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U. S. Department of Agriculture.

S. P. I. 20.

U. S. DEPARTMENT OF AGRICULTURE,
SECTION OF SEED AND PLANT INTRODUCTION.

INVENTORY NO. 8.

SEEDS AND PLANTS,

IMPORTED FOR DISTRIBUTION IN COOPERATION WITH THE
AGRICULTURAL EXPERIMENT STATIONS.

NUMBERS 3401-4350.

INVENTORY OF FOREIGN SEEDS AND PLANTS.

INTRODUCTORY STATEMENT.

This inventory or catalogue of seeds and plants includes a number of exceptionally valuable items collected by the Agricultural Explorers of the Section of Seed and Plant Introduction. There is an interesting and valuable series of economic plants of the most varied uses procured by the Hon. Barbour Lathrop, of Chicago, assisted by Mr. David G. Fairchild. Mr. W. T. Swingle has continued his work in Algeria, Sicily, and Turkey, and this list contains many of his importations. There are also a number of donations from various sources, and a few seeds purchased directly from the growers.

The following importations represent perhaps the most valuable of the many interesting novelties here described: Mr. Swingle's collection of improved varieties of the date palm, procured in Algeria; a collection of spineless cacti from the Argentine Republic secured by Messrs. Lathrop and Fairchild, which may become valuable forage plants in the arid Southwest; genge clover, a leguminous forage crop and green manure which is grown in the rice fields of Japan as a winter soil cover and fertilizer; a collection of broad beans from England, this vegetable being practically unknown in the United States, although extensively used in Europe and on the Continent; a new seedless raisin grape from Italy for the raisin growers of California and Arizona; a little sample of wheat from Peru, donated by Dr. Cisneros, Secretary of the National Agricultural Society of Lima, a variety which was grown at an altitude of over 11,000 feet in the Andes, and which may prove both interesting and valuable in some locality in the Rocky Mountains; a large number of desert forage plants and saltbushes from an extremely arid region in the Northern Territory of South Australia; the Kirkagatch muskmelon, said to be one of the finest sorts grown in Asia Minor; Jannovitch cotton, a new Egyptian strain, secured in sufficient quantity for an extensive distribution; and the Khiva winter muskmelon, which was grown in Utah from seed originally imported from Khiva by Prof. N. E. Hansen.

Other collections of interest are: A new macaroni wheat from Chili; Mr. Swingle's extensive collections of economic plants from Algeria,

and of edible cacti from Sicily; a new blood orange from Sicily; yams from Venezuela for our tropical possessions; some native forage plants from Brazil; new rices from Egypt; shade trees for semiarid regions from the Argentine Republic; cashew nuts from Jamaica; vegetables and flowers from Smyrna and Turkey; olives from Greece; mangoes from Trinidad; a miscellaneous collection from Manila; vegetables from Italy, Bulgaria, and Peru; the algarroba bean from Peru, similar to the mesquite bean of Texas, and to the algarroba of the Hawaiian Islands, an exceptionally fine forage plant for arid regions; a collection of millets and beans from China; sugar beets from France, Germany, and Russia; Egyptian clover and horse beans, which supply practically all of the forage grown in the valley of the Nile; a wild potato from Mexico, said to possess superior flavor; a new vetch from Algeria, perhaps superior in many points to the hairy vetch; a collection of nearly all the native legumes of Italy; a new blackberry from Mexico; a grass for shaded lawns from France.

The publication of this list has been considerably belated, and many of the numbers are entirely exhausted. Nevertheless, the notes in regard to such will undoubtedly prove an assistance to agricultural experimenters in many lines. Records are kept of the source and origin of each item listed. It will therefore be possible, in most instances, to obtain an additional quantity at least for the use of workers at the agricultural experiment stations, provided there is sufficient and justifiable demand for another importation.

Many of the forms and varieties are not, strictly speaking, new introductions. However, these are often desirable for special purposes; for example, for the use of plant breeders in creating new strains by crossing and selection, or for students of particular groups, who require a large number of species, varieties, and forms in their work on the improvement of cultivated plants. Wherever possible, the first choice will be extended to the coworkers in the various divisions of the Department of Agriculture and in the experiment stations. The quantities of seeds and plants secured are usually small and are entirely insufficient for indiscriminate distribution. In cases where an importation proves of value after trial, a larger quantity may be secured for more general distribution, through the agency of the experiment stations, in the region in which the plant has shown marked improvement over existing varieties. But where a new crop is once established, and has become so well-known that it is amply handled by the trade, no further importations for free distribution, at least in that region, will be made.

