. 6378. Received through M. Kosal, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, Manchuria, October 2, 1930. A wild alfalfa found growing in abundance in rocky adverse situations in northern Manchuria and Mongolia. It resembles alfalfa in its habit of growth; the main stem is sometimes 4 feet high, covered with small leaves; the outside of the pea-shaped flower is bronze, the inside deep sulphur yellow. The small 6-seeded pods, when ripe, split up the back, but the seed apparently does not fly out like many of the other legumes. This perhaps will make a hay crop; it is an excellent seed producer.

For previous introduction see 65283.

90179 to 90182. *MEDICAGO SATIVA* L.  
Alfalfa.

90179. No. 6323. Received from D. N. Lutz, Union College, Heijo, Chosen, September 12, 1930. Collected near Sorai Beach, Kumipo, Chosen. Said to be a wild alfalfa which grows on the cliffs near the beach and spreads by running rootstocks.

90180. No. 6369. Collected along the roadside near West Heijo (Pyenyang), Chosen, September 9, 1930.

90181. No. 6370. Received from the Hoten Shubyoen, Mukden, Manchuria, September 29, 1930. The seed is obtained from Shantung Province, China, and is sold to farmers in the Kungchuling district. It is said to be a hardy variety.

90182. No. 6191. From the road of the south wall of Chinchon, Manchuria, August 16, 1930. The procumbent plants have flowers which vary from pale blue to pinkish purple. Said to have been introduced from Russia prior to 1905.

90183 to 90187. *MELILOTUS* spp. Fabaceae.  
Sweetclover.90183 and 90184. *MELILOTUS OFFICINALIS* (L.) Lam.

90120 to 90297—Continued.

90183. No. 6192. Collected along the road of the west wall of Chinchon, Manchuria, August 16, 1930, from leafy plants 20 to 30 inches high which have yellow flowers.

90184. No. 6201. Collected in a field on the outskirts of Heijo (Pyenyang), Chosen, August 23, 1930, from plants 5 to 6 feet high with yellow flowers. The seed was just beginning to mature.

90185 to 90187. *MELILOTUS SUAVEOLENS* Ledeb.

For previous introduction see 61320.

90185. No. 6304. Collected along the roadside near Taihei, Chosen, September 5, 1930, from plants 5 to 6 feet high which were quite branching and still retained their leaves, although the seed was fully mature.

90186. No. 6379. Received from M. Kosal, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, Manchuria, October 2, 1930. A wild form of *meililotus* occurring in Manchuria.

90187. No. 6414. Obtained near Oshozan, Manchuria, October 7, 1930. Only one plant was found in this section. It is about 4 feet high and a late variety, as the stump was still green.

90188. *MISCANTHUS SACCHARIFLORUS* (Maxim.) Hack. Poaceae. Grass.

No. 6389. From the Botandai hill region, Heijo (Pyenyang), Chosen, September 28, 1930.

For previous introduction see 73193.

90189. *OSTERDAMIA JAPONICA* (Steud.) Hitchc. Poaceae. Japanese lawngrass.

No. 6247. From the roadside, about 4 miles north of Chuwa, Chosen, August 27, 1930.

For previous introduction see 89387.

90190. *OXYTROPIS HIRTA* Bunge. Fabaceae.

No. 6077. August 4, 1930. Collected along roadsides between Daiboshin and Sukaton, Manchuria. This species makes a fair growth on poor soil. It is not very abundant in any one place. May have value as green manure or possibly pasture.

90191. *PENNISETUM ALOPECUROIDES* (L.) Spreng. Poaceae. Grass.

No. 6316. September 11, 1930. Collected about 2 miles northwest of Heijo, Chosen. This grass grows quite abundantly in waste fields and along roadsides. It is generally found on rather poor soil, and has a very good basal growth.

90192. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

No. 6285. From a farm near Heijo, Chosen, September 3, 1930. A very small reddish-brown bean which matures early.

90193 to 90198. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

90193. No. 6317. Collected about 4 miles northwest of Heijo, Chosen, September 11, 1930. This species makes a good growth on poor, rather dry soils.

90120 to 90297—Continued.

90194. No. 6333. Collected along the road near Rikiho, Chosen, September 15, 1930. A bush form with twining terminal which occurs on rather poor soil.
90195. No. 6284. Collected along a ditch on a farm near Heijo, Chosen. A vining variety which grows 6 feet high; with bright glossy green seed. It should be an excellent variety for sprouts.
90196. No. 6366. From a field near Ritsuri, Chosen, September 26, 1930. Small glossy green seed, used for bean sprouts and bean paste for batter cakes.
90197. No. 6367. From a field near Ritsuri, Chosen, September 26, 1930. Small glossy bright-green seeds, used for sprouts and batter paste for cakes.
90198. No. 6368. From a field near Ritsuri, Chosen, September 26, 1930. Small olive-green seed used for bean sprouts and batter paste for cakes.
- 90199 and 90200. PHASEOLUS MUNGO L. Fabaceae. Urd.
90199. No. 6269. Collected along hill-sides in the Senkyori region, east of Heijo, Chosen. The plants were very vining, 3 to 4 feet long, and fairly leafy.
90200. No. 6331. From along a ditch near Ryojo, Chosen. A very vining plant found in waste places.
90201. PERAGMITES VULGARIS (Lam.) B. S. P. Poaceae. Grass.  
No. 6419. From a field near Chinchon, Manchuria. A very abundant plant, in this vicinity, which grows 3 to 4 feet high.
90202. PYRUS sp. Malaceae. Pear.  
No. 6308. Pears bought at a Korean fruit stand in Heijo, Chosen. This small fruit is the wild pear which grows in the mountain districts of northern Chosen.
90203. PYRUS sp. Malaceae. Pear.  
No. 6445. Purchased from fruit vendor in Nanzankai village, Manchuria, October 15, 1930. This small russet pear, less than an inch in diameter and somewhat astringent, is said to be a native wild species. Many fruits were seedless, in others the seeds were quite large. It may be of value as a rootstock for the better varieties of pear.
90204. RUBUS sp. Rosaceae. Raspberry.  
No. 6246. Collected along the road north of Chuwa, Chosen, August 27, 1930. The plants were 2 to 3 feet high, with leaves white on the under side and very large, sweet, wine-red berries.
- 90205 to 90263. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.  
Nos. 90205 to 90218 were purchased from Korean grain merchants at Heijo, Chosen, August 25, 1930.
90205. No. 6224. *Irute*. A mixed yellow variety of medium size. Used boiled as food.
90206. No. 6225. *Hanka*. A mixed sample of medium-small yellow varieties. Used for sprouts and boiled for food.

90120 to 90297—Continued.

90207. No. 6226. *Hinkon*. A mixture of medium-sized greenish-yellow and yellow varieties. Used boiled for food.
90208. No. 6227. *Komujonkon*. A medium-sized oval yellow bean with a black saddle. Used boiled for food.
90209. No. 6228. *Purukon*. A medium-sized oval seal-brown bean. Used boiled for food.
90210. No. 6229. *Iwate*. A large nearly round yellow variety with light-brown hilum. Used boiled for food.
90211. No. 6230. *Irute*. A large nearly round yellow variety with a very light-brown hilum. Used boiled for food.
90212. No. 6231. *Purukon*. A large oval somewhat flattened green bean with black hilum and green germ. Used boiled for food.
90213. No. 6232. *Wankon*. A large nearly round yellow variety with light-brown hilum. Used boiled for food.
90214. No. 6233. *Nanu urukon*. A mixture of medium-small greenish-yellow and green varieties. Used for sprouts and boiled for food.
90215. No. 6248. A mixture of medium-sized yellow varieties heavily mottled with brown. Used for cattle feed.
90216. No. 6249. A mixture of medium-small to medium-sized yellow varieties. Used as cattle feed.
90217. No. 6250. A medium-large oval green bean with light-brown hilum and green germ. Used for food and also for cattle feed.
90218. No. 6251. *Umata*. A mixture of medium-small to medium-sized yellow varieties. Used for cattle feed.
- Nos. 90219 to 90223 were received from the Heian Nando Prefecture Grain Inspection Office, Heijo, Chosen, August 29, 1930.
90219. No. 6252. Native varieties of soybeans (fourth grade). Mixed yellow-seeded varieties of medium size. Used for making soy sauce, miso, and bean curd.
90220. No. 6253. *Heijo*. (Third grade.) A medium-sized yellow variety used for miso, soy sauce, and bean curd.
90221. No. 6254. *Oriorkon*. Excellent grade, medium large oval yellow bean with pale hilum. Used for bean curd, miso, natto, and soy sauce.
90222. No. 6255. *Heijo*. A pure sample of medium-sized oval yellow beans with pale hilum. Used for bean curd, miso, soy sauce, and natto.
90223. No. 6256. A native variety; medium-large oval yellow bean with pale hilum. Used for miso, soy sauce, and bean curd.
- Nos. 90224 to 90227 were obtained from a grain merchant's storage yard along the Daido River, Heijo, Chosen, August 30, 1930.

90120 to 90297—Continued.

90224. No. 6257. *Kokusun*. Medium-sized oval glossy yellow beans with pale hilum and a slight admixture of other yellow varieties. Used for soy sauce, miso, and bean curd.
90225. No. 6258. *Heijo*. A medium-sized oval glossy yellow bean with pale hilum. Used for miso, bean curd, and soy sauce.
90226. No. 6259. *Heijo*. (First grade.) A medium-sized oval glossy yellow bean with pale hilum. Used for bean curd, soy sauce, and miso.
90227. No. 6260. *Kawakanni*. A mixture of medium-small to medium-sized yellow varieties.
- Nos. 90228 to 90234 were purchased at a Korean grain store, Heijo, Chosen, August 20, 1930.
90228. No. 6262. *Purukon*. A medium-sized oval greenish-yellow variety.
90229. No. 6263. *Pakute*. A medium-sized oval glossy yellow variety with pale hilum. Used for miso, soy sauce, and bean curd.
90230. No. 6264. *Chokoman*. A mixture of medium-small to medium-sized oval yellowish-green varieties. Used for cattle feed.
90231. No. 6265. *Kunkon*. A medium-sized oval greenish-yellow bean with brown hilum. More or less mottled.
90232. No. 6266. *Chokomankon*. A medium-small oval slightly flattened greenish-yellow bean with reddish-brown hilum. More or less mottled with brown.
90233. No. 6267. *Jojunge*. A mixture of large oval yellow beans with black hilum and large green beans. Used for miso and soy sauce.
90234. No. 6268. *Jerukunkon*. A large nearly round glossy yellow bean with light-brown hilum. Used for bean curd, miso, and soy sauce.

Nos. 90235 to 90250 were received from a grain merchant's warehouse, Chinampo, Chosen, September 4, 1930.

90235. No. 6288. *Shinsen*. A medium-sized oval black bean marked with brown in concentric rings. Used by the Koreans for cooking with millet or rice.
90236. No. 6289. *Chatan*. Improved chotan grown by the Chosen Kogyo Farm Co., Kokaido, Chosen. A medium-sized oval glossy yellow bean with pale hilum. Exported to Japan for bean curd.
90237. No. 6290. *Chuwaa*. A medium-sized oval glossy yellow variety. Used for soy sauce in Japan.
90238. No. 6291. *Heijo*. (First grade.) Medium to medium large oval glossy yellow beans which are exported to Japan for food.
90239. No. 6292. *Ankaku*. A medium-sized oval glossy yellow variety; exported to Japan for miso and soy sauce.
90240. No. 6293. *Koshu*. (First grade.) A large oval glossy yellow bean with pale hilum; exported to Japan for food.

90120 to 90297—Continued.

90241. No. 6294. *Hakuta otsu*. A large oval light-yellow bean with pale hilum; exported to Japan for making confections.
90242. No. 6295. *Shinsen*. Medium-small to medium-sized glossy yellow beans with hilums ranging from pale to brown. They are exported to the main island of Japan for bean curd.
90243. No. 6296. *Koshu*. A medium-sized oval glossy yellow bean with pale hilum; exported to Japan for bean curd.
90244. No. 6297. *Koshu*. Medium-small to medium-sized oval glossy yellow beans; exported to Japan for making bean curd.
90245. No. 6298. *Neihen*. Medium-small to medium-sized glossy yellow beans; exported to Japan for miso and soy sauce.
90246. No. 6299. *Kokaido*. A medium-sized oval glossy yellow bean with pale hilum; exported to Japan for bean curd.
90247. No. 6300. *Koshu*. (Third grade.) Medium-small to medium-sized yellow beans; used for bean curd.
90248. No. 6301. *Kostin*. A medium-sized oval glossy yellow bean with pale hilum; used for miso and soy sauce.
90249. No. 6302. *Neihen*. (Second grade.) A medium-sized oval yellow variety; exported to Japan for bean curd.
90250. No. 6303. *Koshu*. This bean was originally received from the Meiji Agricultural Society farm at Kokaido. A medium-sized oval glossy yellow bean with pale hilum; exported to Japan for making confections.

Nos. 90251 and 90252 were obtained at the Korean grain market, Keijo, Chosen, September 20, 1930.

90251. No. 6345. A very small nearly round yellow bean with brown hilum, said to be used for sprouting.
90252. No. 6346. *Ohonkon*. A mixture of medium-small yellow-seeded varieties, used for cattle feed.

Nos. 90253 to 90257 were collected in farm fields near Ritsuri, Chosen, September 23 and 26, 1930.

90253. No. 6357. Plants 30 to 36 inches high with many branches which are slightly vining at the ends. The seed is medium-sized oval glossy yellow with pale hilum.
90254. No. 6358. Plants 30 to 36 inches high with many branches. The seed is medium small, slightly flattened, and yellowish brown.
90255. No. 6359. The plants are bushy, very branching, and prolific. The seed is medium sized oval glossy yellow, with pale hilum.
90256. No. 6364. Medium-small oval bright-yellow seed, with light-brown hilum.
90257. No. 6365. Medium-small oval yellow seed, with brown hilum.

## 90120 to 90297—Continued.

90258. No. 6371. From a farm field near Kaiynan, September 30, 1930. Seed from stray plants of yellow variety. Plants erect, many stems, and very prolific. Excellent forage variety.

Nos. 90259 and 90260 were obtained from a farmer near Chinchon, October 7, 1930.

90259. No. 6399. Medium-small oblong much flattened black seed marked with brown in concentric rings. The leaves persist when the pods are fully mature. It is used for forage.

90260. No. 6400. Medium-sized oval slightly flattened light-green seed with brown hilum and green germ. It is used for food.

90261. No. 6351. Collected along the roadside near Heijo, September 22, 1930. Slender very vining plants with very small sooty-black seed. The pods shatter very easily. It was found growing abundantly in waste places.

90262. No. 6403. Collected from wild plants found in a small valley near Makaton, Manchuria, October 7, 1930. The small oblong seeds are much flattened and dull black.

90263. No. 6401. Obtained from a farmer near Makaton, October 7, 1930. This bean is used for forage, as the leaves persist when the pods are fully ripe. The small oblong seeds are black.

## 90264. SOPHORA sp. Fabaceae.

From plants 30 to 36 inches high, growing along the rocky hillside north of Chuwa, Chosen, August 27, 1930. They were growing in rather poor soil, and may be of value for green manure.

## 90265. SOPHORA sp. Fabaceae.

From the mountain region south of Dairen, Manchuria, October 15, 1930. Plants 24 to 30 inches high which made an abundant growth on poor soil.

## 90266 to 90271. SORGHUM VULGARE Pers. Poaceae.

90266. No. 6305. Kaoiliang sorghum collected in a farmer's field near Taihei, Chosen, September 5, 1930. An early variety which has just been harvested.

90267. No. 6341. Collected in a Korean farmer's field near Ritsuri, Chosen, September 16, 1930. This is a different variety of kaoiliang from any seen in the farming regions in this section.

Nos. 90268 to 90271 were single heads of broomcorn kaoiliang obtained from a farm near Nanzan village, Manchuria, October 11, 1930. The seed is used for food and the head, or panicle, for brooms.

90268. No. 6420. 90270. No. 6422.

90269. No. 6421. 90271. No. 6423.

## 90272 to 90274. SPODIOPOGON spp. Poaceae.

## 90272. SPODIOPOGON COTULIFER (Thunb.) Hack.

No. 6353. Collected near Ritsuri, Chosen, September 23, 1930. A grass 3 to 4 feet high, growing on rather poor land.

## 90120 to 90297—Continued.

## 90273. SPODIOPOGON COTULIFER (Thunb.) Hack.

No. 6386. Collected in the Botandai hill region, Heijo, Chosen, September 28, 1930. This grass makes an excellent growth about 4 feet high, but is somewhat stiff and coarse.

## 90274. SPODIOPOGON SIBIRICUS Trin.

No. 6387. Collected in the Botandai hill region, Heijo, Chosen, September 28, 1930.

## 90275. SYRINGA sp. Oleaceae. Lilac.

No. 6314. From the forestry garden of the Shariin Agricultural School, Shariin, Chosen, September 10, 1930. A purple-flowered native Korean lilac.

## 90276 to 90278. TRIFOLIUM LUPINASTER L. Fabaceae. Clover.

90276. No. 6337. Collected in the hill section near Ritsuri, Chosen, September 16, 1930. A plant which grows abundantly on poor soil. A late variety, as the seed is just beginning to mature.

90277. No. 6361. Collected along roadside near Chuwa, Chosen, September 25, 1930. A procumbent clover which makes a thick growth.

90278. No. 6373. Obtained through M. Kosai, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, October 2, 1930. This species makes an excellent growth at the experiment station.

90279. TRITICUM AESTIVUM L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 6261. From Heijo, Chosen, August 30, 1930. Native Korean wheat obtained at a Korean grain merchant's storage yard along the Daido River.

## 90280 to 90289. VICIA spp. Fabaceae. Vetch.

## 90280 to 90285. VICIA AMOENA Fisch.

90280. No. 6334. Collected along the road near Rikiho, Chosen, September 15, 1930. This vetch occurs abundantly throughout this section and is said to be a perennial form. It makes an abundant growth and should be of value for green manure and forage.

Nos. 90281 to 90283 were collected along gullies in the mountain region south of Dairen, Manchuria, October 15, 1930.

90281. No. 6393. This species makes an excellent growth and is found abundantly in this section, but it is late in maturing.

90282. No. 6430. Plants over 3 feet high, which make an abundant growth.

90283. No. 6440. Plants 3 to 4 feet high, which make an abundant growth on poor soil.

Nos. 90284 and 90285 were received through M. Kosai, forage-crop expert, South Manchurian Railway Experiment Station, Kungchuling, Manchuria, October 2, 1930. They are hardy perennial vetches which give two cuttings yearly at the experiment station, where they are used as forage.

90120 to 90297—Continued.

90284. No. 6377. 90285. No. 6372.

90286. *VICIA CRACCA* L. Cow vetch.

No. 6376. From Kungchuling, Manchuria, October 2, 1930. Received through M. Kosai, forage-crop expert, South Manchurian Railway Experiment Station.

90287. *VICIA PSEUDO-OROBUS* Fisch. and Mey.

No. 6404. Collected in the mountainous region near Oshozan, Manchuria, October 7, 1930. A wild vetch, not very abundant; looks promising for forage and green manure.

90288. *VICIA* sp.

No. 6326. From Ryojo, Chosen, September 13, 1930. A vetch which occurs abundantly along hillsides and other waste places; a late variety, as the seed is just beginning to mature.

90289. *VICIA* sp.

No. 6322. From Heijo, Chosen, September 12, 1930. Received from D. N. Lutz, Union Christian College, who collected it near Heijo about June 1 from plants 18 to 24 inches high.

90290 and 90291. *VIGNA SINENSIS* (Torrer) Savi. Fabaceae. Cowpea.

90290. No. 6321. From a field near Jidori, Chosen, September 12, 1930. Plants of erect bushy habit and very prolific. The medium-small white seed has a brown eye.

90291. No. 6332. Collected west of Heijo, Chosen, September 11, 1930. A small oblong light-tan cowpea found in waste places.

90292. *VITIS* sp. Vitaceae. Grape.

No. 6287. Purchased at a small Korean market on the outskirts of Heijo, Chosen, September 3, 1930. A native variety which grows wild in Chosen. The small black grapes in fair-sized bunches are rather sour.

90293 to 90296. *ZEA MAYS* L. Poaceae. Corn.

Nos. 90293 to 90295 are native varieties obtained from a Manchurian farmer near Makaton, Manchuria, October 7, 1930.

90293. No. 6396.

90294. No. 6397.

90295. No. 6398.

90296. No. 6443. A native variety obtained from a farm near Shanshubo, Manchuria. The grain is yellow, 20 rows per ear, butt end 7 inches in circumference, tip over 4 inches in circumference, ear 7 inches long.

90297. *ZIZIPHUS JUJUBA* Mill. Rhamnaceae. Jujube.

No. 6409. Small round brownish fruit, collected from small shrubs 2 to 3 feet high in the mountain region near Oshozan, Manchuria, October 7, 1930.

90298 to 90316.

From Nancy, France. Plants purchased from Messrs. V. Lemoine & Son. Received November 22, 1930.

90298 to 90316—Continued.

90298. *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.

90299. *ABELIA TRIFLORA* R. Br. Caprifoliaceae.

A shrub, native to the Himalayas, up to 15 feet high, with corrugated bark, ovate-lanceolate leaves 2 to 3 inches long, and terminal clusters of rosy white fragrant flowers.

For previous introduction see 76552.

90300 to 90302. *ARUNDINARIA* spp. Poaceae. Bamboo.90300. *ARUNDINARIA ANGULATA* (Munro) Porterfield. Square bamboo.

This bamboo takes its name from the distinctly 4-sided shape which the culms of the larger sizes assume. Small culms show this character little or not at all. According to Mitford, the species grows to a height of 30 feet near Osaka, Japan. Stout spines are said to form at the lower nodes. The mature culms are reported to be exceedingly tough and hard and to have been much in demand for walking sticks among the Buddhist monks. An old Chinese record states that the young shoots of this bamboo were prized above those of all others as an esculent. There are five to eight rather thin leaves on a branchlet of a small plant. The secondary veins are three to four on each side of the midrib and the intermediate veins four to five.

90301. *ARUNDINARIA* sp.

Received as *Bambusa Kan Teiku*. The small plant of this bamboo received has medium-green leaves, four to six on a branch, and up to 2¼ inches long by ⅜ inch wide. The internodes of the branches are quite short, which crowds the leaves together and gives a distichous appearance to the foliage. There are three pairs of secondary veins, with four to seven intermediates. The tessellation is rather open.

90302. *ARUNDINARIA MURIELAE* Gamble.

A handsome bamboo understood to grow to a height of 10 to 15 feet. It is reported to produce dense masses of culms, which is unusual for hardy bamboos. The culms turn to a rich yellow with age, and there are one to many branches at the nodes. On small plants the branches bear two to three leaves up to 2¾ inches long by ⅞ inch wide. There are usually three pairs of secondary veins, and the intermediates are five to eight. The tessellation is rather close.