The expense for exploration in foreign countries in search of varieties of cultivated crops better than those already established in the United States properly devolves upon the Department of Agriculture. It may also sometimes prove profitable to reintroduce forms

which have been tried without success in one portion of the land provided new facts as to the method of cultivation and adaptability to soils and climate are determined pointing to the possible success of the crop in special regions possessing the requisite natural environment. In such cases the endeavor to reestablish a decadent farming industry may best be undertaken with the assistance of the trained workers of the experiment stations. If these experimenters report favorably in regard to new or little known vegetables, grains, and field crops, a larger distribution can be made to bring the crop again to the attention of the farmer.

Because of the increasing scope of the work, due to the numerous seeds and plants procured, it is especially important that correspondents retain the original number under which the seed is distributed. The report blanks will bear numbers corresponding to those of the inventory. The information supplied by experimenters will, by following this system, become easily accessible.

The information given in regard to each of the following numbers has been compiled mainly from notes supplied by the explorer or by the person who donated or secured the seeds. We are especially indebted to Mr. W. T. Swingle and Mr. D. G. Fairchild for the very full descriptive notes which accompany their importations.

JARED G. SMITH,

Chief, Section of Seed and Plant Introduction.

WASHINGTON, D. C., *January 1, 1901.*

INVENTORY.

3401. SOLANUM.

From Costa Rica. Received through Mr. C. Werckle, 1899.

"A more or less trailing, annual species, very fertile; fruit about the size of small Chickasaw plums, green, with dark brown stripes (from black green to violet brown); in racemes of from 4 to 8; drops when ripe and keeps for weeks; gets soft; skin semi-transparent. Not edible when raw; makes very good pies that remind one of gooseberry." (*Werckle.*)

3402. PHENIX DACTYLIFERA.

Date.

From Algeria. Received through Mr. W. T. Swingle, June, 1899. Presented by Dr. Trabut.

*Tinnoud de Touat.*¹ Distributed.

3403. TRITICUM DURUM.

Wheat.

From Chili. Received through Messrs. Lathrop and Fairchild, June, 1899.

Trigo Candeal. "Macaroni wheat. This durum wheat is rather commonly grown in Chili and Argentina. It is chiefly valuable for the production of macaroni. It has long, compact, bearded heads and yellowish-white hard grains. It will probably be resistant to drought and orange-leaf rust. Adapted for growing in dry, hot, districts such as west Texas and the drier portions of Colorado, Kansas, and Oklahoma. South of the thirty-fifth parallel it should be grown as a winter wheat, sown October 15 to November 15; north of this line it will probably not stand the winter, and should be sown February 15 to March 1." (*Carleton.*) Distributed.

3404. TRITICUM VULGARE.

Wheat.

From Chili. Received through Messrs. Lathrop and Fairchild, 1899.

Trigo Blanco. Soft wheat. (For the Pacific coast.)

3405. CERATONIA SILIQUA.

Carob bean.

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

Young carob seedlings, for use as stocks on which to graft improved varieties. (See No. 3112, Inventory No. 7.)

3406. PALIURUS ACULEATUS.

Christ's-thorn.

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

"A half hardy, thorny, deciduous shrub or small tree, growing from 15 to 30 feet high, native of southern Europe and western Asia. It belongs to the buck-thorn family (*Rhamnaceæ*), and bears curious buckler-shaped fruits. From its resemblance to a hat, the French call the plant *porte-chapeau*. Christ's-thorn is abundant in southern France in dry situations. It is particularly abundant in calcareous soils. It is reproduced by suckers." (*Swingle.*) "It grows about the same height as the common thorn on rocky, sterile places. In many parts of Italy hedges are formed of this plant." (*Loudon.*) Distributed.

¹The varietal name where known is *italicized*.

3407. PHYLLSTACHYS NIGRA.**Bamboo.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

"This hardy bamboo from China and Japan reaches a height of from 20 to 30 feet if planted in good soil. The stems are remarkable for their shiny black color, which gives a very striking effect to the group of plants. They are sometimes three-fourths of an inch or more in diameter, and are used in making canes, umbrella handles, etc. It is propagated by division of the tufts. In cold regions these should be started in pots." (*Swingle.*) Distributed.

3408. BAMBUSIA MITIS.**Bamboo.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

This Chinese bamboo is the largest of the hardy species. It sometimes attains a height of 30 feet and a diameter of from 4 to 5 inches. It is propagated by a division of the tufts, and is hardy in southern France. Distributed.