90303. *Berberis Sargentiana* C. Schneid. Berberidaceae. Sargent barberry.

A black-berried barberry from western Hupeh, China, which reaches a height of 7 feet. This is the only evergreen barberry which has proved entirely hardy at the Arnold Arboretum, Jamaica Plain, Mass.

For previous introduction see 63338.



90298 to 90316—Continued.

- 90304 to 90310. CRANOTHUS DELILIANUS** Spach. Rhamnaceae.
- 90304. *Croix du Sud.*** A deep slaty blue.
- 90305. *Elegans.*** A bright mauve rose.
- 90306. *Esperanto.*** Large panicles of gray-lilac flowers.
- 90307. *Reverie.*** Broad clusters of iron-blue flowers.
- 90308. *Saphir.*** Of deepest steel-blue color.
- 90309. *Topaze.*** As hardy as *Gloire de Versailles*, with deep-blue flowers.
- 90310. *Victor Jouin.*** A dark blue dwarf.
- 90311 to 90313. CLEMATIS GRATA** Wall. Ranunculaceae. **Himalayan clematis.**
- 90311. *Campanile.*** A handsome variety, carrying tall panicles of hyacinth-shaped light azure-blue flowers.
- 90312. *Côte d'Azur.*** A variety with glossy foliage, as in *C. tubulosa*, and panicles of deep-azure flowers which form small pyramids along all the branches.
- 90313. *Oiseau bleu.*** A variety with small foliage; the upper part of the clump is wholly covered with very light and elegant forked panicles of azure flowers which fade to pale pink lilac. When the flowers first open they are like hyacinths, but later become starlike in form.
- 90314. JASMINUM GRACILLIMUM** Hook. f. Oleaceae. **Slender jasmine.**  
A climbing or scrambling hairy shrub from Borneo. The opposite, narrow-ovate leaves are bright green above and pubescent beneath, and the fragrant white flowers, 1 inch across, are in large dense hanging heads.
- 90315. JASMINUM NITIDUM** Skan. Oleaceae. **Jasmine.**  
A shrub with slender branchlets, elliptical-lanceolate leaves 3 to 4 inches long, paler beneath, and few-flowered cymes of fragrant white flowers 1 inch long. It is native to the Admiralty Islands.
- 90316. SYRINGA SWEGINZOWII** Koehne and Ling. Oleaceae. **Chengtzu lilac.**  
Variety *albida*. A hybrid between *S. sweginzowii superba* and *S. wilsonii* which develops tall slender dark-bronze stems and, in May, bears a profusion of rather large long-tubed very sweet-scented flowers with reflexed lobes of delicate pale pink to white.
- 90317 and 90318. GOSSYPIUM spp.** Malvaceae. **Cotton.**  
From Chosen and Manchuria. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received November 22, 1930.
- 90317. GOSSYPIUM sp.**  
No. 6352. From a small field near Ritsuri, Chosen, September 23, 1930.
- 90318. GOSSYPIUM sp.**  
No. 6424. From a small field near Nanzankai village, Manchuria, October 10, 1930. Said to be a native variety.

90319 to 90324.

- From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Paul Russell and Max Souviron, Bureau of Plant Industry. Received November 24, 1930.
- 90319. PAROSELA SEEMANNI** (S. Wats.) Rose. Fabaceae.  
No. 279. Obtained in an agave field at Zontecomate, Hidalgo, November 7, 1930. A diffusely branched shrub with smooth gray bark, leaves 1 to 2 feet long, composed of 5 to 11 leaflets, and loose racemes of pinkish-purple flowers terminating the leafy branchlets.
- 90320. COLOGANIA AFFINIS** Mart. and Gal. Fabaceae.  
No. 320. Collected over a mile southeast of Amecameca, State of Mexico, November 10, 1930. An evergreen climber growing on rich loam at an altitude of 7,800 feet.
- 90321. LUPINUS sp.** Fabaceae. **Lupine.**  
No. 316. Collected southeast of Amecameca, State of Mexico, November 10, 1930. A plant 1 to 5 feet high, with purple flowers, found growing in cornfields at 8,000 feet altitude.
- 90322. MONNINA SCHLECHTENDALIANA** D. Dietr. Polygalaceae.  
No. 201a. From west of Tres Marias, Morelos, about 32 miles from Mexico City, October 29, 1930. A plant 6 to 9 feet high, with small deep-purple flowers and black berries.
- 90323. PENTSTEMON CAMPANULATUS** (Cav.) Willd. Scrophulariaceae. **Beardtongue.**  
No. 285. Collected southeast of Real del Monte, Hidalgo, November 6, 1930. A plant with purple flowers and seeding abundantly, found in open woods on the mountain side.
- 90324. SEDUM MORANENSE** H. B. K. Crasulaceae. **Stoncrop.**  
No. 283. Collected southeast of Real del Monte, Hidalgo, November 6, 1930. A fleshy plant found in rocky crevices on a bare peak.
- 90325 to 90329. PHLEUM PRATENSE** L. Poaceae. **Timothy.**  
From Norway. Seeds presented by Haakon Foss, Director, Loken Agricultural Experiment Station, Loken, Valdres. Received November 26, 1930.
- 90325. No. 1.** Seed from a number of selected plants.
- 90326. No. 2.** A local mountain strain, tested and grown for several years at this station.
- 90327. No. 3.** A local mountain strain.
- 90328. No. 4. *Finnish.*** A very hardy and long-lived strain which has been grown for several years at the station.
- 90329. No. 5.** A strain developed at the station.
- 90330 to 90333. PHLEUM PRATENSE** L. Poaceae. **Timothy.**  
From Finland. Seeds presented by Otto Walle, Plant Breeding Station, Tammsisto. Received November 26, 1930.  
Seeds taken from single plants growing in the trial field.

90330 to 90333—Continued.

90330. *Imajoki*.  
 90331. *Kauhajoki*.  
 90332. *Kauvatsa*.  
 90333. *Nakkila*.

90334 to 90423.

From Chihhi Province, China. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received November 26, 1930.

90334. *ACER PICTUM MONO* (Maxim.) Pax. Aceraceae. **Maple.**

No. 7295. From the mountain side above the Chieh Tai Ssu Temple. A maple which bears 3-pointed to 5-pointed leaves. It is well worthy of a trial as an ornamental.

For previous introduction see 75666.

90335. *ACTINOSTEMMA LOBATUM* Maxim. Cucurbitaceae.

No. 7292. From the mountain side near the Chieh Tai Ssu Temple, September 28, 1930. A vine which produces interesting oblong fruits about an inch in length.

For previous introduction see 65500.

90336. *ASTRAGALUS MELILOTOIDES* Pall. Fabaceae. **Milkvetch.**

No. 7318. Collected near the Tau Chou Ssu Temple, about 50 miles from Peiping, September 30, 1930. A white or lavender-flowered melilotus, found growing near the tops of very rocky mountains where the soil is very thin.

90337. *ASTRAGALUS* sp. Fabaceae. **Milkvetch.**

No. 7043. From Peiping, August 30, 1930. A milkvetch with flat pods, collected east of the Temple of Heaven.

90338. *BENINCASA HISPIDA* (Thunb.) Cogn. Cucurbitaceae. **Waxgourd.**

No. 7315. From the Tau Chou Ssu Temple, September 30, 1930. This Chinese winter gourd weighed 20 pounds and was 15 inches long and 10 inches across. The rind, rather deep green on the outside, fading to almost white, was covered with a white bloom. The flesh, about 1 inch thick, is white and fluffy in appearance and is used by the Chinese in meat pies, soups, and in other ways.

90339. *BENINCASA HISPIDA* (Thunb.) Cogn. Cucurbitaceae. **Waxgourd.**

No. 7316. A winter gourd which weighed 30 pounds; it was over 12 inches in diameter and 14 inches long. The rind was light green and the white flesh 1 inch thick.

90340. *CANARIUM ALBUM* (Lour.) DC. Balsameaceae.

No. 7326. From Peiping, October 4, 1930. Purchased from a fruit vendor, but originally from Fukien Province, where it is known as the southern olive.

For previous introduction see 72886.

90341. *CARAGANA* sp. Fabaceae. **Pea-shrub.**

No. 7288. From the mountain side near Chieh Tai Ssu Temple, September 28, 1930. A shrubby thorny plant with

90334 to 90423—Continued.

small leaves and small rather long seed pods. This probably would make a good hedge plant.

90342. *CARAGANA* sp. Fabaceae. **Pea-shrub.**

No. 7321. From the small canyons on the rocky mountain side near the Tau Chou Ssu Temple, September 20, 1930. Appears to be the same as No. 7288 [90341].

90343. *CARPINUS TURCZANINOVII* Hance. Betulaceae. **Hornbeam.**

No. 7298. From the mountain side near the Chieh Tai Ssu Temple, September 28, 1930. A tree over 16 inches in diameter and 35 to 40 feet high, known locally as mountain elm.

90344. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceae. **Squash.**

No. 7314. Chinese name western gourd. From the Tau Chou Ssu Temple, September 30, 1930. A very hard-shelled greenish-yellow squash 10 inches long and over 6 inches in diameter. The light creamy yellow flesh, more than an inch thick, looks pitted. The Chinese use this squash in soups and meat pies, and the seeds are dried and eaten like watermelon and pumpkin seeds.

90345. *EUONYMUS* sp. Celastraceae.

No. 7405. From Peiping, October 15, 1930. A plant growing on the inside wall of the east moat about the ancestral hall in the Temple of Heaven grounds. When the seeds are ripe the pods turn a beautiful pink and open from below, usually into four parts, and expose the bright-red arils of the seeds. The leaves are light green with pink petioles, the pink color extending part way up the midrib.

90346. *FRAXINUS CHINENSIS RHYNCHOPHYLLA* (Hance) Hemsl. Oleaceae. **Ash.**

No. 7297. From the mountain side near the Tau Chieh Ssu Temple grounds, September 28, 1930. An attractive young tree 8 inches or more in diameter and 40 to 50 feet high, with clusters of very long narrow light greenish yellow winged seed.

90347 to 90349. *GLEDITSIA SINENSIS* Lam. Caesalpinaceae. **Chinese honeylocust.**  
 For previous introduction see 63184.

Nos. 90347 and 90348 were collected at the Hsiang Chieh Ssu Temple, Patachu, in the Western Hills, September 26, 1930.

90347. No. 7027. The soap-pod tree.

90348. No. 7263. Tree 6 inches in diameter and 18 feet tall, growing on a dry rocky mountain side. The pods are 9 to 10 inches long, straight and flat, and over 1 inch wide; the beans are much finer than No. 7027 [90347], shorter and almost round.

90349. No. 7403. Collected near Tau Chieh Ssu Temple, in the Western Hills, about 20 miles southwest of Peiping, September 29, 1930. The pods of this tree were 9 inches long.

90350 to 90363. *LESPEDEZA* spp. Fabaceae. **Bushclover.**

90350. *LESPEDEZA STIPULACEA* Maxim.

No. 7262. From Patachu, September 26, 1930. Low-growing plants from

90334 to 90423—Continued.

the grounds of the Western Hills hotel. This may be the same as that collected at Chinglungchiao, No. 7234 [89744].

90351. *LESPEDEZA STIPULACEA* Maxim.

No. 7320. Near Tau Chou Ssu Temple, September 30, 1930. Collected on rocky mountain side on very poor thin soil. This is the same as No. 7262 [90350], collected at Patachu. It may be slightly different on account of the different soil conditions.

90352. *LESPEDEZA* sp.

No. 7257. From Peiping, September 23, 1930. A more or less prostrate or creeping bushclover with small leaves; growing near the altar of the Temple of Heaven.

90353. *LESPEDEZA* sp.

No. 7260. From Peiping, September 24, 1930. A more or less prostrate form, found in a temple courtyard back of Coal Hill.

90354. *LESPEDEZA* sp.

No. 7264. Collected above the Cheng Kuo Ssu Temple, near Patachu, Western Hills, September 26, 1930. A single plant, branched at the ground, very shrubby, with small leaves 1 inch long, collected on the mountain side.

90355. *LESPEDEZA* sp.

No. 7319. From Tau Chou Ssu Temple, September 30, 1930. A thin stout-stemmed decumbent or creeping lespedeza with yellowish-brown seed, borne primarily in small clusters in the axils of the leaves. The plant is quite common and grows on rocky mountain sides on poor thin soil. This resembles No. 7260 [90353] from Coal Hill.

90356. *LESPEDEZA* sp.

No. 7323. From the mountain side near Tau Chou Ssu Temple, September 30, 1930. A rather common, very narrow-leaved lespedeza, inclined to be shrubby.

Nos. 90357 to 90363 were collected at Peiping, October 13, 1930.

90357. *LESPEDEZA* sp.

No. 7362. Plants growing between the paving stones on the top of the city wall, along the west.

90358. *LESPEDEZA* sp.

No. 7364. A creeping or more or less decumbent type, collected along the drive at the Ming Tombs.

90359. *LESPEDEZA* sp.

No. 7365. Collected at the Tangshan hot springs, 25 miles from Peiping.

90360. *LESPEDEZA* sp.

No. 7366. This lespedeza appears to be quite shrubby, with deep-purple flowers; it was almost eaten up by sheep.

90361. *LESPEDEZA* sp.

No. 7367. A shrubby type which seeds heavily and is more or less decumbent.

90334 to 90423—Continued.

90362. *LESPEDEZA* sp.

No. 7368. A rather shrubby, variety with small narrow leaves; collected in dry situations at the Ming Tombs.

90363. *LESPEDEZA* sp.

No. 7369. A small-leaved upright more or less shrubby variety.

90364. *MALUS* sp. Malaceae.

No. 7370. Purchased at Tangshan, near Peiping, October 13, 1930. A small red crab apple less than 1 inch in diameter; grown in the Western Hills.

90365. *MEDICAGO RUTHENICA* (L.) Trautv. Fabaceae.

No. 7119. From the park near the hotel at Tangshan, near Peiping, October 13, 1930.

For previous introduction and description see 90173.

90366 to 90384. *PHASEOLUS* spp. Fabaceae.90366 to 90374. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

90366. No. 7331. Near the village of Lotonwen, between Peiping and Tengtai, October 8, 1930. A deep bright red, locally grown variety.

90367. No. 7358. From Yangtsun, near Tientsin, October 9, 1930. A bean commonly grown in this vicinity.

Nos. 90368 to 90370 were purchased October 13, 1930, from a dealer at Tunkkungmao, outside of Peiping, en route to Tanshan.

90368. No. 7374. A rather dull-gray or almost white bean.

90369. No. 7375. A green and black mottled bean.

90370. No. 7376.

90371. No. 7389. Received from a farmer at Pingfang, about halfway from Peiping to Tangshan, October 14, 1930. A green and brown mottled bean.

Nos. 90372 and 90373 were collected at the village of Chanping, about halfway between Tangshan and the Ming Tombs, October 13, 1930.

90372. No. 7396. A creamy white variety.

90373. No. 7397. A red variety.

90374. No. 7332. Received from a farmer at the village of Lotonwen, between Peiping and Fengtai, October 8, 1930. A locally grown, gray variety.

90375 to 90382. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

90375. No. 7333. From Lotonwen, October 8, 1930. A fairly large dull-brown bean picked out of sample No. 7332 [90374]. This seems to be a different variety entirely.

90376. No. 7349. From Enchihon, Tientsin, October 9, 1930. This is said to be an exceptional strain of mung bean. When used with rice it makes a green-colored gruel, while all other varieties are said to turn the gruel a dark color.

90334 to 90423—Continued.

90377. No. 7361. From Yangtsun, near Tientsin, October 9, 1930. A dull-green variety.
90378. No. 7373. From Tunhung-mao, near Peiping, October 14, 1930. A somewhat mixed sample of smooth bright-green beans.
- Nos. 90379 to 90381 were collected at Pingfang, about halfway between Peiping and Tangshan, October 13, 1930.
90379. No. 7388. A dull-green variety.
90380. No. 7390. A dull-brown variety.
90381. No. 7391. Black and green mottled beans taken from No. 7389 [90371].
90382. No. 7395. October 3, 1930. From Changping. A dull-green variety.
- 90383 and 90384. PHASEOLUS VULGARIS L. Fabaceae. Common bean.  
Collected at Lotanwen, October 8, 1930.
90383. No. 7337. A white garden bean.
90384. No. 7338. A pale yellowish-brown oblong bean, grown as a vegetable.
90385. PISUM SATIVUM L. Fabaceae. Pea.  
No. 7394. From Changping village, between Tangshan and the Ming Tombs, October 13, 1930. A rather small to medium-sized field pea; yellow with a greenish tinge.
- 90386 to 90407. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.  
Nos. 90386 to 90390 were collected from a farmer at Lotanwen, between Peiping and Fengtai, October 8, 1930. Locally grown under valley conditions.
90386. No. 7340. A medium-sized yellow bean with a conspicuous brown hilum.
90387. No. 7341. A medium-sized oblong flattened black bean.
90388. No. 7342. A large round bright-green bean with a black hilum.
90389. No. 7343. A mixed sample of light-yellow and light-green varieties, some with mottling. They are interesting-looking seeds.
90390. No. 7344. From vines growing on reeds. The vines here climb to the top of reeds, 10 feet or more. Some of these wild soybeans look larger and different from those collected in 1925-26.
- Nos. 90391 to 90393 were collected at Enchihon, Tientsin, October 9, 1930.
90391. No. 7351. A mixed sample of green beans with green germ.
90392. No. 7352. A sample of the commercial run of beans in this locality.
90393. No. 7353. A rather small oblong flattened black bean.

90334 to 90423—Continued.

- Nos. 90394 to 90396 were collected at Yangtsun, near Tientsin, October 9, 1930.
90394. No. 7354. A somewhat mixed sample of green beans with white or creamy yellow germ.
90395. No. 7355. A mixed sample of various-sized green beans with green germ.
90396. No. 7356. A mixed sample.
90397. No. 7377. Purchased from a dealer outside of Peiping, en route to Tangshan, October 13, 1930. A rather small oblong flattened black bean.
90398. No. 7378. From Tunhungmao, near Peiping, October 13, 1930. A mixed sample of medium-small to large green beans, some are spotted with black, some almost round, others oblong, more or less flattened; hilum rather large and conspicuous; germ green.
- Nos. 90399 to 90402 were collected at Tangshan, October 13, 1930.
90399. No. 7379. A medium-large oblong flattened black bean. This is a representative sample and is said to be locally grown.
90400. No. 7380. A green bean, somewhat irregular in size and shape; germ, green.
90401. No. 7381. A yellow bean.
90402. No. 7385. A medium-sized, somewhat irregular bean.
- Nos. 90403 and 90404 were collected at Pingfang, about halfway between Peiping and Tangshan, October 13, 1930.
90403. No. 7392. A medium-sized oblong flat black bean; germ, white.
90404. No. 7393. A rather small, more or less oblong green bean.
- Nos. 90405 to 90407 were collected at Changping, about halfway between Tangshan and the Ming Tombs, October 13, 1930.
90405. No. 7400. A medium-sized green bean.
90406. No. 7401. A medium-sized oblong flattened black bean.
90407. No. 7402. A mixed sample of very large flat oblong yellow beans.
90408. SPIRAEA DASYANTHA Bunge. Rosaceae. Spirea.  
No. 7286. From the mountain side near Chieh Tai Ssu Temple, September 28, 1930. A shrub 4 to 6 feet high with 3-lobed to 5-lobed leaves 1 inch long, bluish green beneath, and small umbels of white flowers. It is native to Japan.
90409. SYRINGA sp. Oleaceae. Lilac.  
No. 7296. From the mountain side near Chieh Tai Ssu Temple, September 28, 1930. A small tree over 15 feet high, growing in the wild.
90410. THLADIANTEA DUBIA Bunge. Cucurbitaceae.  
No. 7258. Tubers of this plant were introduced under the Dorsett number 7044. For description see 89389.

## 90334 to 90423—Continued.

90411. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. **Common wheat.**

No. 7382. Collected at Tangshan village, about 20 miles northwest of Peiping, October 13, 1930.

90412. *VICIA FABA* L. Fabaceae. **Broadbean.**

No. 7339. From near the village of Lotonwen, between Peiping and Fengtai, October 8, 1930.

90413 to 90423. *VIGNA* spp. Fabaceae.

90413. *VIGNA SESQUIPEDALIS* (L.) Frurwirth. **Asparagus-bean.**

No. 7334. Near the village of Lotonwen, between Peiping and Fengtai, October 8, 1930. A reddish-brown bean with a rather conspicuous hilum; grown as a vegetable.

90414 to 90423. *VIGNA SINENSIS* (Toner) Savi. **Cowpea.**

Nos. 90414 and 90415 were collected at Lotonwen, October 8, 1930.

90414. No. 7335. A yellowish cowpea, mottled with brown.

90415. No. 7336.

90416. No. 7350. Collected at Enchihon, Tientsin, October 8, 1930. A brownish or terra-cotta bean mottled with a deeper brown. This is quite generally grown in the vicinity of Peiping.

Nos. 90417 and 90418 were collected at Yangtsun near Tientsin, October 9, 1930.

90417. No. 7359. A dark-pink to red cowpea.

90418. No. 7360. A cowpea with a brown hilum.

Nos. 90419 and 90420 were collected at Tunghungmao, near Peiping, October 13, 1930.

90419. No. 7371. A red or pink variety, quite commonly grown in the vicinity of Peiping.

90420. No. 7372. A white and red or pink mottled cowpea, commonly grown in this vicinity.

90421. No. 7387. Collected at the village of Pengfang, about halfway between Peiping and Tangshan, October 13, 1930. A red cowpea.

Nos. 90422 and 90423 were collected at Changping, about halfway between Tangshan and the Ming Tombs, October 13, 1930.

90422. No. 7398. 90423. No. 7399.

## 90424 to 90447.

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Max Souvlon, Bureau of Plant Industry. Received December 1, 1930.

90424. *CASTILLEJA ARVENSIS* Cham. and Schlecht. Scrophulariaceae. **Paintedcup.**

No. 324. Collected southeast of Amecameca, State of Mexico, at 7,800 feet altitude, November 10, 1930. A shrubby ornamental 6 to 20 inches high with inconspicuous flowers but brilliant-red bracts, found growing in a cornfield.

## 90424 to 90447—Continued.

90425. *COSMOS* sp. Asteraceae.

No. 376. From Boca del Monte, Puebla, November 17, 1930, at 8,000 feet altitude. A plant 10 to 15 inches high with yellow petals, tipped with white, found growing in an open pasture.

90426 and 90427. *CRACCA* spp. Fabaceae.

90426. No. 400. Collected in a gorge, southeast of Nogales, Vera Cruz, November 19, 1930. A herbaceous vine found at an altitude of 5,000 feet.

90427. No. 404. From Nogales, Vera Cruz, November 19, 1930. A herbaceous vine found along a creek at 4,000 feet altitude.

90428. *ERYTHRINA* sp. Fabaceae. **Coraltree.**

No. 410. From Nogales, Vera Cruz, along the Rio Blanco, November 19, 1930. A tree about 30 feet high found at an altitude of 4,000 feet.

90429. *PASSIFLORA ADENOPODA* Moc. and Sesse. Passifloraceae.

No. 349. Collected 3 miles north of Tenancingo, State of Mexico, November 13, 1930, at 8,400 feet altitude. A passiflora with purplish-black fruits.

90430 to 90440. *PHASEOLUS* spp. Fabaceae.

90430. *PHASEOLUS ADENANTHUS* G. Meyer.

No. 306. From the crater west of San Rafael, at 8,000 feet altitude, November 10, 1930. A herbaceous vine.

90431. *PHASEOLUS COCCINEUS* L. **Scarlet Runner bean.**

No. 428. From the market of Xochimilco, Distrito Federal, November 15, 1930.

90432 to 90440. *PHASEOLUS VULGARIS* L. **Common bean.**

From the market of Xochimilco, Distrito Federal, November 15, 1930.

90432. No. 424. 90437. No. 430.

90433. No. 425. 90438. No. 431.

90434. No. 426. 90439. No. 432.

90435. No. 427. 90440. No. 433.

90436. No. 429.

90441 to 90444. *SOLANUM* spp. Solanaceae.

90441. *SOLANUM* sp.

No. 310. For introduction of tubers and description, see 89687.

90442. *SOLANUM* sp.

No. 332. For introduction of tubers and description, see 89914.

90443. *SOLANUM* sp.

No. 344. For introduction of tubers and description, see 89918.

90444. *SOLANUM* sp.

No. 264. Collected at Tenancingo, State of Mexico, along the roadside, November 13, 1930. Fruits green with a mottling of purplish green.

## 90424 to 90447—Continued.

90445. *TIGRIDIA* sp. Iridaceae. Tigerflower.

No. 177. Collected near Nogales, Vera Cruz, October 24, 1930, in a gorge north of town at an altitude of 6,000 feet.

90446. *TRIFOLIUM* sp. Fabaceae. Clover.

No. 327. Collected along the roadside a mile east of Toluca, State of Mexico, November 12, 1930, at 8,700 feet altitude. A clover about 10 feet high with red flowers.

90447. *VICIA* sp. Fabaceae. Vetch.

No. 325. From the crater west of San Rafael, Distrito Federal, November 10, 1930, at an altitude of 7,800 feet.

90448. *ALBIZZIA KATANGENSIS* Wildem. Mimosaceae.

From Belgian Congo, Africa. Seeds presented by the Directeur Général, Comité Spécial du Katanga, Elisabethville. Received December 5, 1930.

A large deciduous tropical tree, valuable for timber. The roots are used in an infusion as a disinfectant.

For previous introduction see 48429.

90449. *KHAYA NYASICA* Stapf. Meliaceae.

From Southern Rhodesia, Africa. Seeds presented by Dr. W. L. Thompson, Mount Silinda. Received December 5, 1930.

The red mahogany is one of the most valuable timber trees of Rhodesia, and is also widely distributed over Mozambique. It is fairly rapid in growth, though not equal to some of the eucalypts in this respect. It is found most often growing near streams, but it also occurs on high ground at a distance from water. The timber is very durable and is not attacked by white ants or borers.

For previous introduction see 85748.

90450. *TELFAIRIA OCCIDENTALIS* Hook. f. Cucurbitaceae.

From Gold Coast, Africa. Seeds presented by L. A. King-Church, Conservator of Forests' Office, Department of Agriculture, Akkra, through David Fairchild, Bureau of Plant Industry. Received December 5, 1930.

A woody climber up to 100 feet high, with digitately compound leaves of oblong leaflets, 3-nerved from the base, large pale-purple flowers, and fleshy 10-ribbed fruits about 2 feet long. The flat irregularly shaped seeds are 1 to 2 inches across and are boiled and eaten. It is native to Sierra Leone.

## 90451 to 90515.

From Chihli Province, China. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received December 5, 1930.

90451. *ASTER* sp. Asteraceae.

No. 7431. From Peiping, October 26, 1930. An attractive small-flowered fall-blooming aster with small finely cut leaves. The flowers are less than 1 inch in diameter.

## 90451 to 90515—Continued.

90452. *ASTRAGALUS MELILOTOIDES* Pall. Fabaceae.

No. 7178. From Tangshang, Peiping, October 23, 1930.

For previous introduction and description see 89593.

90453. *DOLICHOS LABLAB* L. Fabaceae. Hyacinth-bean.

No. 7505. From a farmer in Tahsin-feng, October 22, 1930. A medium-sized black bean speckled with brown. The green beans are used as a vegetable and the dried beans are used for porridge.

90454. *FAGOPYRUM ESCULENTUM* Moench. Polygonaceae. Buckwheat.

No. 7426. From the village of Nanchuangying, near Peiping, October 22, 1930.

90455. *HORDEUM VULGARE PALLIDUM* Seringe. Poaceae. Six-rowed barley.

No. 7425. From the village of Nanchuangying, near Peiping, October 22, 1930. Barley is not very extensively grown in this vicinity.

90456. *LESPEDEZA* sp. Fabaceae. Bushclover.

No. 7429. En route from Tang Shan to Nanchuangying, October 23, 1930. A lespedeza with wiry stems, which blooms early. The seeds ripen late and hold well in the pods. It is common in the vicinity of Peiping.

90457 to 90460. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

Nos. 90457 and 90458 were received from a farmer in Nanchuangying, October 22, 1930.

90457. No. 7501. A medium-sized marbled gray and black bean used for food.

90458. No. 7502. A medium-small reddish-brown bean which is used boiled and as a paste.

90459. No. 7503. From Tahsin-feng, October 22, 1930. A medium-small marbled gray and black bean, used for food.

90460. No. 7504. From Taipingshuang, October 22, 1930. A medium-small marbled black and gray bean, used for food.

90461 to 90467. *PHASEOLUS AUREUS* Roxb. Fabaceae. Mung bean.

Nos. 90461 and 90462 were received from a farmer in Tahsin-feng, October 22, 1930. They are used for making noodles, vermicelli, and bean paste.

90461. No. 7513. A mixed sample of medium-small dull green and brown beans.

90462. No. 7514. A medium-small dull-green bean.

90463. No. 7515. From Taipingshuang, October 22, 1930. A medium-small black bean, used for food.

90464. No. 7516. From Nanchuangying, October 22, 1930. A mixed sample of medium-small dull-green and dull-brown beans, used for noodles, vermicelli, and bean paste.

## 90451 to 90515—Continued.

- Nos. 90465 and 90466 were received from a bean-sprout factory in Peiping, October 25, 1930.
90465. No. 7535. A medium-sized glossy green bean with white hilum; considered the best variety for sprouts; originally from Kaljan.
90466. No. 7538. A medium-sized dull-green bean with white hilum, known as hairy mung bean. It is used for sprouts, bean vermicelli, and bean noodles.
90467. No. 7559. From the Botanical Garden, West Peiping gate, Peiping. A medium-small dull-green bean; used for bean sprouts and bean vermicelli.
90468. *PHASEOLUS CALCARATUS* Roxb. Fabaceae. Rice bean.
- No. 7560. From the Botanical Garden, West Peiping gate, Peiping, October 28, 1930. A mixture of medium-small yellowish-green and brown beans.
90469. *PINUS BUNGEANA* Zucc. Pinaceae. Lacebark pine.
- No. 7427. From the Winter Palace, near the Jade Buddha, at Peiping, October 23, 1930. A tree 700 years old, which branches rather low.
- 90470 to 90474. *PISUM SATIVUM* L. Fabaceae. Pea.
- From the Botanical Garden, West Peiping gate, Peiping, October 28, 1930.
90470. No. 7551. *Peiping small yellow field pea*. A very light-buff round pea.
90471. No. 7552. *Peiping green field pea*. A medium-sized wrinkled light-green pea with green germ.
90472. No. 7553. *Peiping large yellow field pea*. A medium-sized nearly round very light-buff pea.
90473. No. 7554. *Lang tou* (early German pea). A medium-sized slightly wrinkled light-green pea.
90474. No. 7555. *Ssu chwan* (white pea). A medium-sized slightly wrinkled light-buff pea.
- 90475 to 90506. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.
- Nos. 90475 to 90478 were from Taiping-chuang, October 22, 1930.
90475. No. 7407. A medium-small light-green oval slightly flattened bean slightly mottled with brown; hilum brown.
90476. No. 7408. *Early small green*. A medium-small slightly flattened light-green bean with pale hilum; germ yellow.
90477. No. 7409. A medium-small oblong much-flattened black bean with yellow germ. Said to be a tall-growing sort with vining terminal.
90478. No. 7410. A medium-sized oval slightly flattened green bean with pale hilum and green germ.
- 90479 and 90480. From Nanchuangying, October 22, 1930.
90479. No. 7413. A medium-sized, much-flattened black bean with green germ.

## 90451 to 90515—Continued.

90480. No. 7414. A medium-sized oval yellow bean with brown hilum.
- Nos. 90481 to 90485 were collected at Tahsinfeng, October 22, 1930.
90481. No. 7415. A medium-sized oval slightly flattened light-green bean with pale hilum and yellow germ.
90482. No. 7416. A medium-small oblong much-flattened black bean with yellow germ.
90483. No. 7417. A medium-sized oval dark-green bean with light-brown hilum and green germ.
90484. No. 7418. A medium-small oblong slightly flattened green bean with brown hilum and yellow germ.
90485. No. 7419. A medium-sized oval yellow bean with brown hilum.
- Nos. 90486 and 90487 were collected in a bean-sprout factory, Peiping, October 25, 1930.
90486. No. 7533. A medium-sized oval green bean with brown hilum. This variety comes from the southwestern part of the Peiping district and is used for green soybean sprouts.
90487. No. 7534. A medium-sized oval yellow bean with brown hilum. This variety comes from the southwestern part of the Peiping district and is used for making yellow soybean sprouts.
- Nos. 90488 to 90490 were collected from the Liu Lo Grain Shop, Peiping, October 27, 1930.
90488. No. 7540. A medium-small oblong glossy black bean with yellow germ. Used as forage and also in the making of a dried form of natto.
90489. No. 7541. A medium-sized oval green bean with brown hilum and green germ. Used for green bean sprouts.
90490. No. 7542. A medium-sized oval yellow bean with brown hilum, very similar to Easycook variety. Used for making bean curd.
- Nos. 90491 to 90498 were from the Botanical Garden, West Peiping gate, Peiping, October 28, 1930.
90491. No. 7543. *Peiping jam-colored bean*. A medium-sized oval glossy brown bean.
90492. No. 7544. A mixture of black-seeded sorts, very similar to the old Wilson variety [19183]. Seed varies from medium small to medium; from slightly flattened to flat; some have yellow germ, others green.
90493. No. 7545. A medium-small much-flattened black bean with yellow germ, very similar to the Cloud variety [16790]. Used for forage and in making a dry natto-like product.
90494. No. 7546. *Peiping cat's eye bean*. A medium-large oval black bean marked with brown concentric rings. Similar to Meyer variety [17852]. It is soaked in water and used roasted.

90451 to 90515—Continued.

90495. No. 7547. A medium-sized oval slightly flattened light glossy yellow bean with brown hilum; used for bean curd.

90496. No. 7548. A medium-large oval slightly flattened green bean with brown hilum and green germ; used for green bean sprouts.

90497. No. 7549. *Chuo chou* (large green). A large oval green bean with dark-brown hilum and green germ.

90498. No. 7550. *Ho bet* (large red). A medium-sized, nearly round, dark-brown bean.

90499. No. 7561. *Black and white*. From a street grain market, Peiping, October 29, 1930. A medium-sized oval greenish-yellow bean with black hilum; said to be grown at Kalgan.

Nos. 90500 to 90506 came from the Heian Nando Grain Inspection Office, Chinnampo, Chosen, October 29, 1930.

90500. No. 7562. *Hokkaido*, grown in Junsen, Chosen. A medium-sized oval light glossy yellow bean with light slate black hilum; used for bean curd, miso, and natto.

90501. No. 7563. *Honta*, grown in Sanwamen village, Rynkogum, Chosen. A medium-large oval light glossy yellow bean with pale hilum.

90502. No. 7564. *Wante*, grown in Angaku, Kokaido Prefecture, Chosen. A medium-sized glossy straw to yellowish green-colored bean which is slightly mottled; hilum brown.

90503. No. 7565. *Heiyo*, grown in Junsen, Chosen. A medium-sized oval glossy yellow bean with pale hilum.

90504. No. 7566. *Ryugan* (dragon eye), grown in Junsen, Chosen. A medium-sized oval glossy yellow bean with black hilum.

90505. No. 7567. *Otarukon*, grown in Tokusen, Chosen. A large oval glossy yellow bean with pale hilum.

90506. No. 7568. *Honta*, grown in Dailaimen village, Chosen. A medium-large oval light glossy yellow bean with pale hilum.

90507 and 90508. *VICIA FABA* L. Fabaceae. Broadbean.

From the Botanical Garden, West Peiping gate, Peiping, October 28, 1930. Varieties used as sprouts and as green beans.

90507. No. 7556. A medium-large, much-flattened, light-tan bean with dark-brown hilum.

90508. No. 7557. A medium-small olive-green bean with black hilum.

90509 to 90515. *VIGNA* spp. Fabaceae.

90509. *VIGNA SESQUIPEDALIS* (L.) Fr. wirth. Asparagus-bean.

No. 7506. From Tahsinfeng, October 22, 1930. A mixture of medium-sized black and reddish-pink varieties. The green pods and also the dried beans are used for food.

90451 to 90515—Continued.

90510 to 90515. *VIGNA SINENSIS* (Turner) Savi. Cowpea.

Nos. 90510 to 90512 were from a farmer in Tahsinfeng, October 22, 1930.

90510. No. 7507. A medium-sized white cowpea with brown hilum; used for food.

90511 and 90512. Mixed samples of medium-sized pink and pink and white cowpeas; used for food.

90511. No. 7509.

90512. No. 7510.

90513. No. 7511. From Nanchuangying, October 22, 1930. A mixed sample of medium-sized white cowpea with brown hilum and pink cowpeas; used for food.

90514. No. 7512. From Taiping-chuang, October 22, 1930. A medium-sized white cowpea with brown hilum; used for food.

90515. No. 7539. Purchased from the Liu Ho Grain Shop, Peiping, October 27, 1930. A medium-sized cowpea, marbled brown and gray (whippoorwill markings). Used as a green vegetable bean and also cooked in porridge and soups.

90516. *FICUS CALOPHYLLOIDES* Elmer. Moraceae. Fig.

From the Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture, Manila. Received December 8, 1930.

*Weeping fig*. A large handsome spreading tropical tree 70 feet high and 4 feet in diameter, native to the Philippine Islands, with elliptic leaves 5 inches long and flattened globose yellowish-brown fruits.

For previous introduction see 80417.

90517 to 90523.

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Max Souviron, Bureau of Plant Industry. Received December 9, 1930.

90517. *CARICA PAPAYA* L. Papayaceae. Papaya.

No. 418. From Orizaba, Vera Cruz, November 20, 1930.

90518. *CROTALARIA INCANA* L. Fabaceae.

No. 447. Near Guanajuato, Guanajuato, November 27, 1930. A herbaceous plant 20 to 30 inches high with yellow and velvet purple flowers, found at an altitude of 7,000 feet in a deserted mine below the town.

90519. *TIGRIDIA* sp. Iridaceae. Tigerflower.

No. 471. Collected in a garden below the dam near Valenciana mine, Guanajuato, November 27, 1930, at an altitude of 8,000 feet.

90520. (Undetermined.)

No. 460. From San Juan del Rio, Queretaro, November 25, 1930. A herbaceous plant growing at an altitude of 7,000 feet on a rocky hillside.



## 90517 to 90523—Continued.

## 90521. (Undetermined.)

No. 470. Near the Valenciana mine, Guanajuato, November 27, 1930. A herbaceous plant 3 to 18 feet high, with red flowers, found at an altitude of 8,000 feet.

## 90522. (Undetermined.)

No. 367. Along the road between Tenango and Tenancingo, Mexico State, November 13, 1930. A leguminous plant with large pods, 6 inches long and over an inch wide, found at an altitude of 8,000 feet.

90523. *ZORNIA DIPHYLLA* (L.) Pers. Fabaceae.

No. 401. From Nogales, Vera Cruz, November 19, 1930. A prostrate leguminous yellow-flowered plant collected in a gorge southeast of town on the mountain side at 5,000 feet altitude.

90524. *MALUS SYLVESTRIS* Mill. (*Pyrus malus* L.). Malaceae. Apple.

From Sochi, Union of Soviet Socialist Republics. Trees presented by Professor Lichagov, Sochi Experiment Station. Received December 9, 1930.

*Bellflower* × *Kitaiika*.

90525. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

From the port of San Juan, Puerto Rico. Seeds presented through D. N. Shoemaker, Bureau of Plant Industry. Received December 11, 1930.

90526 and 90527. *LILIUM* spp. Liliaceae. Lily.

From England. Seeds purchased from W. A. Constable, Paddock Wood, Kent. Received December 12, 1930.

90526. *LILIUM FARRERI* Turrill.

A handsome species discovered in Yunnan, China, by Reginald Farrer and frequently referred to in his writings as the marble Martagon lily. It is a slender and graceful lily, 2 to 3 feet high, bearing, on long pedicels, up to five recurved white flowers which are slightly spotted with purple on the interior. This lily possesses a strong constitution and increases fast by means of numerous small bulbs forming at the base of the stem.

For previous introduction see 75727.

90527. *LILIUM PHILIPPINENSE FORMOSANUM* (Baker) Wilson.

A form of the Benguet lily which is native to Taiwan and is characterized by its long narrow leaves and vinous purple-tinged flowers.

90528 to 90532. *PHLEUM PRATENSE* L. Poaceae. Timothy.

From the Union of Soviet Socialist Republics. Seeds presented by A. Kol, Chief, Bureau of Introduction, Institute of Applied Botany and New Cultures, Leningrad. Received December 12, 1930.

## 90528. No. 2800. From Ukhta Mountain, Murmansk Government.

## 90529 to 90532. Wild forms.

90529. No. 3966. From Ssevero Dvinsk Government.

## 90528 to 90532—Continued.

90530. No. 3943. From Ssevero Dvinsk Government.

90531. No. 4374. From Novo-Nikolsk Government.

90532. No. 4376. From Buriat-Mongol Republic (former Irkutsk Government).

90533. *MYOPOBUM LAETUM* Forst. f. Myoporaceae.

From Mexico. Seeds collected by Dr. Donald Reddick, Cornell University, in collaboration with Max Souviron, Bureau of Plant Industry. Received December 1, 1930.

No. 329. From Toluca, Mexico State, November 12, 1930. Collected from Señor Zapeda's garden, at an altitude of 8,700 feet, a shrub or small tree up to 25 feet high, with lanceolate to obovate leaves 2 to 4 inches long and axillary fascicles of small white flowers spotted with purple, followed by fleshy purple fruits less than half an inch long. It is native to New Zealand.

## 90534 to 90536.

From Java, Netherland East Indies. Seeds presented by G. Koch, Manager, Sindang Panen Estate, Peerwakarta, through David Fairchild, Bureau of Plant Industry. Received December 16, 1930.

90534. *ACACIA VILLOSA* (Swartz) Willd. Mimosaceae.

A native of Venezuela which is used in Java for the same purpose as *Leucaena glauca*; that is, as a shade for field crops; it is preferred because of its slower growth. It is said to be used in the teak forest plantings as a permanent leguminous undershrub to add nitrogen and humus to the soil.

For previous introduction see 67837.

90535. *CASSIA HIRSUTA* L. Caesalpinaceae.

An erect annual herb with long hairs. The compound leaves are made up of three to five pairs of ovate leaflets 2 to 3 inches long, and the yellow flowers are borne in axillary racemes. It is native to Brazil.

For previous introduction see 81411.

90536. *CLITORIA LAURIFOLIA* Poir. (*C. janifolia* Benth.). Fabaceae.

An erect herbaceous tropical leguminous plant said to have white flowers. It may prove valuable as a cover crop.

For previous introduction see 72995.

90537 to 90543. *SOLANUM TUBEROSUM* L. Solanaceae. Potato.

From Halle-Saale, Germany. Tubers presented by E. F. Gaines, Pullman, Wash. Received December 16, 1930.

90537. *Paulsen* × *Holscher*; Gaines No. 1; *Fritzi*. A very early potato with flesh and skin yellow, shallow eyes, kidney-shaped tubers; small finely pubescent leaves which roll when near maturity; flowers, blue violet. This potato is of good quality, can be planted early in all soils, and is immune to canker.

90538. *Paulsen* × *Holscher*; Gaines No. 2; *Goldappel*. An early potato with golden-yellow flesh, yellow skin, round shallow eyes, and white flowers. It is immune to canker.

## 90537 to 90543—Continued.

90539. *Paulsen* × *Holscher*; Gaines No. 3; *Fsolde*. An early kidney-shaped potato with yellow flesh and skin, shallow eyes, and faint blue-violet flowers. It is a good salad potato and does best on sandy soil. Immune to canker.

90540. *Paulsen* × *Holscher*; Gaines No. 4; *Beate* 1. A round-flat vigorous good-flavored early potato with white flesh and skin, branching pure-green foliage, and white flowers. It is adapted to a wide range of soil, is immune to canker, and is of the highest commercial quality.

90541. *Paulsen* × *Holscher*; Gaines No. 5; *Roland* 1. A mid-late, very vigorous, round and flattened potato with white flesh, red skin, shallow dark-red eyes, nearly pure green leaves, and red-violet flowers. This potato is rich in food value, does well on all soils, is resistant to canker, and is of first-class market quality.

90542. *Paulsen* × *Holscher*; Gaines No. 6; *Goldadler*. A mid-late potato with long-oval round tubers, golden-yellow flesh and skin, shallow eyes, strong green vines, and light-blue violet flowers with white star in center. It is a new variety, immune from canker, of medium quality, but stands handling well.

90543. *Paulsen* × *Holscher*; Gaines No. 7; *Hellena*. A canker resistant, late potato with white flesh and skin, mid-deep eyes; long-round, very thrifty, tall stems which are nearly pure green, and white flowers. This is a first-quality potato with a good flavor and a high percentage of starch.

90544. *FICUS* sp. Moraceae.

From Mount Silinda, Southern Rhodesia, Africa. Seeds presented by Dr. W. L. Thompson. Received December 16, 1930.

A handsome tree with large palmate leaves resembling those of the horsechestnut, some of the leaflets being over a foot in diameter. The tree grows to a height of 50 feet, and both the pulp and the kernels of the fruits are eaten by small animals and birds.