3409. CITRUS DECUMANA.**Pomelo.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

Pamplemousse sans pépins. "This pomelo is of considerable interest, being almost completely seedless. It was of mediocre quality, yet was the best I ever tasted in Europe. It should be used in crossing with the American varieties with the hope of obtaining a good variety free from seeds." (*Swingle.*) Distributed.

3410. DIOSPYROS LOTUS.**Date plum.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

This is the best stock on which to graft the Japanese persimmons in Algeria. (See No. 3328, Inventory No. 7.) Distributed.

3411. CERATONIA SILIQUA.**Carob.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

Caroubier d'Espagne. "This is one of the improved varieties of the carob, propagated only by grafting. It is commonly grown in the northern and central part of Algeria, around the city of Algiers. (For an account of the carob and its culture see No. 3112, Inventory No. 7.) This variety is dioecious, and branches of the male plant must be grafted on the female trees, or else a certain proportion of the male trees planted in the orchard in order to insure bearing." (*Swingle.*) Distributed.

3412. CITRUS LIMETTA.**Lime.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

Citronier d'Amérique sans épine. "A seedless lime resembling the so-called Persian lime grown in Florida and the so-called Imperial lime of California. It is said by M. Himbert to grow half wild near Salamanca, Santo Domingo." (*Swingle.*) Distributed.

3413. CUPRESSUS SEMPERVIRENS, HORIZONTALIS.**Cypress.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

This is a spreading variety of the ornamental cypress. It is frequently used in northern Algeria for hedges and wind-breaks for orange plantations. (See No. 3348, Inventory No. 7.) Distributed.

3414. CUPRESSUS SEMPERVIRENS, PYRAMIDALIS.**Cypress.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

"This is a pyramidal variety of the oriental cypress, much used for hedges and occasionally for wind-breaks. It is less esteemed than the *horizontalis* variety (No. 3413). Both are very ornamental. This pyramidal form is a striking ornament of the Mohammedan cemeteries. The foliage is dark green and extremely dense. The tree is very slender and in outline resembles somewhat the Lombardy poplar." (*Swingle.*) Distributed.

3415. JACARANDA OVALIFOLIA.**Jacaranda.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

An ornamental Brazilian tree for the South. (See No. 3180, Inventory No. 7.) Distributed.

3416. EUCALYPTUS GOMPHOCEPHALA.**Touart.**

From Algeria. Donated by Dr. Bourlier, Reghaia, through Mr. W. T. Swingle, April, 1899.

"This Eucalyptus is a native of the southwest coast of Western Australia and is there called *Touart*, *Tooart*, *Tewart*, or *White-gum*. It is remarkable for the strength of its wood, which is heavy, tough, and almost impossible to split. It is used in ship-building and in wheelwright work. It is said to occur always in limestone regions in West Australia. It is easily recognized by its flower bud, the operculum of which is much larger than the capsule below. It is as yet but little known in Algeria, but is recommended very highly by Dr. Trabut for general planting. It has succeeded very well in Algeria, wherever planted, and grows very rapidly." (*Swingle.*) Distributed.

3417. AMBROSINIA BASSII.

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

A native Algerian aroid with most curious flowers which are fertilized by snails. Of botanical interest only. Distributed.

3418. CERATONIA SILIQUA.**Carob.**

From Algeria. Received through Mr. W. T. Swingle, April, 1899.

Sample pods of the carob, commonly grown around Algiers. (See No. 3112, Inventory No. 7.)

3419. VITIS VINIFERA.**Grape.**

From Jamaica. Received through Messrs. Lathrop and Fairchild, 1899.
Shafston Muscat. Distributed.

3420. OPUNTIA GYMNOCARPA.**Spineless cactus.**

From La Plata, Argentina. Received through Messrs. Lathrop and Fairchild (No. 198), 1899.

"The plant will withstand heavy frosts. Almost entirely without spines. Fruits yellow, edible, sweet. Sugar is made from this fruit, there being a company at Salta for that purpose. When refined it is like cane sugar. A sirup called 'arropé' is also made from the fruits. The stems are eaten greedily by cattle. It is a good fodder." (*Fairchild.*)

This species furnishes excellent fodder for cattle on the dry plains of northern Argentina. It should be carefully tested in the Southwest. It is considered by Weber to be a form of *Opuntia ficus-indica*. Distributed.

3421. CEREUS JAMACARU.**Daiacame.**

From Argentine Republic. Received through Messrs. Lathrop and Fairchild (No. 199), 1899.