## 90545 to 90585.

From Manchuria. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received December 17, 1930.

Nos. 90545 to 90559 were collected by M. Ohara, of the Manshu Nosan Shokai, Dairen, in November, 1930.

90545. *ASTRAGALUS DAVURICUS* (Pall.) DC. Fabaceae. **Milkvetch.**

No. 6468. From near Kungling, November 12, 1930.

90546. *CASSIA MIMOSOIDES* L. Caesalpinaceae.

No. 6453. From near Pulatien, November 11, 1930.

90547. *INDIGOFERA KIRILOVII* Maxim. Fabaceae. **Kirilow indigo.**

No. 6466. From near Antung, November 12, 1930.

90548. *LATHYRUS DAVIDII* Hance. Fabaceae.

No. 6467. From near Dairen, November 12, 1930. A white-flowered climber,

## 90545 to 90585—Continued.

3 to 4 feet high, with membranous trifoliate leaves and yellowish-white flowers. Native to northern China.

90549 to 90556. *LESPEDEZA* spp. Fabaceae. **Bushclover.**

90549. *LESPEDEZA CYRTOBOTRYA* Miquel. No. 6451. From near Dairen, November 11, 1930.

90550 and 90551. *LESPEDEZA DAURICA* (Laxm.) Schindler (*L. medicagnoides* Bunge).

Collected near Dairen, November 11, 1930.

For previous introduction see 65493. 90550. No. 6463. 90551. No. 6448.

90552 and 90553. *LESPEDEZA STIPULACEA* Maxim.

For previous introduction see 82075.

90552. No. 6457. From near Kungchuling, November 11, 1930.

90553. No. 6464. From near Dairen, November 12, 1930.

Nos. 90554 and 90555 were collected near Chinchon, November 11, 1930.

90554. *LESPEDEZA TOMENTOSA* (Thunb.) Maxim.

No. 6454.

For previous introduction see 89745.

90555. *LESPEDEZA VIRGATA* (Thunb.) DC. No. 6461.

For previous introduction see 62182.

90556. *LESPEDEZA* sp.

No. 6450. From near Dairen, November 11, 1930.

90557. *MELILOTUS INDICA* (L.) All. Fabaceae. **Sweetclover.**

No. 6456. From near Kungchuling, November 11, 1930.

90558. *MELILOTUS SUAVEOLENS* Ledeb. Fabaceae.

No. 6449. From near Ingchantzu, November 12, 1930.

90559. *PHASEOLUS AUREUS* Roxb. Fabaceae. **Mung bean.**

No. 6458. From near Ryojun, November 12, 1930.

90560 to 90580. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. **Soybean.**

Nos. 90560 to 90579 are a collection of yellow-seeded varieties used for oil and oil meal, collected at the Dairen wharves November 14, 1930.

90560. No. 6470. Said to have come from between the Kungchuling district and Changchun.

Nos. 90561 to 90563 are from the Changchun and Harbin districts.

90561. No. 6471. 90563. No. 6473.

90562. No. 6472.

Nos. 90564 to 90566; locality not known.

90564. No. 6474.

90566. No. 6476.

90565. No. 6475.

## 90545 to 90585—Continued.

90567. No. 6477. From Changchun district.

Nos. 90568 to 90570; locality not known.

90568. No. 6478. 90570. No. 6480.

90569. No. 6479.

90571. No. 6481. From the Changchun district.

90572. No. 6482. Locality not known.

90573. No. 6483. From Changchun to the Harbin district.

90574. No. 6484. From near Changchun.

90575. No. 6485. Locality not known.

90576. No. 6486. From near Changchun.

Nos. 90577 to 90579; locality not known.

90577. No. 6487. 90579. No. 6489.

90578. No. 6488.

90580. No. 6446. Collected near Kungchuling by M. Ohara, of the Manshu Nosan Shokai, Dairen, November 12, 1930. A very viny plant with small dull-black seed which grows abundantly in waste places.

90581. *TRIFOLIUM LUPINASTER* L. Fabaceae. Clover.

No. 6447. Collected near Kungchuling by M. Ohara, November 12, 1930. This may be of value for forage and green manure.

90582 to 90585. *VICIA* spp. Fabaceae. Vetch.

Collected by M. Ohara, November 12, 1930.

90582 and 90583. *VICIA AMOENA* Fisch. Collected near Kungchuling.

90582. No. 6460.

90583. No. 6462. Variety *oblongifolia*.

90584. *VICIA CRACCA* L. Cow vetch.

No. 6452. Collected near Dairen.

90585. *VICIA UNIJUGA* A. Br.

No. 6465. Collected near Dairen.

## 90586 and 90587.

From Buitenzorg, Java. Seeds presented by Dr. W. Docters van Leeuwen, Director, Botanic Garden. Received December 18, 1930.

90586. *LIVISTONA JENKINSIANA* Griffith. Palm.

An East Indian palm 20 to 30 feet tall with a thick round crown. The leaves are used for covering tops of boats and umbrellas.

For previous introduction see 46697.

90587. *LIVISTONA ROTUNDIFOLIA* (Lam.) Mart. Phoenicaceae. Java fan palm.

An erect pinnate-leaved palm, native to tropical Asia, about the same size as the coconut palm. The hard, durable wood is used for general construction.

For previous introduction see 72599.

## 90588 to 90648.

From Tiflis, Union of Soviet Socialist Republics. Seeds presented by the Director of the Botanic Garden. Received December 18, 1930.

90588 to 90592. *ACER* spp. Aceraceae. Maple.

90588. *ACER CAPPADOCICUM* Gleditsch (*A. laetum* C. Mey.).

Coliseum maple.

A tree up to 50 feet high, native to the Caucasus region and eastward to western China. The 5-lobed to 7-lobed cordate leaves are 3 to 6 inches across, and the greenish-yellow flowers, in upright corymbs, are followed by spreading winged fruits.

90589. *ACER DIVERGENS* Koch and Pax.

A tree, native to the Caucasus region, with ash-brown bark and leathery 5-lobed leaves which are dark green above and pale beneath.

For previous introduction see 64290.

90590. *ACER HYRCANUM* Fisch. and Mey.

A southern European maple of compact habit, about 25 feet high, with bright-green 5-lobed leaves and greenish-yellow flowers which are followed by winged fruits about 1 inch long.

For previous introduction see 64291.

90591. *ACER INSIGNE* Boiss. and Buhse.

A large tree with deeply cordate leaves 5 to 10 inches across, having five coarsely crenate-serrate lobes. The flowers are borne in large erect panicles. It is native to the Caucasus region and northern Persia.

90592. *ACER MONSPESSULANUM* IEBBICUM (Bieb.) Pax.

A form of the Montpellier maple with larger leaves, having the inner lobes slightly 3-lobed and obtuse. It is native to the Caucasus region.

90593 to 90607. *ALLIUM* spp. Liliaceae. Onion.

90593. *ALLIUM AFFINE* Ledeb.

An onion about 18 inches high, with semicylindrical leaves and a dense umbel of white flowers on an erect slender scape. Native to Persia and the Caucasus.

90594. *ALLIUM ALBIDUM* Fisch.

A species with clustered oblong bulbs, very narrow semiterete leaves, and white or yellowish-white flowers. Native to the southern part of the Union of Soviet Socialist Republics.

For previous introduction see 59346.

90595. *ALLIUM ATROVIOLACEUM* Boiss.

This onion, a native of Asia Minor, has very narrow flat leaves about 2 feet long, and dark-purple flowers in a many-flowered globular umbel.

90596. *ALLIUM CHARAULICUM* Fomin.

A Caucasian onion with filiform leaves and white flowers, marked with reddish lines, in a rather dense umbel, on a scape 6 to 8 inches high.

90597. *ALLIUM DAGHESTANICUM* Hort.

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

90588 to 90648—Continued.

**90598. ALLIUM FLAVUM L.**

A wild onion with an upright or ascending stem a foot or less high, narrowly linear leaves about as long as the stem, and small yellow bell-shaped flowers in a rather dense cluster. Native to dry rocky places, especially in chalky soil, in south-central Europe.

For previous introduction see 82011.

**90599. ALLIUM FOMINIANUM Mishchenko.**

A name for which a description has not been found.

**90600. ALLIUM GRACILE Albow.**

The erect slender scape of this alpine onion bears a hemispherical lax head of rose-colored flowers. The long leaves are linear-filiform. It is native to the southern part of the Union of Soviet Socialist Republics.

**90601. ALLIUM LEPIDUM Kunth.**

A rather small onion with semiterete leaves 3 to 4 inches high, and a shorter scape bearing an umbel of purplish flowers. It is native to the Caucasus.

**90602. ALLIUM PSEUDOSTRICTUM Albow.**

An alpine onion about 8 inches high, with flat linear leaves and pale-rose flowers in a small dense globular head on a scape 10 inches high. Native to the southern part of the Union of Soviet Socialist Republics.

**90603. ALLIUM ROTUNDUM L.**

Variety *scorodoprassoides*. A pink-flowered onion with flat leaves about 1 foot long. The dense globular umbel is borne on a scape, leafy for one-third to one-half its length. It is common in subalpine regions of Asia Minor.

**90604. ALLIUM RUBELLUM Bieb.**

A pink-flowered onion with the globular umbel on a slender scape, leafy below. The leaves are semicylindrical and very narrow. It is native to Asia Minor.

**90605. ALLIUM RUPESTRE Bieb.**

An onion from Asia Minor with subterete-linear leaves and about 10 flesh-colored flowers in a small umbel.

**90606. ALLIUM SCHOENOPRASUM L.**

Chives.

The sand leek or racambole of Europe and Asia Minor; resembles garlic, but has smaller bulbs of milder flavor which are produced at the tip of the stem as well as at its base.

For previous introduction see 78991.

**90607. ALLIUM VICTORIALIS L.**

One of the most distinctive species of European onion, with stems about 2 feet high, leaves resembling those of lily-of-the-valley, and white or greenish-white flowers.

For previous introduction see 86666.

**90608 to 90615. ALYSSUM spp. Brassicaceae.****90608. ALYSSUM CALYGINUM L.**

A rather low annual alyssum from the mountains of Asia Minor. The lower leaves are obovate, the upper lanceolate, and the flowers are in a simple raceme.

90588 to 90648—Continued.

**90609. ALYSSUM CAMPESTRE L.**

A many-stemmed gray or yellow European annual which is rather variable in leaf and flower characters. The leaves are commonly oblong-lanceolate, and the flowers are yellowish.

**90610. ALYSSUM DESERTORUM Stapf.**

A dwarf hairy annual with pale-yellow flowers. Native to sandy places in southeastern Europe.

**90611. ALYSSUM HIRsutUM Bieb.**

An annual about a foot high, hairy throughout, with ascending stems, oblong-lanceolate leaves, and yellowish flowers. Resembling *A. campestre*, it is larger in all its parts. Native to southeastern Europe and Asia Minor.

**90612. ALYSSUM MURALE Bieb.**

A perennial alyssum with numerous stems, hairy obovate-lanceolate leaves, and pale-yellow flowers. Native to the mountains of Greece.

**90613. ALYSSUM REPENS Baumg.**

A perennial alyssum from the mountains of southeastern Europe. It is about 1 foot high and differs from *A. montanum* in having larger flowers.

**90614. ALYSSUM STRICTUM Willd.**

An annual alyssum with numerous ascending branches, 18 inches high, oblong-linear leaves, and cylindrical racemes of yellow flowers. Native to Asia Minor.

**90615. ALYSSUM SZOVITSIANUM Fisch. and Mey.**

An annual yellow-flowered alyssum from southeastern Europe, about 1 foot high, with oblong-linear leaves and pods sometimes 1 inch long.

**90616 and 90617. CROCUS spp. Iridaceae.****90616. CROCUS SCHAROJANI Rupr.**

A crocus with a very small globose bulb, with leaves appearing in the spring and remaining until the bright-yellow flowers appear in the latter part of July and August in the Caucasus region, where it is native. The throat of the corolla is yellowish white, the anthers are pale yellow, and the style branches are orange red.

**90617. CROCUS VALLICOLA Herb.**

In the Caucasus, where this crocus is native, its cream-colored rather large flowers open in August and September. The leaves, marked with white lines, appear after the flowers.

**90618 and 90619. GALANTHUS spp. Amaryllidaceae.****90618. GALANTHUS CAUCASICUS Baker.**

A spring-blooming bulbous plant, native to the Caucasus, with sword-shaped leaves about 9 inches long, and large white flowers.

For previous introduction see 67908.

**90619. GALANTHUS LATIFOLIUS Rupr.**

A snowdrop with channeled leaves nearly 1 inch wide and white flowers having the inner segments green both inside and out at the sinus. It is native to the Caucasus region, where it is said to flower in May.

90588 to 90648—Continued.

90620 to 90630. GERANIUM spp. Geraniaceae. Cranesbill.

90620. GERANIUM ALBANUM Bleb.

A perennial cranesbill from the Caucasus, with diffuse stems 18 inches high, 7-parted to 9-parted reniform leaves, and purplish-red flowers.

90621. GERANIUM COLUMBINUM L.

A much-branched annual, with round palmately 5-parted to 7-parted leaves and rather large purple flowers. Native throughout Europe.

90622. GERANIUM DISSECTUM L.

An erect hispid annual, with finely dissected orbicular palmately 5-parted to 7-parted leaves with linear segments and lilac flowers. Native to Asia Minor and southeastern Europe.

90623. GERANIUM DIVARICATUM Ehrh.

A divaricately branched annual, with roundish 5-parted leaves and deep rose flowers. Native to the mountainous sections of central Europe.

90624. GERANIUM GRACILE Ledeb.

A herbaceous perennial, about 18 inches high, with hairy 3-lobed to 5-lobed leaves and purple flowers on an elongated peduncle. Native to southeastern Europe.

90625. GERANIUM MOLLE L.

A hairy annual cranesbill with ascending or diffuse, rounded-palmate 7-lobed to 9-lobed leaves and purplish flowers. Native from southeastern Europe to Syria.

90626. GERANIUM PALLENS Bleb.

A herbaceous perennial with hispid stems and branches and leaves, orbicular on the lower part of the stem and three lobed to five lobed above. The flowers are pale violet. Native to Asia Minor.

90627. GERANIUM PUSILLUM Burm. f.

An annual pubescent cranesbill from southeastern Europe and Asia Minor, with diffuse stems, roundish 5-parted to 9-parted leaves, and small coerulean-violet flowers.

90628. GERANIUM PYRENAICUM Burm. f.

A herbaceous perennial about 1 foot high, softly hairy throughout, with an ascending stem, reniform 7-parted to 9-parted leaves, and axillary purple flowers. Native to central and southern Europe.

90629. GERANIUM PYRENAICUM Burm. f.

Variety *depilatum*. A glabrous form.

90630. GERANIUM ROTUNDIFOLIUM L.

A red-flowered annual, native to stony places in southeastern Europe and Asia Minor, with a short erect branched stem and reniform 7-parted leaves.

90631 to 90636. MUSCARI spp. Liliaceae. Grape-hyacinth.

90588 to 90648—Continued.

90631. MUSCARI CAUCASICUM (Griseb.) Baker.

An ornamental purple-flowered bulbous plant, with a scape 8 inches high. Native to dry mountainous regions of the Caucasus.

For previous introduction see 67922.

90632. MUSCARI COMMUTATUM Guss.

A spring-flowering bulb, with linear leaves 4 to 6 inches long, and odorless dark-blue cylindrical flowers twice as long as broad and with segments which are not recurved. It is native to Sicily.

90633. MUSCARI NEGLECTUM Guss.

A low bulbous plant, native to the Mediterranean countries, with numerous strap-shaped leaves up to a foot in length and fragrant dark-blue flowers.

For previous introduction see 67924.

90634. MUSCARI PENDULUM Trautv.

A narrow-leaved bulbous plant from Asia Minor, with dense oblong racemes of sky-blue flowers.

For previous introduction see 67012.

90635. MUSCARI NEGLECTUM Guss.

A perennial with a large bulb which sends up several linear leaves 5 to 6 inches long, and several scapes, 4 to 5 inches high, with racemes of faintly odorous, bright-blue, urn-shaped flowers a sixth of an inch across. Native to the Caucasus region.

For previous introduction see 81350.

90636. MUSCARI TENUIFLORUM Tausch.

A grape-hyacinth from south-central Europe, similar to *Muscari comosum*, but generally smaller, with upright narrower-linear leaves as long as the stem, which is about 1 foot high. The lower fertile flowers, in a cylindrical raceme, are apple green with deep-brown slightly recurved segments, while the numerous sterile flowers form a rather dense long raceme above.

For previous introduction see 81351.

90637. ORNITHOGALUM ARCUATUM Stev.

The leaves of this Caucasian species are broadly lanceolate, and the stout erect scape bears a raceme of white flowers nearly a foot long.

90638 to 90642. PAEONIA spp. Ranunculaceae. Peony.

90638. PAEONIA ABCHASICA Hort.

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

For previous introduction see 79923.

90639. PAEONIA MLOKOSWITSCHI Lomakin.

A herbaceous perennial peony with dark bluish-green biternate leaves with red nerves and margins and yellow flowers 4 to 5 inches in diameter which have numerous stamens and purple stigmas. This peony, considered the handsomest of the yellow-flowered forms, is native to the central Caucasus.

For previous introduction see 81352.

90588 to 90648—Continued.

90640. *PAEONIA TENUIFOLIA* L.

Fringed peony.

A hardy herbaceous perennial 1 foot or more high, densely leafy, with ternate, much-divided leaves, and an erect dark-crimson flower about 3 inches across. It is native to the Caucasus region.

For previous introduction see 79925.

90641. *PAEONIA TRITERNATA* Pall.

A tall herbaceous peony, native to Siberia, usually about 3 feet high, with triternate leaves and purple flowers.

For previous introduction see 81353.

90642. *PAEONIA* sp.Variety *Chamaeleon*.90643 to 90645. *ROSA* spp. Rosaceae.

Rose.

90643. *ROSA MEDWEDWII* Hort.

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

90644 and 90645. *ROSA SPINOSISSIMA* L.

Scotch rose.

90644. Variety *subbisserrata*.90645. Variety *leptacantha*.90646. *SCILLA ROSENI* Koch. Liliaceae.

Squill.

A bulbous plant, native to the Caucasus, with linear-oblong leaves and small white flowers.

For previous introduction see 79928.

90647 and 90648. *SEMPERVIVUM* spp. Crassulaceae.

Houseleek.

90647. *SEMPERVIVUM GLOBIFERUM* L.

A stemless succulent with the main rosette 2 to 3 inches across, rather flat, but the offsets, borne on scaly peduncles 3 inches long, are globular. The obovate to elliptical leaves are slightly hairy, and the flower scape, 1 foot high, is densely hairy. The 12-parted flowers have linear-lanceolate, pale-yellow petals which are green-striate outside. It is native to southeastern Europe.

90648. *SEMPERVIVUM PUMILUM* Bleb.

A succulent with the barren rosettes not more than 1 inch across and the numerous new rosettes on short peduncles. The rosette leaves are oblanceolate and green except the outer, which are tinted red-brown; the stem leaves are hairy and are red-brown. The flower stem, 3 to 4 inches high, bears a dense head of mauve-purple flowers 1 inch across. It is native to the Caucasus region.

90649 to 90676.

From Manchuria. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received December 18, 1930.

Received from the forestry department, Yugakujo Agricultural Experiment Station (South Manchurian Railway), Hsüungyacheng, Yugakujo, Manchuria, November 17, 1930.

90649 to 90676—Continued.

90649 and 90650. *ABIES* spp. Pinaceae.

Fir.

90649. *ABIES HOLOPHYLLA* Maxim.

Needle fir.

Nos. 6516 and 6517. No. 6517 was collected in the Ryining Province. A tall handsome fir, eventually 100 feet or more high, with stout spreading or ascending branches and dark-green foliage.

For previous introduction see 82470.

90650. *ABIES NEPHROLEPIS* (Trautv.) Maxim.

No. 6518. A Siberian conifer up to 100 feet high, resembling the Siberian fir, *Abies sibirica*, but with a rough bark, pubescent branchlets, shorter leaves, and smaller cones.

For previous introduction see 78398.

90651 to 90655. *ACER* spp. Aceraceae.

Maple.

90651. *ACER BARBINERVE* Maxim.

No. 6506. A shrubby maple, native to Manchuria, with coarsely toothed, 5-lobed leaves.

For previous introduction see 72400.

90652. *ACER CAUDATUM UKURUNDUENSE* (Trautv. and Mey.) Rehder.

No. 6510. A small Manchurian maple with coarsely toothed, 5-lobed or 7-lobed leaves.

For previous introduction see 71133.

90653. *ACER MANDSHURICUM* Maxim.

Manchurian maple.

No. 6508. A hardy Manchurian maple which forms a shrub or small tree.

For previous introduction see 72401.

90654. *ACER TEGMENTOSUM* Maxim.

No. 6507. An interesting green-barked maple with seeds in long racemes.

For previous introduction see 71132.

90655. *ACER TRIFLORUM* Komarov.

No. 6509. A tree up to 25 feet high, with glabrous branchlets. The leaves are made up of three oblong-lanceolate leaflets with entire or coarsely toothed margins, and the flowers, in groups of three, are followed by densely pubescent fruits, having wide-spreading, nearly straight wings about 2 inches long. It is native to Chosen and Manchuria.

For previous introduction see 82472.

90656. *ARALIA ELATA* (Miquel) Seem. Araliaceae.

No. 6503.

For previous introduction see 85731.

90657. *BETULA COSTATA* Trautv. Betulaceae.

Birch.

No. 6493.

For previous introduction see 65487.

90658. *CELASTRUS ARTICULATUS* Thunb. Celastraceae.

Oriental bittersweet.

No. 6523.

For previous introduction see 82507.

90649 to 90676—Continued.

90659. *CELTIS KORAIENSIS* Nakai. Ulmaceae.  
Hackberry.

No. 6519. A tree native to Chosen, up to 50 feet high, with orbicular to obovate, coarsely serrate leaves 3 to 5 inches long, and dull-orange, globose fruits a quarter of an inch in diameter.

For previous introduction see 50408.

90660. *EUONYMUS HAMILTONIANUS* Wall. Celastraceae.

No. 6494. A large Himalayan shrub which under favorable circumstances becomes a moderate-sized tree, 30 to 35 feet high, with short straight trunk 4 to 5 feet in circumference. The clusters of 15 to 30 greenish white flowers are followed by yellow capsules the seeds of which are entirely surrounded by a scarlet aril. The fruit begins to ripen in August and the leaves are brilliantly colored in autumn.

For previous introduction see 61981.

90661. *EUONYMUS MAACKII* Rupr.

No. 6498. A large shrub or small tree with narrowly oval leaves about 3 inches long and small clusters of pink 4-lobed fruits which have orange-red arils. Native to northeastern Asia.

For previous introduction see 77839.

90662. *F R A X I N U S M A N D S H U R I C A* Rupr. Oleaceae. Manchurian ash.

No. 6520. A handsome tree often 100 feet high, native to Japan and the adjacent parts of the Asiatic mainland. The leaves are up to 15 inches long, with dull-green bristly leaflets. The tree is said to be susceptible to late spring frosts.

For previous introduction see 82479.

90663. *L A R I X D A H U R I C A* Turcz. Pinaceae. Dahurian larch.

No. 6521. A tree which grows up to 100 feet in height, with long horizontal branches, reddish or yellowish branchlets, bright-green flattened leaves, and ovoid cones 1 inch long.

For previous introduction see 78403.

90664. *LESPEDEZA BICOLOR* Turcz. Fabaceae. Shrub bushclover.

No. 6490. A bushy herbaceous perennial, native to Japan, which bears a profusion of rosy-purple flowers during the early autumn, practically covering the drooping branches which sometimes become 6 feet in length.

For previous introduction see 82480.

90665. *M A A C K I A A M U R E N S I S* Rupr. Fabaceae. Amur maackia.

No. 6491. A small tree, native to eastern Asia, with orange-brown bark, dull-green compound leaves, and short erect clusters of small yellowish-white flowers.

For previous introduction see 77835.

90666. *P I C E A J E Z O E N S I S* (Sieb. and Zucc.) Carr. Pinaceae. Yeddo spruce.

No. 6504. A Japanese tree, up to 150 feet high, with dark-gray bark and slender horizontally spreading branches. The leaves are silvery white above and dark green beneath, and the staminate flowers are orange crimson.

For previous introduction see 75440.

90649 to 90676—Continued.

90667. *R O S A A C I C U L A R I S G M E L I N I* (Bunge) C. Schneid. Rosaceae. Rose.

No. 6496. A form native to northern Europe and Asia, differing from the type in having five to seven leaflets on the flowering branches, smooth but glandular-peduncles, and long pear-shaped shining fruits.

For previous introduction see 54168.

90668. *R O S A D A V U R I C A* Pall. Rosaceae. Dahurian rose.

No. 6497. A Manchurian shrub closely related to the cinnamon rose, with straight slender prickles, smaller double serrate leaflets, purple flowers, and ovate scarlet fruits.

For previous introduction see 65944.

90669. *S C H I Z A N D R A C H I N E N S I S* (Turcz.) Baill. Magnoliaceae.

No. 6492. A woody vine, native to northeastern China, with shining dark-green oval leaves and clusters of coral-colored berries.

For previous introduction see 81652.

90670 to 90673. *S Y R I N G A* spp. Oleaceae. Lilac.

90670. *S Y R I N G A A M U R E N S I S* Rupr. Manchurian lilac.

No. 6514. A hardy lilac, native to Manchuria, up to 12 feet high with yellowish-white flowers.

For previous introduction see 72420.

90671. *S Y R I N G A O B L A T A* Lindl. Broadleaf lilac.

No. 6513. A tree lilac, found in masses on rocky mountain slopes between 3,000 and 5,000 feet altitude. Of value as a stock for standard lilacs and for hybridization purposes.

For previous introduction see 38828.

90672. *S Y R I N G A O B L A T A D I L A T A T A* (Nakai) Rehder.

No. 6511. A loosely branched shrub, up to 12 feet high, with ovate, long-pointed leaves 6 inches long and loose clusters of pale purple-lilac flowers. Native to China.

For previous introduction see 85739.

90673. *S Y R I N G A P A L I B I N I A N A* Nakai.

No. 6512. A shrub native to Chosen, about 10 feet high, with slender upright branches, elliptic leaves 1 to 3 inches long, and loose panicles of pale-lilac or whitish flowers.

For previous introduction see 76600.

90674. *T I L I A A M U R E N S I S* Rupr. Tiliaceae. Linden.

No. 6522. A hardy Manchurian linden which has a habit similar to that of the small-leaved linden, *Tilia cordata*, with ovate papery long-pointed leaves which are dark green above and blue green below. It is distinguished from the small-leaved linden by its coarser indentations.

For previous introduction see 72422.

90649 to 90676—Continued.

90675. *VIBURNUM SARGENTI* Koehne. *Casprifoliaceae*. Sargent cranberrybush.

No. 6499. An upright compact hardy shrub, up to 15 feet high, generally similar to the American cranberrybush (*Viburnum americanum*), but with thicker leaves, hairy beneath, and larger sterile flowers, sometimes over an inch across. The red globose berries are in upright cymes.

For previous introduction see 69894.

90676. *ZANTHOXYLUM SCHINIFOLIUM* Sieb. and Zucc. *Rutaceae*.

No. 6502. A graceful Japanese shrub or small tree with attractive compound leaves and rather conspicuous clusters of greenish or brownish fruits in the autumn.

For previous introduction see 81568.

90677 to 90719.

From New South Wales, Australia. Seeds presented by G. P. Darnell-Smith, Director, Botanic Gardens, Sydney. Received December 18, 1930.

A collection of native Australian trees and shrubs.

90677. *ACACIA CRASSIUSCULA* Wendl. (*A. adunca* A. Cunn.). *Mimosaceae*.

A shrub several feet high with acutely angled branchlets, thick linear falcate 1-nerved phyllodes 2 inches long, and short racemes made up of small dense globular heads of 20 or more flowers. It is also native to Tasmania.

90678. *ACACIA SALICINA* Lindl. (*A. Ugulata* A. Cunn.). *Mimosaceae*.

A tall shrub or small tree with pendulous branches and willowlike phyllodes up to 5 inches long. The yellow flowers are in short racemes of two or three globular heads.

For previous introduction see 80064.

90679 to 90683. *CASUARINA* spp. *Casuarinaceae*.

90679. *CASUARINA CUNNINGHAMIANA* Miquel. *Cunningham beefwood*.

A slender-branched leafless ornamental tree, the so-called beefwood, which has branchlets suggesting horsetails.

For previous introduction see 73838.

90680. *CASUARINA DISTYLA* Vent. (*C. paludosa* Sieber).

Unlike many of the better-known casuarinas, this species is usually a small shrub 2 to 3 feet high.

For previous introduction see 67808.

90681. *CASUARINA GLAUCA* Sieber. *Beefwood*.

A tree 60 to 70 feet high, usually straight and of rapid growth. The timber is red, beautifully marked, hard and tough, and is used for cabinet-work, staves, and fuel. In periods of drought, the foliage is used for feeding the stock. When the trees are cut down, the young growth shoots up quickly from the stump. This variety grows in the marshy coastal districts and frequently in land submerged with tidal water. It makes a very handsome shade tree.

For previous introduction see 75551.

90677 to 90719—Continued.

90682. *CASUARINA STRICTA* Ait.

This tree, commonly cultivated in California but more rare in Florida, is a fairly hardy species making a low, often shrubby growth. It is conspicuous on account of its very thick, often pendulous branchlets and very big cones. In appearance it is not so elegant as some of the other casuarinas, but it is very striking and is also of some economic value. The branchlets are said to be a favorite forage for Australian cattle, and the wood is especially valuable for shingles and posts.

For previous introduction see 67809.

90683. *CASUARINA SUBEROSA* Otto and Dietr.

A species with very large fruits over 1 inch long, and long coarse pendent branchlets; very distinct from *Casuarina equisetifolia*. This is one of the hardier species, for it will stand a temperature of 26° F.

For previous introduction see 62663.

90684 to 90707. *EUCALYPTUS* spp. *Myrtaceae*.

90684. *EUCALYPTUS AGGLOMERATA* Maiden.

A tree 50 to 80 feet high and 4 to 6 feet in diameter, with thick steel-gray lanceolate leaves 4 to 6 inches long and heads of 10 to 14 flowers followed by reddish-brown fruits a quarter of an inch in diameter.

90685. *EUCALYPTUS AGGREGATA* Deane and Maiden.

A small tree with flaky bark and smooth branchlets, semipendulous lanceolate undulate leaves 4 to 5 inches long, and four to six flowered umbels clustered in dense heads. The hemispherical fruits are a quarter of an inch in diameter.

90686. *EUCALYPTUS HEMIPHLOIA ALBENS* (Miquel) F. Muell.

A tree up to 80 feet high, with dull-green persistent bark, broadly ovate-lanceolate mealy white leaves 6 inches long, clusters of four to eight rather large flowers, and obovoid-oblong fruits nearly half an inch long.

90687. *EUCALYPTUS BAUBRIANA* Schauer.

A small tree up to 50 feet high, with a shaggy persistent rough-furrowed bark, broadly ovate to lanceolate long-petioled leaves 3 inches long, and umbels of three to six small flowers followed by top-shaped fruits less than a quarter of an inch in diameter.

90688. *EUCALYPTUS BAXTERI* (Benth.) Maiden and Blakely.

A large tree with very thick ovate leaves less than 3 inches long, sessile flowers in dense heads, and globular fruits half an inch in diameter.

90689. *EUCALYPTUS BEYERI* R. T. Baker.

A tall tree with thin narrowly linear leaves, flowers in clusters of three to six, and pear-shaped fruits a quarter of an inch long.



90677 to 90719—Continued.

**90690. EUCALYPTUS BLAXLANDI** Maiden and Cambage.

A large tree with ovate-lanceolate coriaceous leaves and dense heads of top-shaped white-dotted fruits half an inch in diameter.

**90691. EUCALYPTUS BLOXSOMEI** Maiden.

A medium-sized tree with yellow flaky bark, thick yellow-green shining ovate-lanceolate sword-shaped leaves 5 to 8 inches long, umbels of small flowers gathered into heads, and urn-shaped fruits nearly an inch long.

**90692. EUCALYPTUS DALRYMPLEANA** Maiden.

A large tree, often 150 feet high and 10 feet in diameter, with white bark in spring and later changing to vivid red. The dull-green sword-shaped black-dotted leaves are 5 inches long and an inch wide.

**90693. EUCALYPTUS DEALBATA** A. Cunn.

A small stunted tree with rugose bark separating in scales, leaving the inner bark white and smooth. The glaucous-white ovate leaves are 4 inches long, and the clusters of three to six flowers are followed by hemispherical fruits about a quarter of an inch in diameter.

**90694. EUCALYPTUS EXSERTA** F. Muell.

A medium-sized tree with rough, fissured, ash-brown bark, sword-shaped leaves 3 to 6 inches long, axillary clusters of three to eight flowers on long pedicels, and nearly globular fruits one-third inch in diameter.

**90695. EUCALYPTUS GIGANTEA** Hook. f.

A large tree often 300 feet high and 30 feet in diameter, with white bark and smooth glaucous branchlets. The ovate-lanceolate leaves are 4 to 6 inches long, and the small flowers, numerous in dense heads, are followed by spherical fruits.

**90696. EUCALYPTUS MACARTHURI** Deane and Maiden.

A tree up to 80 feet high and 4 feet in diameter, with thick narrowly sword-shaped leaves, umbels of five to eight small flowers, and very small nearly hemispherical fruits.

**90697. EUCALYPTUS MICRANTHA** DC.

A large tree with smooth deciduous bark, leaving the trunk spotted or variegated. The thick coriaceous sword-shaped leaves are 6 to 8 inches long, and the axillary clusters of four to eight flowers are followed by pear-shaped fruits less than a quarter of an inch in diameter.

**90698. EUCALYPTUS MICROCARPA** Maiden.

A large tree with gray or white bark, lanceolate coriaceous leaves 4 inches long, and panicles made up of clusters of three to seven small flowers followed by very small subcylindrical fruits.

**90699. EUCALYPTUS NICHOLI** Maiden and Blakely.

A small tree 30 to 40 feet high and 2 feet in diameter, with drooping branches resembling a weeping willow. The thin narrowly lanceolate leaves are 2 to 5 inches long, the flowers are in heads of 5 to 10, and the hemispherical fruits are a quarter of an inch long.

90677 to 90719—Continued.

**90700. EUCALYPTUS NITENS** (Deane and Maiden) Maiden.

A large tree up to 300 feet high and 15 feet in diameter, with thick shining sword-shaped leaves sometimes a foot long and 3 inches wide, but usually smaller. The small flowers are in heads of about seven, and the slightly angled ovoid fruits are a quarter of an inch long.

**90701. EUCALYPTUS NUMEROSA** Maiden.

A large tree up to 150 feet-high and 3 feet in diameter, with fibrous bark, thin lanceolate leaves 4 to 7 inches long, flowers in dense umbels of 20 to 40, and pear-shaped fruits less than a quarter of an inch long.

**90702. EUCALYPTUS QUADRANGULATA** Deane and Maiden.

A tree 80 to 100 feet high and 2 to 4 feet in diameter, with angular branchlets, sinuate-margined lanceolate leaves 4 to 6 inches long, green on both sides, and umbels of four to eight flowers followed by small bell-shaped fruits.

**90703. EUCALYPTUS RADIATA** Sieber.

A small tree with persistent fibrous bark, linear to lanceolate leaves 2 to 4 inches long, clusters of four to eight flowers, and subglobose-truncate fruits a quarter of an inch long.

**90704. EUCALYPTUS ROBERTSONI** Blakely.

A large tree up to 180 feet high and 6 feet in diameter, with pale slaty green lanceolate leaves 5 to 8 inches long, axillary whorls of 10 to 20 flowers, and club-shaped fruits a quarter of an inch long.

**90705. EUCALYPTUS RUBIDA** Deane and Maiden.

A tree with smooth white bark showing plum-colored patches, thick dull-green narrowly lanceolate leaves, and small flowers in clusters of three and four, followed by top-shaped fruits a quarter of an inch in diameter.

**90706. EUCALYPTUS TERMINALIS** F. Muell.

A medium-sized tree with grayish-brown bark, sword-shaped leaves 5 to 7 inches long, flowers in clusters of three to six, and urn-shaped fruits an inch long.

**90707. EUCALYPTUS URCEOLARIS** Maiden and Blakely.

A tree 50 to 80 feet high and 4 feet in diameter, with rough fibrous bark, thick obliquely lanceolate leaves 3 to 8 inches long, flowers in axillary umbels forming panicles, and small urn-shaped fruits a quarter of an inch long.

**90708 to 90711. FICUS** spp. Moraceae. Fig.**90708. FICUS BELLENGERI** C. Moore.

A tall tree with leathery ovate leaves 6 inches long, dark green above and light green beneath, and reddish fruits 2 to 3 inches in diameter.

For previous introduction see 77996.

90677 to 90719—Continued.

**90709. FICUS HENNEANA Miquel.**

A shrub or small tree with coriaceous oblong leaves 3 to 5 inches long, and small globular white-mottled fruits less than an inch in diameter.

For previous introduction see 78598.

**90710. FICUS MACROPHYLLA Desf.  
Moreton Bay fig.**

A large tree with a broad head, broadly oblong coriaceous leaves 10 inches long and 4 inches broad, and globular or pear-shaped fruits nearly an inch in diameter. Said to be the grandest of Australian street trees.

For previous introduction see 52865.

**90711. FICUS RUBIGINOSA Desf.  
Rusty fig.**

A tree with spreading branches throwing out woody roots like the banyan tree. The elliptical coriaceous leaves, 3 to 4 inches long, are smooth above and covered with rusty tomentum beneath.

For previous introduction see 37141.

**90712 to 90716. MELALEUCA spp. Myrtaceae.****90712. MELALEUCA ARMILLARIS J. E. Smith.  
Drooping melaleuca.**

A tall shrub with gracefully drooping branchlets, narrowly linear leaves less than an inch long, and cylindrical spikes, 2 inches long, of small white flowers.

**90713. MELALEUCA ELLIPTICA Labill.**

A tall evergreen shrub with elliptical evergreen leaves half an inch long and cylindrical spikes of large showy red flowers.

For previous introduction see 79137.

**90714. MELALEUCA HYPERICIFOLIA J. E. Smith.  
Dotted melaleuca.**

A tall glabrous shrub with opposite lanceolate leaves 1 to 2 inches long, dotted beneath. The rich red flowers are borne in dense spikes 2 inches long and nearly as wide.

For previous introduction see 35886.

**90715. MELALEUCA LEUCADENDRON L.  
Cajeput-tree.**

The cajeput-tree of India and Australia reaches a height of 80 feet and can be grown on the edges of salt-water swamps where no eucalyptus will survive. The lamellar bark is valuable for preserving fruit wrapped in it. The wood is hard, close-grained, and imperishable underground. The leaves yield as much as 2 per cent of the well-known cajeput oil, closely allied to that of eucalyptus.

For previous introduction see 24166.

**90716. MELALEUCA PUBESCENS Schauer  
(*M. preissiana* Schauer).**

A tall shrub or small tree with small linear leaves, half an inch long, crowded on the pubescent branches, and small white flowers borne in loose cylindrical spikes.

For previous introduction see 75566.

90677 to 90719—Continued.

**90717. PITHECOLLOBIUM PRUINOSUM Benth. Mimosaceae.**

A slender tree with bipinnate leaves made up of broadly ovate leaflets 2 to 3 inches long and terminal panicles made up of heads of small flowers, followed by spirally twisted or contorted and deeply constricted pods.

For previous introduction see 34846.

**90718. STERCULIA QUADRIFIDA R. Br. Sterculiaceae. Bottletree.**

A tree with ovate or cordate leaves 3 to 5 inches long and stellate-tomentose racemes, 2 inches long, of inconspicuous flowers, followed by bright-red fruits which open and show the ovoid black seeds.

For previous introduction see 34873.

**90719. VITEX ACUMINATA R. Br. Verbenaceae.**

A small tree with hoary pubescent branchlets and digitately compound leaves made up of three to five ovate to lanceolate leaflets 3 to 4 inches long, green on both sides. The small 2-lipped, lavender flowers are in loose axillary and terminal panicles.

**90720. FICUS MEGACARPA Merr. Moraceae. Fig.**

From Manila, Philippine Islands. Seeds collected by M. Ramos at Mount Iraya, Bataan Island, and presented by Eduardo Quisumbing, Botanist, Bureau of Science. Received December 19, 1930.

A woody climbing vine with slender reddish-brown branchlets and ovate coriaceous leaves 2 inches long. The pear-shaped green fruits, mottled with white spots, are 2 to 3 inches long and are borne singly or in pairs on the main trunk. It is native to the Philippines.

**90721 to 90727.**

From Sydney, Australia. Seeds purchased from Arthur Yates & Co. Received December 20, 1930.

**90721 to 90724. ATRIPLEX spp. Chenopodiaceae. Saltbush.****90721. ATRIPLEX ANGULATA Benth.**

A mealy or scaly-tomentose spreading perennial with angular orbicular leaves on winged petioles. The inconspicuous flowers are in terminal spikes. It is native to South Australia.

**90722. ATRIPLEX LEPTOCARPA F. Muell.**

A much-branched trailing perennial with a glaucous bloom which covers the whole plant. The leaves, variable in shape, are mostly oblong and from 1 to 2 inches long. In Australia it is sometimes found carpeting the ground over considerable areas, and it is said to possess remarkable drought-resistant qualities.

For previous introduction see 46877.

**90723. ATRIPLEX NUMMULARIA Lindl.**

A tall shrubby perennial, sometimes reaching a height of 10 feet, and covered all over with downy whitish scales. The leaves are mostly round, rather thick, and toothed along the margins. It is extensively planted and highly valued in central Australia for its remarkable drought-resisting qualities; livestock are very fond of it.

90721 to 90727—Continued.

**90724. ATRIPLEX SEMIBACCATA R. Br.**

A vigorous, rapid-growing, much-branched perennial which forms a dense mat over the ground to a depth of from 1 to 2 feet. The leaves are small, about 1 inch long, and coarsely toothed along the margins. This plant has been known to flourish on the poorest and most stubborn arid soil, so impregnated with alkali that no other useful plant could grow. It seems to have a remarkable number of virtues, including great frost resistance, palatability, heavy yield, sand-binding qualities, and the habit of spreading freely. Sheep and hogs eat it freely, and a mixture of 3 parts of this forage with 1 part of common hay is readily eaten by horses and cattle.

For previous introduction see 46879.

**90725. CYTISUS PROLIFERUS L. f. Fabaceae. Tagasaste.**

A stout leguminous shrub, up to 12 feet high, of rather lax habit, with long, slender branches and green trifoliate leaves with silky pubescent lower surfaces. The white flowers are in axillary clusters among the branches. It is native to the Canary Islands, where it is considered an excellent drought-resistant forage plant.

For previous introduction see 65584.

**90726. STERECULIA DIVERSIFOLIA Don. Sterculiaceae. Black kurrajong.**

A tall evergreen tree with shining green leaves, 2 to 6 inches long, which are variable in shape, being both deeply lobed and entire. The nearly ovoid fruits, up to 3 inches long, contain about 20 seeds each which, when ground, make an excellent substitute for coffee. The taproots of the young trees and the young roots of the old trees are used as food, and, when boiled, have a flavor similar to that of turnips, but sweeter. Cattle and sheep are fond of the leaves and branches, and have existed during long dry periods on scarcely anything else. A strong fiber obtained from the bark is used for making fishing nets. It is native to Australia.

For previous introduction see 75662.

**90727. TRIFOLIUM CERNUUM Brot. Fabaceae. Clover.**

An annual 1 foot high, with drooping heads of pale-purple flowers. It is native to Spain.

**90728 to 90730. PHELUM PRATENSE L. Poaceae. Timothy.**

From Sweden. Plants presented by Henry Sjögren, Heleneborg, Svalöv, through Morgan W. Evans, Bureau of Plant Industry. Received December 20, 1930.

90728. *Bok.*

90729. *Glorka.*

90730. *Noniland.*

**90731. SINOJACKIA BEHDERIANA Hu. Styracaceae.**

From China. Seeds presented by H. H. Hu, of the Fan Memorial Institute of Biology, Peiping, through David Fairchild, Bureau of Plant Industry. Received December 20, 1930.

A native Chinese shrub up to 15 feet high, with obovate to oblanceolate serru-

90731—Continued.

late thin leaves 4 inches long, loose cymose panicles of pendulous white flowers 1 inch across, and grayish-brown fruits, punctate with whitish dots, half an inch in diameter.

**90732 to 90739.**

From Victoria, Australia. Seeds presented by F. J. Rae, Director, Botanic Garden, Melbourne, through Frieda Cobb Blanchard, University of Michigan. Received December 20, 1930.

A collection of native Australian trees and shrubs.

**90732. ACACIA CYCLOPS A. Cunn. Mimosaceae. Cyclops acacia.**

A shrub 6 to 10 feet high, from southwestern Australia. The flowers are in dense globular heads, and the pods are flat coriaceous and twisted. The black spherical seeds are encircled in double folds by a thickened and richly colored funicle. This shrub is used in South Africa for binding drifting sand on seashores.

For previous introduction see 66772.

**90733. ACACIA RUPICOLA F. Muell. Mimosaceae.**

A glabrous evergreen shrub usually about 6 feet high, native to Victoria and South Australia, with angular branchlets, rigid linear sharp-pointed phyllodes half an inch long, and yellow flowers in small globular heads.

For previous introduction see 80062.

**90734. ATRIPLEX MUELLERI Benth. Chenopodiaceae. Saltbush.**

A mealy white, spreading annual with broadly ovate, coarsely sinuate-toothed leaves 1 to 2 inches long and small inconspicuous flowers in little globular axillary heads.

**90735. ATRIPLEX NUMMULARIA Lindl. Chenopodiaceae. Saltbush.**

For previous introduction and description see 90723.

**90736. CASSIA EREMOPHILA A. Cunn. Caesalpinjiaceae.**

A handsome shrub 5 feet high, with leaves made up of two pairs of narrow leaflets, and yellow flowers. The leaves and pods are said to be eaten by stock.

For previous introduction see 77278.

**90737. CASUARINA SUBEROSA Otto and Dietr. Casuarinaceae.**

A tree 30 to 40 feet tall, quite similar to *Casuarina equisetifolia*, with smooth slender branchlets. It is considered a valuable fodder tree in the interior districts of Australia, which are subject to drought. The wood is of great beauty for cabinetwork, but should be used only in veneers, as it is apt to split in drying.

For previous introduction see 62663.

**90738. EUCALYPTUS CORNUTA Labill. Myrtaceae. Yate-tree.**

A rapid-growing tree, usually not very high, often planted as a windbreak. The wood is very hard, heavy, tough, and elastic, and is used for vehicles, implements, and boat ribs. The tree prefers moist soil and will endure much rain, but is also quite drought resistant. It has endured a minimum temperature of 23° F. in southern Florida.

For previous introduction see 48987.

90732 to 90739—Continued.

90739. *STURTIA GOSSYPIOIDES* R. Br. Malvaceae.

A large shrub closely related to cotton (*Gossypium* spp.), with broadly oval stiff leaves up to 2 inches long and large purple flowers.

For previous introduction see 74470.

90740 to 90745. *GOSSYPIUM* spp. Malvaceae. Cotton.

From Belgian Congo. Seeds presented by W. J. Lugard, technical adviser to the Compagnie Cotonière Congolaise, Brussels, Belgium, through T. H. Kearney, Bureau of Plant Industry. Received December 22, 1930.

Native-grown cotton from French Equatorial Africa.

90740. *GOSSYPIUM* sp.

Seed covered with green fuzz, from the Moyen Chari region, Ubangi Chari Colony.

90741. *GOSSYPIUM* sp.

From the Moyen Logone region, Ubangi Chari Colony.

90742. *GOSSYPIUM* sp.

A mixed sample from Fort Archembault region, Ubangi Chari Colony.

90743. *GOSSYPIUM* sp.

From Fort Lamy region, Chad Colony.

90744. *GOSSYPIUM* sp.

From Moyen Logone region, Ubangi Chari Colony.

90745. *GOSSYPIUM* sp.

A mixed sample from Fort Lamy region, Chad Colony.

90746 to 90776.

From Chihli Province, China. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received December 22, 1930.

90746. *CALAMAGROSTIS EPIGEJOS* (L.) Roth. Poaceae. Grass.

No. 7443. Sent from Harbin, Manchuria, November 2, 1930, by B. W. Skvortzow.

For previous introduction see 84282.

90747. *CHRYSANTHEMUM INDICUM* L. Asteraceae.

No. 7437. From the Botanic Garden near Peiping, October 28, 1930. A good fall bloomer which may be valuable in plant breeding.

90748. *FORSYTHIA SUSPENS*A (Thunb.) Vahl. Oleaceae.

No. 7458. From Peiping, November 8, 1930. An ornamental shrub growing in the court of Cheng Kuo Ssu Temple, near Patachu, Western Hills.

90749 to 90751. *LESPEDEZA* spp. Fabaceae. Bushclover.

Collected at the Botanic Garden, near Peiping, October 28, 1930.

90749. *LESPEDEZA DAURICA* (Laxm.) Schindler.

No. 7438. Much-branched, white-flowered plants over 4 feet high, woody, but with the appearance of dying to the ground annually.

90746 to 90776—Continued.

90750. *LESPEDEZA SERICEA* (Thunb.) Miquel.

No. 7439. A white-flowered form, used as an ornamental.

90751. *LESPEDEZA DAURICA* (Laxm.) Schindler.

No. 7440. Plants 18 to 20 inches high, found growing in front of the Seed Museum.

90752. *LESPEDEZA TOMENTOSA* (Thunb.) Sieb. Fabaceae. Bushclover.

No. 7441. For previous introduction and description see 89745.

90753 to 90755. *MELILOTUS* spp. Fabaceae. Sweetclover.

Nos. 90753 and 90754 were collected in the Botanic Garden, near Peiping, October 28, 1930.

90753. *MELILOTUS* sp.

No. 7435. A yellow-flowered variety.

90754. *MELILOTUS* sp.

No. 7436. A white or lavender-flowered variety with more slender flower or seed spikes and smaller seeds than No. 7435 [90753]. It does not seed very abundantly.

90755. *MELILOTUS* sp.

No. 7457. From Chinglungchiao, November 7, 1930. Collected near the Great Wall.

90756 and 90757. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. Fabaceae. Adzuki bean.

From the Botanic Garden, near Peiping, October 28, 1930.

90756. No. 7558. Medium-sized, marbled gray and black seed, used cooked as porridge.

90757. No. 7569. Medium-sized, dark reddish-brown beans.

90758. *PHASEOLUS VULGARIS* L. Fabaceae. Common bean.

No. 7581. Purchased from Hsi Chi Hao, Tunghsien, November 4, 1930. Said to be of bush habit; seeds large and white.

90759. *PISUM SATIVUM* L. Fabaceae. Pea.

No. 7578. Purchased from Hsi Chi Hao, Tunghsien, November 4, 1930. Very small light-buff seed.

90760 to 90768. *SOJA MAX* (L.) Piper (*Glycine hispida* Maxim.). Fabaceae. Soybean.

90760. No. 7411. From a farmer in Taipingchung, October 22, 1930. A medium-sized oval slightly flattened pale-yellow bean with brown hilum.

90761. No. 7412. From a farmer in Nanchuangying, October 22, 1930. A medium-sized oval slightly flattened dark-green bean with pale hilum; germ green.

90762. No. 7420. From a farmer in Tahsinfeng, October 22, 1930. A medium-large oval yellow bean with brown hilum.

Nos. 90763 to 90767 were purchased at Tunghsien, November 4, 1930.

90763. No. 7570. A medium-sized oblong much-flattened black bean with yellow germ. It is used for food and also for forage.

90746 to 90776—Continued.

90764. No. 7571. *Pi Ching* (green skin). A medium-sized oval green bean with dark-brown hilum and green germ. It is used for sprouts.

90765. No. 7572. A medium-sized oval glossy yellow bean with pale to brown hilum; used for bean curd, soy sauce, and sprouts.

90766. No. 7573. *Golden ear-ring*. A mixture of yellow-seeded varieties; used for sprouts, bean curd, and soy sauce.

90767. No. 7574. *Mao Ching* (hairy green soybean). A medium-sized oval green bean with dark-brown hilum, used for sprouts.

90768. No. 7582. Purchased at a small grain store in Tunghou, November 4, 1930. A medium-sized oval green bean with dark-brown hilum and green germ; used for sprouts.

90769. *SORGHUM VULGARE* Pers. Poaceae. Sorghum.

No. 7579. *Red kaoliang*. From Tunghsien, November 4, 1930. Medium-small seed with red glumes.

90770. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Poaceae. Common wheat.

No. 7424. From a farmer in the village of Nanchuangying, not far from Tangshan, October 22, 1930.

90771. *VICIA AMOBENA* Fisch. Fabaceae. Vetch.

No. 7456. Collected near the Great Wall at Chinglungchiao, November 6, 1930. A perennial hairy vetch, native to Siberia, with erect stems up to 2 feet high and purplish flowers.

For previous introduction see 65291.

90772. *VICIA FABA* L. Fabaceae. Broadbean.

No. 7580. From Tunghsien, November 4, 1930. A medium-sized light-tan bean with black hilum; used for sprouts.

90773 to 90776. *VIGNA SINENSIS* (Tornei) Savi. Fabaceae. Cowpea.

90773. No. 7508. From Nanchuangying, October 22, 1930. A medium-sized reddish-pink pea; used for food.

Nos. 90774 to 90776 were collected at Tunghsien, November 4, 1930.

90774. No. 7575. A medium-sized white cowpea with brown hilum.

90775. No. 7576. A medium-sized cowpea with light whippoorwill markings.

90776. No. 7577. A medium-sized reddish-pink cowpea.

90777. *CLIANTHUS DAMPIERI* A. Cunn. Fabaceae.

From South Australia. Seeds presented by A. McTaggart, Council for Scientific and Industrial Research, Canberra. Received December 22, 1930.

From Koonamore Vegetation Reserve. A semishrubby perennial 2 to 4 feet high with ascending or procumbent branches covered with long soft hairs. The compound leaves are made up of 15 to 21 obovate leaflets 1 inch long; and the flowers, four

90777—Continued.

to six in pendent racemes, are 3 inches long and crimson or scarlet, with a handsome black-purple spot in the center.

For previous introduction see 86711.

90778. *TRIFOLIUM PRATENSE* L. Fabaceae. Red clover.

From England. Seeds purchased from Sutton & Sons, The Royal Seed Establishment, Reading. Received December 23, 1930.

Double-cut broad red clover, grown in Suffolk, England.

90779. *COFFEA AMARA* Bruijnig. Rubiaceae. Coffee.

From Madagascar. Seeds purchased from Rev. P. A. Bjelde, Manambaro, Fort Dauphin. Received December 23, 1930.

A wild coffee, free from caffeine. It has a pleasant aroma but a bitter taste.

For previous introduction see 54800.

90780. *TIGRIDIA* sp. Iridaceae. Tigerflower.

From Mexico. Seeds presented by Mrs. Zella Nuttall, Casa Alvarado, Coyoacan, Distrito Federal, through Max Souviron, Bureau of Plant Industry. Received December 23, 1930.

Mixed varieties from Mrs. Nuttall's garden.

90781 and 90782. *CEIBA AESCULIFOLIA* (H. B. K.) Britt. and Baker. Bombacaceae.

From Mexico. Seeds collected by Max Souviron, Bureau of Plant Industry. Received December 23, 1930.

A medium-sized, diffusely branched tree, 20 to 30 feet high, with the trunk and larger branches bearing stout coarse spines. The leaves are palmately compound, with five to seven elliptic or obovate leaflets 2 to 8 inches long, usually glaucous beneath. The flowers, which are white at first and turn brown with age, appear in May, and the fruits ripen in October. The down, consisting of fine unicellular hairs about 1 inch long, may serve the same purpose as kapok for mattresses, cushions, life preservers, and insulation. This tree is native from Vera Cruz across southern Mexico to southern Jalisco and southward to Guatemala.

For previous introduction see 82409.

90781. No. 9. From Tepecoacuilco, Guerrero, December 14, 1930, at an altitude of about 2,000 feet.

90782. From a different tree in the same vicinity.

90783. *PASSIFLORA FOETIDA* L. Passifloraceae.

From Manila, Philippine Islands. Seeds presented by J. S. Camus, Assistant Director, through P. J. Wester, Bureau of Plant Industry. Received December 23, 1930.

A rapid-growing trailing climbing vine with small purple flowers and delicately flavored yellow fruits less than 1 inch in diameter. It is used as a cover crop for coconuts and rubber, and should make an interesting ornamental in the warmer parts of Florida and California.

For previous introduction see 67724.

## 90784 to 90800.

From Chosen, Japan. Seeds presented by M. Tozawa, Director, Forest Experiment Station, Keijo. Received December 27, 1930.

**90784. ABIES NEPHROLEPIS (Trautv.) Maxim. Pinaceae. Fir.**

A Siberian conifer up to 100 feet high, resembling the Siberian fir, *Abies sibirica*, but with a rough bark, pubescent branchlets, shorter leaves, and smaller cones.

For previous introduction see 78298.

**90785. ACER PSEUDO-SIEBOLDIANUM Komarov. Aceraceae. Maple.**

A small tree, native to Manchuria, with cordate leaves divided into 9 to 11 lanceolate, serrate lobes and corymbs of purple flowers.

For previous introduction see 82471.

**90786 to 90788. ALNUS spp. Betulaceae.**

**90786. ALNUS JAPONICA Sieb. and Zucc. Japanese alder.**

A handsome pyramidal tree up to 75 feet high, with dense dark-green elliptic-lanceolate, sharply serrate leaves. It is native to northeastern Asia.

**90787. ALNUS HIRSUTA SIBIRICA (Fisch.) C. Schneid.**

A handsome tree, native to Siberia, 60 feet high, of broad-pyramidal habit and vigorous growth, with broadly ovate leaves about 5 inches long, which are dark green above and glaucous beneath.

For previous introduction see 82473.

**90788. ALNUS HIRSUTA Turcz.**

Variety *glabra*. A smooth form.

**90789. CORNUS CONTROVERSA Hemsli. Cornaceae. Giant dogwood.**

A tree, native to Japan, up to 60 feet high, with a trunk 7 feet in girth. The numerous long branches extend at right angles to the trunk, with the lowest branches sometimes touching the ground. The white or slightly yellowish flowers are in flat clusters 6 to 7 inches in diameter, appearing from late May to early June.

For previous introduction see 75442.

**90790. FORSYTHIA OVATA Nakai. Oleaceae.**

A shrub about 6 feet high with spreading branches, yellowish gray branchlets, ovate serrate or nearly entire leaves 2 to 3 inches long, and amber-yellow flowers 1 inch long, which appear very early in the spring. It is native to Chosen.

For previous introduction see 62284.

**90791. FRAXINUS MANDSHURICA Rupr. Oleaceae. Manchurian ash.**

A handsome ash, often 100 feet high, native to Japan and the adjacent parts of the Asiatic mainland. The leaves are up to 15 inches long, with dull-green bristly leaflets. The tree is said to be susceptible to late spring frosts.

For previous introduction see 82479.

**90792. ILEX DUBIA MACROPODA (Miquel) Loes. Aquifoliaceae. Holly.**

A slender tree up to 30 feet high with pubescent branchlets, coarsely serrate, ovate to elliptic leaves 3 to 6 inches

## 90784 to 90800—Continued.

long, and orange-red fruits one-third of an inch in diameter. It is native to Japan.

**90793. PINUS TABULAEFORMIS Carr. (*P. leucosperma* Maxim.). Pinaceae. Pine.**

A pine up to 75 feet high, with dark-gray bark on the trunk, red on the branches, and orange or grayish yellow branchlets. The glaucescent leaves, usually two in a cluster, are stout and 3 to 6 inches long, and the ovoid cones, 2 to 4 inches long, are pale tawny yellow, changing to dark brown and persisting for several years.

For previous introduction see 82484.

**90794. PRUNUS SEOULENSIS Lev. Amygdalaceae.**

Closely resembling the European bird cherry (*P. padus*), this Asiatic species, native to Chosen, has longer and more numerous erect flower racemes, and in fruit the peduncles become very long.

**90795. QUERCUS SERRATA Thunb. (*Q. glandulifera* Blume). Fagaceae. Oak.**

A white oak up to 70 feet high, native to Japan, Chosen, and China. The oblong-ovate leaves are lustrous bright green and hold their color until late in the autumn. It is usually shrubby under cultivation.

For previous introduction see 75688.

**90796. RIBES MANSHURICUM (Maxim.) Komarov. Grossulariaceae. Currant.**

A variety producing good-sized bunches of red fruits which are large and of good quality.

For previous introduction see 71159.

**90797. SPIRAEA TRICHOCARPA Nakai. Rosaceae. Spirea.**

A shrub 4 to 6 feet high with oblong to oblanceolate, nearly entire leaves 1 to 2 inches long, and pubescent umbellike racemes of small white flowers, followed by pubescent fruits. It is native to Chosen.

**90798. STEWARTIA KOREANA Nakai. Theaceae.**

A tree up to 45 feet high with broadly elliptic, remotely serrulate leaves 3 to 5 inches long and large white solitary flowers near the ends of the branches. The flowers resemble those of *Stewartia pseudo-camellia*, but are larger and flatter, thus being more showy. It is native to Chosen.

**90799. SYRINGA VELUTINA Komarov. Oleaceae. Lilac.**

A charming shrub with pale-pink deliciously fragrant flowers. In height it ranges from 4 to 8 feet. It is native to Chosen and is quite hardy.

For previous introduction see 70893.

**90800. ULMUS PARVIFOLIA Jacq. Ulmaceae. Leatherleaf elm.**

Received as *Ulmus sieboldii* var. *coreana*. This is said to differ from the typical *U. parvifolia* in being more deciduous and in having a fissured bark and larger fruits more than half an inch across. It is native to Chosen.

**90801. FICUS PAYAPA Blanco. Moraceae. Fig.**

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Plant Industry. Received December 29, 1930.

A tree with smooth oblanceolate subcoriaceous leaves 5 to 8 inches long and axillary pairs of nearly globular fruits 1 inch in diameter. It is native to the Philippines.

**90802. LIVISTONA ALTISSIMA Zoll. Phoenicaceae. Palm.**

From Singapore, Straits Settlements. Seeds presented by R. Holtum, Director, Botanic Gardens. Received December 29, 1930.

A graceful palm up to 80 feet high, with fan-shaped leaves. The hard wood is valued by the natives for construction work. It is native to the East Indies.

For previous introduction see 81591.

**90803. PINUS NIGRA MAURITANICA Maire and Peyer. Pinaceae.**

From Algeria. Seeds presented by Prof. René Maire, University of Algiers, Algiers, through David Fairchild, Bureau of Plant Industry. Received December 29, 1930.

A variety of the Austrian pine distinguished by its smaller size, smaller cones, and larger leaves. It is native to Morocco, south of Djuradjura.

For previous introduction see 80106.

**90804 and 90805.**

From Africa. Seeds presented by John Gossweiler, Servicos Florestais D'Angola. Received December 29, 1930.

**90804. MUSA VENTRICOSA Welw. Musa. Banana.**

A banana 8 to 10 feet high, with a swollen stem 4 feet in diameter at the base. The bright green oblanceolate leaves are 4 to 5 feet long, the drooping panicles are made up of dense flower clusters, and the dry coriaceous fruits, 2 to 3 inches long, are full of dull-black seeds nearly 1 inch in diameter. It is native to tropical Africa.

**90805. RUMEX ABYSSINICUS Jacq. Polygonaceae.**

As a source of greens during the hot summer months the Abyssinian rumex is of great promise. Seed may be sown in the greenhouse or hothed in early spring and the plants set out as soon as the soil can be worked. The plants grow 7 to 8 feet in height and continue to yield greens until cut down by frost in late autumn. The leaves are cooked and served in the same manner as spinach, but care must be taken to change the water, in cooking, to eliminate excessive acidity.

For previous introduction see 58482.

**90806 to 90829. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.**

From Cuba. Cuttings obtained by Ernst Artschwager, Bureau of Plant Industry. Received December 29, 1930.

90806. No. 28.

90807. S. C. 12-4.

90808. Uba.

**90806 to 90829—Continued.**

90809. *Crista Oire.*

90810. P. O. J. 2878.

90811. No. 2725.

90812. No. 2364.

90813. *B. florum.*

90814. No. 2883.

90815. No. 1228.

90816. No. 2-878.

90817. No. 2725.

90818. No. 2364.

90819. *Java 311.*

90820. *Java 310.*

90821. *Barbados white sport.*

90822. *Black fig.*

90823. P. O. J. 2714.

90824. *Kavangeria.*

90825. H. G. 12079.

90826. No. 979.

90827. *Yellow bamboo.*

90828. H. G. 9072.

90829. [Received without label.]

**90830. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.**

From France. Seeds purchased from Tézier Frères, Valence sur Rhone. Received December 30, 1930.

French red clover (Valence grown).

**90831. FORSTERONIA FLORIBUNDA (Swartz) A. DC. Apocynaceae.**

From Jamaica. Seeds presented by M. S. Goodman, Superintendent, Hope Gardens, Kingston. Received December 30, 1930.

A trailing shrub with oblong bluntly mucronate leathery leaves 2 to 3 inches long, and terminal cymes of whitish wheel-shaped flowers. It is native to Jamaica and is of possible value as a rubber-producing plant.

**90832 to 90836. TRITICUM spp. Poaceae. Wheat.**

From Peru. Seeds presented by M. E. Ochizola, Chief, Estación Experimental Agrícola, Lima. Received December 30, 1930.

A collection of northern wheats which have been acclimatized to Peru.

90832 to 90835. *TRITICUM AESTIVUM L. (T. vulgare Vill.). Common wheat.*

90832. *Kanred.* From Yanamarca, Jauja, through the Comision Agronomica de Junin.

90833. *Mantoba.* From Yanamarca, Jauja, through the Comision Agronomica de Junin.

90834. *Marquis.* From the Granja Escuela del Cuzco, Cuzco Department.

90835. *Northern Spring.* From the Granja Escuela del Cuzco, Cuzco Department.

90836. *TRITICUM TURGIDUM L. Foulard wheat.*

*Chumpe Rojo.* From the Hacienda Jarria, Cerro de Pasco, Junin Department.





## INDEX OF COMMON AND SCIENTIFIC NAMES

- Abelia floribunda*, 90298.  
*triflora*, 90299.  
*Abelmoschus manihot*, 89720.  
*Abies holophylla*, 90649.  
*nephrolepis*, 90650, 90784.  
*Acacia adansonii*, 89585.  
*adunca*. See *A. crassiuscula*.  
*crassiuscula*, 90677.  
*cyclops*, 90732.  
*ligulata*. See *A. salicina*.  
*rupicola*, 90733.  
*salicina*, 90678.  
*villosa*, 90534.  
*Acacia, cyclops*. See *Acaci cyclops*.  
*Acer* sp., 90120.  
*barbinerve*, 90651.  
*cappadocicum*, 90588.  
*caudatum ukurunduense*, 90652.  
*divergens*, 90589.  
*hyrcanum*, 90590.  
*insigne*, 90591.  
*laetum*. See *A. cappadocicum*.  
*mandshuricum*, 90653.  
*monspeulanum ibericum*, 90592.  
*picum mono*, 90334.  
*pseudo-sieboldianum*, 90785.  
*segmentosum*, 90654.  
*triflorum*, 90655.  
*Actinostemma lobatum*, 90335.  
*Adonidia merrillii*, 89215.  
*Aechmea calyculata*, 89432.  
*coelestis*, 89433.  
*drakana*, 89434.  
*fasciata*, 89435.  
*fulgens*, 89436, 89437.  
*legrelliana*, 89438.  
*miniata discolor*, 89439.  
*nudicaulis*, 89440, 89441.  
*ortgiesii*, 89442.  
*pinellana*, 89443.  
*veitchii*, 89444.  
*weibachii*, 89445, 89446.  
*Aeschynomene indica*, 89721, 90121-90123.  
*Agropyron caninum*, 90124.  
*cristatum*, 90125.  
*semicostatum*, 90126.  
*Agrostis* sp., 89808.  
*castellana*, 89804.  
*maritima*, 89805.  
*scabriglumis*, 89806.  
*setacea*, 89807.  
*Aira praecox*. See *Aspris praecox*.  
*Alangium chinense*, 89400.  
*Aibizzia corbisieri*, 89587.  
*katangensis*, 90448.  
 Alder, Japanese. See *Alnus japonica*.  
 Alfalfa. See *Medicago sativa*.  
 tree. See *M. arborea*.  
 yellow-flowered. See *M. falcata*.  
*Allium affine*, 90593.  
*albium*, 90594.  
*atroviolaceum*, 90595.  
*charaulicum*, 90596.  
*daghestanicum*, 90597.  
*flavum*, 90598.  
*fominianum*, 90599.  
*gracile*, 90600.  
*lepidum*, 90601.  
*pseudostriatum*, 90602.  
*rotundum*, 90603.  
*rubellum*, 90604.  
*rupestre*, 90605.  
*schoenoprasum*, 90606.  
*victorialis*, 90607.  
*Almus hirsuta*, 90788.  
*hirsuta sibirica*, 90787.  
*japonica*, 90786.  
*Aloe barbertoniae*, 89991.  
*globuligemma*, 89992.  
*petricola*, 89993.  
*thorncroftii*, 89994.  
*vaombe*, 89678.  
*Altamiranoa* sp., 90078.  
*Alyssum calycinum*, 90608.  
*campestre*, 90609.  
*desertorum*, 90610.  
*hirsutum*, 90611.  
*murale*, 90612.  
*repens*, 90613.  
*strictum*, 90614.  
*szovitsianum*, 90615.  
*Amygdalus persica*, 89622, 89969.  
*persica platycarpa*, 89590, 89591.  
*Andropogon macranthus*, 90127.  
*Annealia strigillosa*, 90050.  
*Annona spinescens*, 89794.  
*Anoplophytum strictum*. See *Tillandsia stricta*.  
*Antirrhinum latifolium*, 90809.  
 Apple. See *Malus sylvestris*.  
 Apricot. See *Prunus armeniaca*.  
*Aquilegia* sp., 89810.  
*Arachis hypogaea*, 90128.  
*Aratic elata*, 90656.  
*Arbutus walapensis*, 90051.  
*Aregelia caroliniae*, 89447.  
*chlorosticta*, 89448.  
*elegans*, 89449.  
*marmorata*, 89450.  
*princeps*, 89451.  
*spectabilis*, 89452.  
*tristis*, 89453.  
*Arenaria decussata*, 90088.  
*Arrhenatherum elatius*, 89811.  
*Arundinaria* spp., 90707, 90709, 90301.  
*anceps*, 90699.  
*angulata*, 90300.  
*hindstii graminea*, 89700.  
*marmorata*, 89710.  
*muricatae*, 89702, 90302.  
*nepalensis*, 89703.  
*nitida*, 89704.  
*spathiflora*, 89706.  
*Arundinella anomala*, 90129, 90130.  
 Ash. See *Fraaxinus chinensis rhynchophylla*.  
 Manchurian. See *F. mandshurica*.  
*Asparagus* sp., 89722.  
*davuricus*, 89592.  
*racemosus*, 90009.  
 Asparagus-bean. See *Vigna sesquipedalis*.  
*Aspris praecox*, 89812.  
*Aster* sp., 90451.  
*Astragalus* spp., 89388, 89727, 90337.  
*adsurgens*, 89723.  
*chinensis*, 89399.  
*davuricus*, 89724, 90131, 90132, 90545.  
*mellilotoides*, 89593, 89594, 89726, 89726, 90336, 90452.  
*sinicus*, 90107.  
*Atalantia* sp., 89401.  
*glauca*. See *Eremocitrus glauca*.  
*Atriplex angulata*, 90721.  
*leptocarpa*, 90722.  
*muelleri*, 90734.  
*nummularia*, 90723, 90735.  
*semibaccata*, 90724.  
*Avena bromoides*, 89813-89816.

- Bamboo, Castillon. See *Phyllostachys bambusoides castillonii*.  
 dwarf. See *P. kumaasa*.  
 square. See *Arundinaria angulata*.  
 wrinkled. See *Phyllostachys bambusoides marliacea*.  
 See also *Arundinaria* spp., *Bambusa* spp., *Phyllostachys* sp., *Sasa* spp.
- Bambusa spp., 89711-89713.
- Banana. See *Musa* spp.
- Barberry, Sargent. See *Berberis sargentiana*.
- Barley. See *Hordeum* spp.
- Bean, adsuki. See *Phaseolus angularis*.  
 common. See *P. vulgaris*.  
 mung. See *P. aureus*.  
 rice. See *P. calcaratus*.  
 small. See *P. caracalla*.  
 See also *Phaseolus* spp.
- Beardtongue. See *Pentstemon* sp.
- Beefwood. See *Casuarina glauca*.  
 Cunningham. See *C. cunninghamiana*.
- Begonia sp., 89728.  
*cathartii*, 89674.
- Bellflower. See *Campanula* sp.
- Benincasa hispida*, 90338, 90339.
- Berberis sargentiana*, 90303.
- Berseem. See *Trifolium alexandrinum*.
- Betula costata*, 90657.
- Bignonia* spp., 89427, 89675.
- Billbergia amoena*. See *B. spectiosa*.  
*cappi*, 89454.  
*decora*, 89455.  
*forgetiana*, 89456.  
*leopoldi*, 89457.  
*liboniana*, 89458.  
*nobilis*, 89522.  
*nudicaulis*. See *Aechmea nudicaulis*.  
*nutans*, 89459.  
*pyramidalis*, 89460-89462.  
*rhodocyanea*. See *Aechmea fasciata*.  
*saundersii*, 89463.  
*speciosa*, 89464-89467.  
*zebrina*, 89468.
- Birch. See *Betula costata*.
- Bittersweet, oriental. See *Oelastrus articulatus*.
- Bittervetch. See *Lathyrus sativus*.
- Bluegrass, Canada. See *Poa compressa*.
- Bomarea ovata*, 90087.
- Bottle-tree. See *Sterculia quadrifida*.  
 hazel. See *S. foetida*.
- Box. See *Buxus microphylla*.
- Brachypodium* sp., 89821.  
*mucronatum*, 89817, 89818.  
*pinnatum*, 89819, 89820.
- Broadbean. See *Vicia faba*.
- Bromegrass, Madrid. See *Bromus madri-tensis*.
- Bromus madritensis*, 89822.
- Broom, Aetna. See *Genista aetnensis*.  
 Scotch. See *Cytisus scoparius*.
- Buckthorn. See *Rhamnus* spp.
- Buckwheat. See *Fagopyrum esculentum*.
- Burclover. See *Medicago hispida denticulata*.
- Bushclover. See *Lespedeza* spp.  
 shrub. See *L. bicolor*.
- Buxus microphylla*, 90108.
- Cactus. See *Mammillaria* spp.
- Cajeput-tree. See *Melaleuca leucadendron*.
- Calamagrostis epigejos*, 90133, 90746.
- Campanula* sp., 89729.
- Canarium album*, 90340.
- Canistrum amazonicum*, 89469.  
*cappi*, 89523.
- Caragana* spp., 90341, 90342.
- Caria papaya*, 90517.
- Carmichaelia arborea*, 89217.
- australis*. See *C. arborea*.  
*compacta*, 89218.  
*grandiflora*, 89219.  
*odorata*, 89220.  
*williamsii*, 89221.
- Carpinus turczaninowii*, 90343.
- Cassia cremophila*, 90736.  
*hirsuta*, 90535.  
*mimosoides*, 89730, 90134-90136, 90546.
- Castilleja arvensis*, 90090, 90424.
- Casuarina cunninghamiana*, 90679.  
*distyla*, 90680.  
*glauca*, 90681.  
*montana*, 89384.  
*paludosa*. See *C. distyla*.  
*stricta*, 90682.  
*suberosa*, 90683, 90737.
- Ceanothus delitanus*, 90304-90310.
- Celastrus articulatus*, 90781, 90782.
- Celastrus articulatus*, 89731, 90658.
- Celtis koraiensis*, 90659.
- Chevalieria veitchii*. See *Aechmea veitchii*.
- Chives. See *Allium schoenoprasum*.
- Chloris virgata*, 90137.
- Chrysanthemum indicum*, 90747.
- Citrus* spp., 89386, 89404-89407.  
*grandis*, 89402, 89403.
- Clauca lanatum*, 89408.  
*wampi*. See *C. lansium*.
- Clematis* sp., 89734.  
*grata*, 90311-90313.  
*orientalis*, 89732, 89733.
- Clematis*, Himalayan. See *Clematis grata*.  
 oriental. See *C. orientalis*.
- Clianthus dampieri*, 90777.
- Clitorea cajanifolia*. See *C. laurifolia*.  
*laurifolia*, 90536.  
*mexicana*, 90092, 90093.
- Clover. See *Trifolium* spp.  
 red. See *T. pratense*.
- Coffea amara*, 90779.
- Coffee. See *Coffea amara*.
- Cologania affinis*, 90052, 90320.
- Columbine. See *Aquilegia* spp.
- Coprosmabaueri*, 89222, 89223.  
*cunninghamii*, 89224.  
*kirkii*, 89225.  
*lucida*, 89226.  
*microcarpa*, 89227.  
*rhamnoides*, 89228.  
*rigida*, 89229.  
*robusta*, 89230.  
*tenuicaulis*, 89231.  
*tenusifolia*, 89232.  
*williamsii variegata*, 89233.
- Coral-tree. See *Erythrina* sp.
- Cordia alba*, 89420.  
*rothii*, 89421.
- Corn. See *Zea mays*.
- Cornus controversa*, 90789.
- Cosmos* sp., 90425.  
*diversifolius*, 89996, 90054.
- Cosmos, black. See *Cosmos diversifolius*.
- Cotton. See *Gossypium* spp.
- Cowpea. See *Vigna sinensis*.
- Cracca* spp., 90426, 90427.
- Cranberrybush, Sargent. See *Viburnum sargentii*.
- Cranesbill. See *Geranium* spp.
- Crocus schoarjani*, 90616.  
*vallicola*, 90617.
- Crotalaria* spp., 89430, 89431, 89735.  
*incana*, 90055, 90518.  
*purshii*, 90056.
- Crusea calocephala*, 90084.
- Cryptanthus acaulis*, 89470, 89471.  
*beuckertii*, 89472.  
*bivittatus*, 89473-89475.  
*candidus*, 89524.  
*lacerdae*, 89476.  
*osyanus*, 89477.  
*pumilus*, 89525.  
*zonatus*, 89478-89480.
- Cucumis melo*, 89383.
- Cucurbita maxima*, 90344.
- Currant. See *Ribes manshuricum*.
- Cyclamen africanum*, 89586.
- Cyrtanthus angustifolius*, 89643.  
*lutescens*, 89644.  
*mackenii*, 89645.  
*parviflorus*, 89646.
- Cytisus proliferus*, 90725.  
*scoparius*, 89823.
- Dactylis glomerata*, 89824.
- Daylily. See *Heemerocallis* spp.

*Desmodium barbatum*. See *Meibomia barbata*.  
*discolor*. See *M. discolor*.  
*Dimocarpus longan*, 89409.  
*Dipterocarpus obtusifolius*, 89410.  
*punctulatus*, 89411.  
*Dodonaea viscosa*, 89234.  
 Dogwood, giant. See *Cornus controversa*.  
*Dalicholus longeracemosus*, 90053, 90070.  
*Dalichos lablab*, 90138, 90453.  
*Dracaena draco*, 89985.  
 Dragon tree. See *Dracaena draco*.  
*Drimys acillaris*, 89235.  
*colorata*, 89236.

*Echeveria* sp., 90058.  
*Echinostachys pineliana*. See *Aechmea pineliana*.  
 Eggplant. See *Solanum melongena*.  
 Elm, leatherleaf. See *Ulmus parvifolia*.  
*Elymus sibiricus*, 90139.  
*Encholirion roseum*. See *Vriesia platynema*.  
*saundersii*. See *V. saundersii*.  
*Eragrostis ferruginea*, 90140.  
*Eremocitrus glauca*, 89913.  
*Erica carnea*, 90112, 90113.  
*ciliaris*, 90114.  
*darleyensis*, 90115, 90116.  
*vagans*, 90117-90119.  
*Erodium stephanianum*, 89390.  
*Erythrina* sp., 90428.  
*Eucalyptus aggregata*, 90684.  
*aggregata*, 90685.  
*baueriana*, 90687.  
*basteri*, 90688.  
*beyeri*, 90689.  
*blaxlandi*, 90690.  
*bloxomei*, 90691.  
*cornuta*, 90738.  
*dalrympleana*, 90692.  
*dealbata*, 90693.  
*exserta*, 90694.  
*gigantea*, 90695.  
*hemiphloia albens*, 90686.  
*macarthurii*, 90696.  
*micrantha*, 90697.  
*microcarpa*, 90698.  
*nicholi*, 90699.  
*nitens*, 90700.  
*numerosa*, 90701.  
*quadrangulata*, 90702.  
*radiata*, 90703.  
*robertsoni*, 90704.  
*rubida*, 90705.  
*terminalis*, 90706.  
*urceolaris*, 90707.  
*Euonymus* spp., 90141, 90142, 90345.  
*hamiltonianus*, 90660.  
*maackii*, 90661.  
*Evodia hupehensis*, 90143.

*Fagopyrum esculentum*, 90454.  
*Falcata* spp., 90059, 90060.  
 Feathergrass. See *Stipa* spp.  
*Fedia scabiosaefolia*, 89736.  
 Fescue. See *Festuca* spp.  
 sheep. See *F. ovina*.  
*Festuca* spp., 89829, 89830, 90144.  
*ovina*, 89825.  
*pseudoeskia*, 89826.  
*spadicea*, 89827.  
*varia*, 89828.  
*Ficus* sp., 90544.  
*bellengeri*, 90708.  
*calophylloides*, 90516.  
*henniana*, 90909.  
*macrophylla*, 90710.  
*megacarpa*, 90720.  
*payapa*, 90801.  
*rubiginosa*, 90711.  
 Fig. See *Ficus* spp.  
 Moreton Bay. See *F. macrophylla*.  
 rusty. See *F. rubiginosa*.  
 Fingergrass, feather. See *Chloris virgata*.  
 Fir. See *Abies* spp.  
 needle. See *A. holophylla*.  
*Forsteronia floribunda*, 90831.  
*ovata*, 90790.

*Forsythia ovata*, 90790.  
*suspensa*, 90748.  
*Fragaria* sp., 89624.  
*Fraginus chinensis rhynchophylla*, 90346.  
*mandshurica*, 90662, 90791.  
*Fuchsia thymifolia*, 90091.

*Galanthus caucasicus*, 90618.  
*latifolius*, 90619.  
*Garcinia cochinchinensis*, 89412.  
*Gaya lyallii*, 89237.  
*Genista aetnensis*, 89211.  
*Geranium albanum*, 90620.  
*columbinum*, 90621.  
*dissectum*, 90622.  
*divaricatum*, 90623.  
*gracile*, 90624.  
*molle*, 90625.  
*pallens*, 90626.  
*pustillum*, 90627.  
*pyreniacum*, 90628, 90629.  
*rotundifolium*, 90630.  
*Gleditsia heterophylla*, 89737.  
*sinensis*, 90347-90349.  
*Glycine hispida*. See *Soja max.*  
*Glycyrrhiza* sp., 90145.  
 Goldenbell. See *Forsythia suspensa*.  
*Gossypium* spp., 89738, 90317, 90318, 90740-90745.  
 Gourd, wax. See *Benincasa hispida*.  
 Grape. See *Vitis* sp.  
 Grapefruit. See *Citrus grandis*.  
 Grape-hyacinth. See *Muscari* spp.  
 Grass, Japanese lawn. See *Osterdamia japonica*.  
 Napier. See *Pennisetum purpureum*.  
 orchard. See *Dactylis glomerata*.  
 See also *Agropyron* spp., *Agrostis* spp., *Andropogon* spp., *Arundinella* spp., *Aspris praecox*, *Avena* spp., *Brachypodium* spp., *Calamagrostis* spp., *Elymus sibiricus*, *Eragrostis ferruginea*, *Festuca* spp., *Hordeum nodosum*, *Hyparrhenia hirta*, *Miscanthus sacchariflorus*, *Pennisetum alopecuroides*, *Poa* spp., *Phragmites vulgaris*, *Spodiopogon* spp., *Trisetum flavescens*.  
*Guzmania lingulata*, 89481-89483.  
*musata*, 89484.  
*zahnii*, 89485.

Hackberry. See *Celtis koraiensis*.  
 Heath, Cornish. See *Erica vagans*.  
 darley. See *E. darleyensis*.  
 fringed. See *E. ciliaris*.  
 spring. See *E. carnea*.  
*Hebe acutiflora*, 89238.  
*albicans*, 89239.  
*amabilis*, 89240.  
*amplexicaulis*, 89241.  
*angustifolia*, 89242.  
*annulata*, 89243.  
*anomala*, 89244.  
*armstrongii*, 89245, 89246.  
*balfouriana*, 89247.  
*barkeri*, 89248.  
*biggarii*, 89249.  
*blanda*, 89250.  
*bollonsii*, 89251.  
*buchanani*, 89252, 89253.  
*buaiifolia*, 89254-89256.  
*carnea*, 89257.  
*carnosula*, 89258.  
*carsei*, 89259.  
*cassinoides*, 89260.  
*coarctata*, 89261.  
*colensoi*, 89262.  
*corriganii*, 89263.  
*dartoni*, 89264.  
*decumbens*, 89265.  
*diffenbachii*, 89266.  
*diosmifolia*, 89267.  
*divaricata*, 89268.  
*dorrien-smithii*, 89269.  
*elliptica*, 89270.  
*elliptica crassifolia*, 89271.  
*evenosa*, 89272.

## Hebe—Continued.

- glauco-caerulea*, 89273.  
*glaucophylla*, 89274.  
*hectori*, 89275.  
*hulkeana*, 89276.  
*imbricata*, 89277.  
*kirilii*, 89278.  
*laevis*, 89279.  
*laingii*, 89280.  
*leptophylla*, 89281.  
*lewisi*, 89282.  
*ligustrifolia*, 89283.  
*macrantha*, 89284.  
*macrocarpa affinis*, 89285.  
*macrocarpa latiseptala*, 89286.  
*macroura*, 89287.  
*matthewsii*, 89288.  
*menziesii*, 89289.  
*montana*, 89290.  
*obovata*, 89291.  
*obtusata*, 89292.  
*odora*, 89293.  
*pimelioides*, 89294.  
*pinguifolia*, 89295.  
*propinqua*, 89296, 89297.  
*pubescens*, 89298.  
*rakaitensis*, 89299.  
*raoulii*, 89300.  
*rigidula*, 89301, 89302.  
*rupicola*, 89303.  
*salicifolia angustissima*, 89304.  
*salicifolia atkinsonii*, 89305.  
*salicifolia pubulosa*, 89306.  
*salicifolia stricta*, 89307.  
*salicornioides*, 89308.  
*speciosa*, 89309—89311.  
*townsonii*, 89312.  
*traversii*, 89313.  
*triseptala*, 89314.
- Hechtia mexicana*, 89526.  
*Helentium autumnale*, 89986—89988.  
*bigelovii*, 89989, 89990.
- Hellebore. See *Helleborus* sp.  
*Helleborus* sp., 89831.
- Hemerocallis* spp., 90146—90151.
- Heronbill. See *Erodium stephanianum*.
- Hibiscus manihot*. See *Abelmoschus manihot*.
- Holly. See *Ilex dubia macropoda*.
- Honeylocust. See *Gleditsia heterophylla*.  
 Chinese. See *G. sinensis*.
- Honeysuckle. See *Lonicera rupicola*.
- Hopbush. See *Dodonaea viscosa*.
- Hoplophytum calyculatum*. See *Aechmea calyculata*.
- Hordeum nodosum*, 90152.  
*vulgare coeleste*, 89641.  
*vulgare pallidum*, 90455.
- Hornbeam. See *Carpinus turczaninowii*.
- Houseleek. See *Sempervivum* spp.
- Hyacinth-bean. See *Dolichos lablab*.
- Hyparrhenia hirta*, 89832.
- Ilex dubia macropoda*, 90792.
- Indigo, Kirilow. See *Indigofera kirilowii*.  
*Indigofera* sp., 90153.  
*kirilowii*, 90547.
- Ipomoea batatas*, 89694.
- Iris dichotoma*, 90154.
- Iris, vesper. See *I. dichotoma*.
- Jasmine, slender. See *Jasminum gracillimum*.
- Jasminum gracillimum*, 90314.  
*nitidum*, 90315.  
*Jubaea chilensis*, 89995.  
*spectabilis*. See *J. chilensis*.
- Juglans mandshurica*, 89739.
- Jujube. See *Ziziphus jujuba*.
- Khaya nyasica*, 90449.
- Kniphofia hybrida*, 90094—90106.
- Kumquat, Australian desert. See *Eremocytus glauca*.
- Kurrajong, black. See *Sterculia diversifolia*.
- Larch, Dahurian. See *Larix dahurica*.  
*Larix dahurica*, 90663.
- Lathyrus* spp., 89835—89837.  
*davidii*, 90548.  
*sativus*, 89833, 89834.
- Leptospermum ericoides*, 89315.  
*scoparium*, 89316—89330.  
*scoparium nicholii*, 89331.
- Leopedeza* spp., 89391, 89746, 89747, 90168—90176, 90352—90363, 90456, 90556.  
*bicolor*, 90664.  
*cuneata*. See *L. sericea*.  
*cyrtobotrya*, 90549.  
*daurica*, 89740—89742, 90155, 90156, 90550, 90551, 90749, 90751.  
*juncea*, 89743.  
*medicaginoidea*. See *L. daurica*.  
*sericea*, 90750.  
*stipulacea*, 90157—90159, 90350, 90351, 90552, 90553.  
*striata*, 89744, 90160.  
*tomentosa*, 89745, 90161—90166, 90554, 90752.  
*virgata*, 90167, 90555.
- Licorice. See *Glycyrrhiza* sp.
- Lilac. See *Syringa* spp.  
 broadleaf. See *S. oblata*.  
 Chengtu. See *S. sweginzowii*.  
 Manchurian. See *S. amurensis*.
- Lilium farreri*, 90526.  
*philippinense formosanum*, 90527.
- Lily. See *Lilium* spp.
- Linden. See *Tilia amurensis*, 90674.
- Litchi chinensis*, 89413—89415.
- Livistona altissima*, 90802.  
*jenkinsiana*, 90586.  
*rotundifolia*, 90587.
- Lonicera rupicola*, 89676.
- Lotus* sp., 89838.  
*corniculatus*, 90177.
- Lungan. See *Dimocarpus longan*.
- Lupine. See *Lupinus* spp.  
 European blue. See *L. hirsutus*.  
 white. See *L. albus*.
- Lupinus* spp., 89654, 90062, 90063, 90321.  
*albus*, 89839.  
*angustifolius*, 89544, 89840.  
*hirsutus*, 89545.  
*pilosus*, 89546.
- Lychee. See *Litchi chinensis*.
- Maackia, Amur. See *Maackia amurensis*.  
*Maackia amurensis*, 90665.
- Magnolia, Oyama. See *Magnolia parviflora*.  
*Magnolia parviflora*, 90109.
- Malus* sp., 90364.  
*syvestris*, 89799—89803, 90524.
- Mammillaria* spp., 90064, 90065.
- Mangifera indica*, 89416.
- Mango. See *Mangifera indica*.
- Manuka. See *Leptospermum scoparium*.
- Maple. See *Acer* spp.  
*coliseum*. See *A. cappadocicum*.  
 Manchurian. See *A. mandshuricum*.
- Marica begoniaefolia*. See *Alangium chinense*.
- Medic, black. See *Medicago lupulina*.  
 snail. See *M. scutellata*.
- Medicago arborea*, 89841, 90010.  
*aschersonianana*, 90011.  
*cretacea*, 90012.  
*decandollei*, 90013.  
*discoloris*, 90014.  
*falcata*, 90015.  
*globulosa*, 90016.  
*hispidula*, 90017.  
*hispidula denticulata*, 90018.  
*laciniata*, 90019.  
*lupulina*, 90020.  
*maritima*, 90021.  
*obscura helix*, 90022.  
*orbicularis*, 90023.  
*praecox*, 90024.  
*prostrata*, 90025.  
*ruthenica*, 90178, 90365.  
*sativa*, 89627—89640, 89748, 89842—89908, 89970—89984, 90026, 90179—90182.  
*scutellata*, 90027.  
*suffruticosa*, 90028.  
*truncatula*, 90029.  
*tuberculata*, 90030.

- Melbomia* sp., 90066.  
*barbata*, 89212.  
*discolor*, 89213.  
*Melaleuca armillaris*, 90712.  
*elliptica*, 90713.  
*hypericifolia*, 90714.  
*leucadendron*, 90715.  
*preissiana*. See *M. pubescens*.  
*pubescens*, 90716.  
*Melaleuca*, dotted. See *Melaleuca hypericifolia*.  
drooping. See *M. armillaris*.  
*Melilotus* spp., 89392, 89749, 90753-90755.  
*alba*, 89909, 90031.  
*bicolor*, 90032.  
*gracilis*. See *M. neapolitana*.  
*indica*, 90033, 90557.  
*italica*, 90034.  
*neapolitana*, 90035.  
*officinalis*, 89595-89597, 89910-89912, 90036, 90183, 90184.  
*suaveolens*, 89598, 90037, 90185-90187, 90558.  
*sulcata*, 90038.  
Melon. See *Cucumis melo*.  
*Menispermum dauricum*, 89750.  
*Metrosideros colensoi*, 89332.  
*diffusa*, 89333.  
*lucida*, 89334.  
*perforata*, 89335, 89336.  
*scandens*. See *M. perforata*.  
*robusta*, 89337.  
*tomentosa*, 89338.  
*villosa*, 89339.  
Milkvetch. See *Astragalus* spp.  
*Minkelsia gacchioides*, 90809.  
*Miscanthus sacchariflorus*, 90188.  
*Monnina schlechtendaliana*, 90322.  
*Montanoa frutescens*, 90067.  
Moonseed. Asiatic. See *Menispermum dauricum*.  
*Musa ventricosa*, 90804.  
*Muscari caucasicum*, 90631.  
*commutatum*, 90632.  
*neglectum*, 90633.  
*pendulum*, 90634.  
*azovitsianum*, 90635.  
*tenuiflorum*, 90636.  
*Myoporum laetum*, 90533.  
*Nageia ferruginea*, 89340.  
*hallii*, 89341.  
*nivalis*, 89342, 89343.  
*totara*, 89344, 89345.  
Naranjilla. See *Solanum quittoense*.  
*Nepheium longana*. See *Dimocarpus longan*.  
*Nidularium amazonicum*. See *Oanistrum amazonicum*.  
*angustinum*, 89527.  
*auro-striatum*, 89528.  
*chantrieri*, 89486.  
*chlorostictum*. See *Aregelia chlorosticta*.  
*elegans*. See *A. elegans*.  
*fulgens*, 89487, 89488.  
*innocentii*, 89489.  
*longifolium pictum*, 89529.  
*marmoratum*. See *Aregelia marmorata*.  
*meyendorfi*. See *A. caroliniae*.  
*neglectum*, 89490.  
*princeps*. See *Aregelia princeps*.  
*scherebietewii*, 89491.  
*spectabile*. See *Aregelia spectabilis*.  
*triste*. See *A. triste*.  
*Normanbya merrillii*. See *Adonidia merrillii*.  
Oak. See *Quercus* spp.  
bristletooth. See *Q. acutissima*.  
Daimyo. See *Q. dentata*.  
Mongolian. See *Q. mongolica*.  
oriental. See *Q. variabilis*.  
Oatgrass, tall. See *Arrhenatherum elatius*.  
Onion. See *Allium* spp.  
*Ornithogalum arcuatum*, 90637.  
*Ortigiesia legrelliana*. See *Aechmea legrelliana*.  
*tillandsioides*. See *A. ortigiesii*.  
*Oryza sativa*, 89751.  
*Osterdamia japonica*, 89387, 89429, 90110, 90189.  
*Oxytropis hirta*, 90190.  
*Paonia* sp., 90642.  
*abchasia*, 90638.  
*mlokosewitschi*, 90639.  
*tenuifolia*, 90640.  
*triternata*, 90641.  
Paintcup. See *Castilleja arvensis*.  
Palm, Java fan. See *Livistona rotundifolia*.  
sirup. See *Jubaea chilensis*.  
See also *Adonidia merrillii*, *Livistona* spp.  
*Panicum miliaceum*, 89752.  
Papaya. See *Carica papaya*.  
*Parosela seemanni*, 90057, 90319.  
*Passiflora adenopoda*, 90429.  
*exsudans*, 90068.  
*foetida*, 90783.  
Pea. See *Pisum sativum*.  
Pea-shrub. See *Caragana* spp.  
Peach. See *Amygdalus persica*.  
flat. See *A. persica platycarpa*.  
Peanut. See *Arachis hypogaea*.  
Pear. See *Pyrus* spp.  
*Pennisetum alopecuroides*, 90191.  
*purpureum*, 89626.  
*Pentacme siamensis*, 89417.  
*Pentstemon* sp., 90069.  
*campanulatus*, 90328.  
Peony. See *Paonia* spp.  
fringed. See *P. tenuifolia*.  
*Peperomia* sp., 89543.  
Pepino. See *Solanum muricatum*.  
*Phaseolus adenanthus*, 90071, 90072, 90430.  
*angularis*, 89753-89757, 90192, 90366-90374, 90457-90460, 90756, 90757.  
*aurus*, 89393, 89599-89601, 89758-89762, 90193-90198, 90375-90382, 90461-90467, 90559.  
*calcaratus*, 89602, 89921, 90468.  
*caracalla*, 89655.  
*coccineus*, 90431.  
*lathyroides*, 89795.  
*minimus*, 89603.  
*mungo*, 90199, 90200.  
*semiterectus*. See *P. lathyroides*.  
*vulgaris*, 89763, 89922-89951, 90383, 90384, 90432-90440, 90525, 90758.  
*Phleum pratense*, 89952, 90325-90333, 90528-90532, 90728-90730.  
*Phragmites vulgaris*, 90710.  
*Phyllostachys bambusoides castillonii*, 89701.  
*bambusoides marliacea*, 89714.  
*fleucosa*, 89715.  
*kumasasa*, 89716.  
*puberula nigra-punctata*, 89717.  
*ruscifolia*. See *P. kumasasa sulfurea*, 89718.  
*violascens*, 89719.  
*Picea jezoensis*, 90666.  
Pine. See *Pinus* spp.  
lacebark. See *P. bungeana*.  
*Pinus bungeana*, 89604, 89764, 89765, 90469.  
*leucosperma*. See *P. tabulaeformis*.  
*nigra mauritanica*, 90803.  
*tabulaeformis*, 90703.  
Pistache. See *Pistacia vera*.  
hybrid. See *P. terebinthus* × *vera*.  
*Pistacia terebinthus* × *vera*, 90049.  
*vera*, 89679-89684.  
*Pisum sativum*, 89766, 89767, 90385, 90470-90474, 90759.  
*Pitcairnia altensteinii*, 89492.  
*andreaea*, 89493.  
*corallina*, 89494.  
*darblayana*, 89495.  
*platyphylla*, 89496.  
*tabulaeformis*, 89497.  
*Pithecolobium allissimum*, 89588.  
*prinosum*, 90717.  
*Poa* sp., 89954.  
*compressa*, 89953.

- Podocarpus ferruginea*. See *Nageta ferruginea*.  
*hallii*. See *N. hallii*.  
*ivalis*. See *N. ivalis*.  
*totara*. See *N. totara*.  
*Portea kermesina*, 89498.  
 Potato. See *Solanum tuberosum*.  
 Proso. See *Panicum miliaceum*.  
*Prunus armeniaca*, 89385, 89625.  
*persica*. See *Amygdalus persica*.  
*persica platycarpa*. See *A. persica platycarpa*.  
*seculensis*, 90794.  
*Puya attenuata*. See *Pitcairnia attenuata*.  
*Pyrus* spp., 90202, 90203.  
*malus*. See *Malus sylvestris*.
- Quamoclit coccinea*, 90061.  
*Quercus* spp., 90073, 90074.  
*acutissima*, 89698.  
*dentata*, 89605, 89696, 89697.  
*glandulifera*. See *Q. serrata*.  
*mongolica*, 89695.  
*serrata*, 90795.  
*variabilis*, 89606.
- Raspberry. See *Rubus* sp.  
 Rata. See *Metrosideros robusta*.  
*Rhamnus parvifolia*, 89768.  
*rupestris*, 89677.  
*Ribes manshuricum*, 90796.  
 Rice. See *Oryza sativa*.  
*Rosa acicularis gmelini*, 90667.  
*davurica*, 90668.  
*medwedewi*, 90643.  
*spinosissima*, 90644, 90645.
- Rose. See *Rosa* sp.  
 Dahurian. See *R. davurica*.  
 Scotch. See *R. spinosissima*.  
*Rubus* sp., 90204.  
*Rumex abyssinicus*, 90805.
- Saccharum officinarum*, 90806-90829.  
 Sage. See *Salvia* sp.  
 Saltbush. See *Atriplex* spp.  
*Salvia* spp., 90075-90077.  
*Sandoricum indicum*. See *S. koetjape*.  
*koetjape*, 89418.  
 Santol. See *Sandoricum koetjape*.  
*Sasa disticha*, 89708.  
*veitchii*, 89705.  
 Scarlet Runner. See *Phaseolus coccineus*.  
*Schizandra chinensis*, 90669.  
*Scilla roseni*, 90646.  
*Scutellaria baicalensis*, 89398.  
*Sedum* sp., 89428.  
*moranense*, 90324.  
*Selenicereus confertiflorus*, 89623.  
*Sempervivum globiferum*, 90647.  
*pumilum*, 90648.  
*Sinojackia rehderiana*, 90731.  
*Sisyrinchium alatum angustissimum*, 90086.  
 Skullcap. See *Scutellaria baicalensis*.  
 Snapdragon. See *Antirrhinum latifolium*.  
 Sneezeweed, Bigelow. See *Helenium bigelovii*.  
 Snowberry, pink. See *Symphoricarpos microphyllus*.  
 Snowdrop. See *Galanthus* sp.  
*Soja max.*, 89395, 89396, 89769-89784, 90205-90263, 90386-90407, 90475-90506, 90560-90580, 90760-90768.  
*Solanum* spp., 89536-89542, 89550-89584, 89611-89621, 89647-89653, 89656-89672, 89686-89692, 89796-89798, 89914-89918, 89997-90008, 90080-90083, 90441-90444.  
*ciliolatum*, 90111.  
*demissum*, 89531-89535, 89610.  
*melongena*, 89216.  
*muricatum*, 89547.  
*quitoense*, 89548.  
*sambuctinum*, 89920.  
*torvum*, 89549.  
*tuberosum*, 89589, 89919, 90537-90543.  
*Sophora* spp., 90264, 90265.
- Sorghum. See *Sorghum vulgare*.  
*Sorghum vulgare*, 89785, 90266-90271, 90769.  
 Soybean. See *Soja max.*  
*Spiraea dasyantha*, 90408.  
*trichocarpa*, 90797.  
 Spirea. See *Spiraea* spp.  
*Spodiopogon cotulifer*, 90272, 90273.  
*sibiricus*, 90274.  
 Spruce, Yeddo. See *Picea fezoensis*.  
 Squash. See *Cucurbita maxima*.  
 Squill. See *Scilla roseni*.  
 Starglory, scarlet. See *Quamoclit coccinea*.  
*Sterculia diversifolia*, 90726.  
*foetida*, 89419.  
*quadrifida*, 90718.  
*Stewartia coreana*, 90798.  
*Stipa calamagrostis*, 89955.  
*tenacissima*, 89956.  
 Stoneweed. See *Sedum* spp.  
 Strawberry. See *Fragaria* sp.  
*Streptocalyx vallerandi*, 89499.  
*Stychnos mitis*, 89693.  
*Sturtia gossypoides*, 90739.  
*Stylosanthes guianensis*, 89214.  
 Sugarcane. See *Saccharum officinarum*.  
 Sweetclover. See *Melilotus* spp.  
 white. See *M. alba*.  
 Sweetpotato. See *Ipomoea batatas*.  
*Symphoricarpos microphyllus*, 89673.  
*Syringa* spp., 89786, 90275, 90409.  
*amurensis*, 90670.  
*obovata*, 90671.  
*obovata dilatata*, 90672.  
*palibiniana*, 90673.  
*sweginowii*, 90316.  
*velutina*, 90799.
- Tagasaste. See *Cytisus proliferus*.  
*Telfairia occidentalis*, 90450.  
*Teramnus uncinatus*, 90079.  
*Thladiantha dubia*, 89389, 90410.  
 Tigerflower. See *Tigridia* spp.  
*Tigridia* spp., 90445, 90519, 90780.  
*Tilia amurensis*, 90674.  
*Tillandsia* sp., 89507.  
*bubosa*, 89500.  
*indica*, 89501, 89502.  
*muscaea*. See *Guzmania muscaea*.  
*ortgiesiana*, 89503.  
*stricta*, 89504.  
*tenuifolia*, 89505.  
*tessellata*. See *Vriesia tessellata*.  
*vestita*, 89506.  
*zahnii*. See *Guzmania zahnii*.  
 Timothy. See *Phleum pratense*.  
 Torchlily. See *Kniphofia hybrida*.  
 Trefoil, birdsfoot. See *Lotus corniculatus*.  
*Trifolium* spp., 90446.  
*alexandrinum*, 89957.  
*cernuum*, 90727.  
*lupinaster*, 90276-90278, 90581.  
*pratense*, 89953, 90773, 90830.  
*Trigonella balansae*, 90039.  
*brachycarpa*, 90040.  
*caerulea*, 90041.  
*calliceras*, 90042.  
*corniculata*, 90043.  
*gladiata*, 90044.  
*hamosa*, 90045.  
*monspeliaca*, 90046.  
*polycerata*, 90047.  
*spinosa*, 90048.  
*Trisetum flavescens*, 89959.  
*Triticum aestivum*, 89422-89426, 90279, 90411, 90770, 90832-90835.  
*durum*, 89642.  
*turgidum*, 90336.  
*vulgare*. See *T. aestivum*.  
 Trumpetreeper. See *Bignonia* spp.
- Ulmus parvifolia*, 90800.  
 Undetermined, 89685, 90520-90522.  
 Urd. See *Phaseolus mungo*.
- Vernonia arctioides*, 90085.  
*Veronica* sp., 89382.  
*acutiflora*. See *Hebe acutiflora*.  
*albicans*. See *H. albicans*.

## Veronica—Continued.

*amabilis*. See *H. amabilis*.  
*amplexicaulis*. See *H. amplexicaulis*.  
*anetida*, 89357.  
*angustifolia*. See *H. angustifolia*.  
*annulata*. See *H. annulata*.  
*anomala*. See *H. anomala*.  
*armstrongii*. See *H. armstrongii*.  
*balfouriana*. See *H. balfouriana*.  
*banksii*, 89358.  
*barkeri*. See *H. barkeri*.  
*barnetti*, 89359.  
*bidwillii*, 89346.  
*biggarii*. See *H. biggarii*.  
*birleyi*, 89347.  
*blanda*. See *H. blanda*.  
*boltonsi*. See *H. boltonsi*.  
*bryanti*, 89360.  
*buchanani*. See *H. buchanani*.  
*burrowsii*, 89361.  
*buzifolia*. See *H. buzifolia*.  
*campbellensis*, 89362.  
*carosula*. See *H. carosula*.  
*carsei*. See *H. carsei*.  
*cassinoides*. See *H. cassinoides*.  
*catarractae*, 89348-89350.  
*christensenensis*, 89363.  
*christica*, 89364.  
*coarctata*. See *H. coarctata*.  
*cobbii*, 89365.  
*colensoi*. See *H. colensoi*.  
*dartoni*. See *H. dartoni*.  
*daviesii*, 89366.  
*decumbens*. See *H. decumbens*.  
*diftenbachii*. See *H. diftenbachii*.  
*diosmifolia*. See *H. diosmifolia*.  
*dorrien-smithii*. See *H. dorrien-smithii*.  
*douglasi*, 89367.  
*elliotti*, 89368.  
*elliptica*. See *H. elliptica*.  
*evenosa*. See *H. evenosa*.  
*ferwickii*, 89369.  
*garveii*, 89370.  
*glauco-caerulea*. See *H. glauco-caerulea*.  
*glaucophylla*. See *H. glaucophylla*.  
*grahamii*. See *V. birleyi*.  
*hectori*. See *Hebe hectori*.  
*hookeriana*, 89351.  
*hulkeana*. See *H. hulkeana*.  
*hunteri*, 89371.  
*imbricata*. See *H. imbricata*.  
*kirkiti*. See *H. kirkiti*.  
*laevis*. See *H. laevis*.  
*laingii*. See *H. laingii*.  
*leiophylla*. See *H. leiophylla*.  
*lewisi*. See *H. lewisii*.  
*ligustrifolia*. See *H. ligustrifolia*.  
*lindsayi*, 89372.  
*lobellioides*, 89373.  
*loganioides*, 89352.  
*lyallii suberecta*, 89353.  
*macrantha*. See *H. macrantha*.  
*macrocarpa affinis*. See *H. macrocarpa affinis*.  
*macrocarpa latise-pala*. See *H. macrocarpa latise-pala*.  
*macroua*. See *H. macroua*.  
*martini*, 89354.  
*matthewsii*. See *H. matthewsii*.  
*mcwainii*, 89374.  
*mekensiesii*, 89375.  
*menziesii*. See *H. menziesii*.  
*menziesii divaricata*. See *H. divaricata*.  
*montana*. See *H. montana*.  
*muelleri*, 89355.  
*nivalis*. See *V. hookeriana*.  
*obovata*. See *Hebe obovata*.  
*obtusata*. See *H. obtusata*.

## Veronica—Continued.

*odora*. See *H. odora*.  
*olsenii*, 89356.  
*pimelioides*. See *H. pimelioides*.  
*pinguifolia*. See *H. pinguifolia*.  
*procumbens*, 89376.  
*propinqua*. See *H. propinqua*.  
*pubescens*. See *H. pubescens*.  
*rakaiensis*. See *H. rakaiensis*.  
*raoulii*. See *H. raoulii*.  
*reidii*, 89377.  
*rigidula*. See *H. rigidula*.  
*rupicola*. See *H. rupicola*.  
*salicifolia angustissima*. See *H. salicifolia angustissima*.  
*salicifolia atkinsonii*. See *H. salicifolia atkinsonii*.  
*salicifolia paludosa*. See *H. salicifolia paludosa*.  
*salicornioides*. See *H. salicornioides*.  
*seatonii*, 89378.  
*spectosa*. See *H. spectosa*.  
*stricta*. See *H. salicifolia stricta*.  
*sutherlandii*, 89379.  
*tannockii*, 89380.  
*townsonii*. See *H. townsonii*.  
*traversii*. See *H. traversii*.  
*trise-pala*. See *H. trise-pala*.  
*walkerii*, 89381.

Vetch. See *Vicia* spp.  
 common. See *V. sativa*.  
 cow. See *V. cracca*.  
*Viburnum sargentii*, 90675.  
*Vicia* spp., 90283, 90289, 90447.  
*amoena*, 90280-90285, 90582, 90583, 90771.  
*cracca*, 90286, 90584.  
*dasycarpa*, 89960.  
*ervilla*, 89961.  
*fabu*, 89962, 90412, 90507, 90508, 90772.  
*monanthos*, 89963, 89964.  
*narbonensis*, 89965.  
*pseudo-orobus*, 89787, 90287.  
*sativa*, 89966, 89967.  
*sativa leucosperma*, 89968.  
*unijuga*, 90585.

*Vigna sequepedalis*, 90413, 90509.  
*stnensis*, 89394, 89607-89609, 89788-89793, 90290, 90291, 90414-90423, 90510-90515, 90773-90776.

*Vitis acuminata*, 90719.  
*Vitis* sp., 90292.

*Vrtesia barilleti*, 89508.  
*brachystachys*. See *V. carinata*.  
*carinata*, 89509.  
*duvalliana*, 89510.  
*fulgida*, 89511.  
*glazioviana*. See *V. regina*.  
*hieroglyphica*, 89512.  
*incurvata*, 89513.  
*platynema*, 89514.  
*poelmanni*, 89530.  
*psittacina*, 89515.  
*regina*, 89516.  
*rex*, 89517.  
*saundersii*, 89518.  
*splendens*, 89519, 89520.  
*tessellata*, 89521.

Wheat, common. See *Triticum aestivum*.  
 durum. See *T. durum*.  
 poulard. See *T. turgidum*.

Yate-tree. See *Eucalyptus cornuta*.

*Zanthoxylum schinifolium*, 90676.  
*Zea mays*, 89397, 90293-90296.  
*Ziziphus jujuba*, 90297.  
*Zornia daphylla*, 90523.