"The fruit is sweet, red, the size of a goose egg, and has many very small seeds. The fruits are absolutely without spines. The flesh is refreshing. The plant grows where it is moist and wet, a light sandy soil being necessary. For Florida and Arizona." (*Fairchild.*) Distributed.

3422. OPUNTIA QUIMILO.**Quimilo.**

From La Plata, Argentina. Received through Messrs. Lathrop and Fairchild (No. 196), 1899.

This species comes from the provinces of Santiago and Cordova. It has long spines. "Fruit yellow, with many seeds, very agreeable, sweet. Grows 9 or 10 feet

high, in any soil, and thrives in both dry and moist localities. Hardy here at La Plata, where the thermometer reaches 27° F. in winter. It should be used in crossing with other prickly pears. For California and Arizona." (*Fairchild.*) Distributed.

3423. OPUNTIA ANACANTHA.

Spineless cactus.

From La Plata, Argentina. Received through Messrs. Lathrop and Fairchild (No. 197), 1899.

"From western part of Chaco Province, in very arid, sandy soil. It withstands 27° F. It is almost entirely without spines and is used for forage. The cattle belonging to the Indians of the Chaco eat the stems greedily, and Dr. Spegazzini believes that they live during the summer months principally upon this species. The fruit is red, edible, acid, with many seeds. Should be tested carefully in Arizona and California." (*Fairchild.*) Distributed.

3424. CEREUS CHALYBÆUS.

From La Plata, Argentina. Received through Messrs. Lathrop and Fairchild (No. 203), 1899.

"From the arid portion of the Chaco. The fruits are red, absolutely spineless, the size of goose eggs, with small seeds. The flesh is crisp and cooling. Plants 3 to 4 feet high." (*Fairchild.*) Distributed.

3425. GLYCERRHIZA GLABRA.

Licorice.

From Smyrna, Asia Minor. Received through Mr. W. T. Swingle, June, 1899.

"This plant yields the ordinary licorice of commerce. It is very abundant in the warm regions along the Meander Valley, in Asia Minor, and in the plain of Amouk, near Antioch. The exports from the port of Smyrna amounted to over \$300,000 worth in 1891. A considerable proportion of this licorice is sent to the United States. No definite system of culture is practiced in the Meander Valley, as the plant grows very abundantly in a wild state. The roots are simply dug and dried. It is quite probable that licorice may succeed in some parts of California where the climate and conditions approach those of the Meander Valley. The soil is rather heavy where the best growth of the licorice root is found. This number includes roots obtained near Aidin. It has been suggested that the licorice might be utilized for forage and for green manure." (*Swingle.*) Distributed.

3426-3436. FIGUS CARICA.

Smyrna fig and Caprifig.

This collection of cuttings of Smyrna figs and caprifigs from Aidin, Asia Minor, was lost through the delay caused by the running aground on the Manacles of the steamship *Paris*, by which they were being forwarded.

3437-3439. OPUNTIA FIGUS-INDICA.

Prickly pear.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle; received May, 1899.

"The prickly pear is one of the most extensively cultivated fruits in Sicily, where it is called *Picudinnia*. In 1853, 8,822 hectares (21,800 acres) were devoted to the culture of prickly pears. More than three-fourths of this area was exclusively occupied by prickly pears. In other cases the prickly pears were mixed in gardens with other fruit trees. In 1896 Signor Biuso Varvaro estimated that no less than 25,000 hectares, or about 62,000 acres, were planted to prickly pears. For several months of the year it is the principal food of the poorer Sicilians. Frequently the flowers are removed in the month of May. This operation, called *scoccolamento*, is performed by a man armed with a pole and with his hands protected by heavy gloves. The operator removes all the flower buds and also the tender joints. As a result of this operation new flowers appear in July, which produce fruits ripening in late autumn, beginning about October 15, whereas the first crop ripens in August. The fruits of the second crop of the prickly pear are most delicious, and are certainly comparable with the best autumnal fruits which can be grown in subtropical countries. It is a curious fact that these second-crop fruits contain more and at the same time sweeter and richer flavored pulp than fruits of the first crop. The following table, taken

from a report by Mancuso-Lima, shows this striking difference in composition of the pulp of the first and second crop of prickly pears:

Comparison of first and second crop fruits.

	First-crop fruits (Agostani). (100 parts of fruit contain 57.60 parts pulp.)		Second-crop fruits (scoccolati). (100 parts of fruit contain 63.19 parts pulp.)	
	100 parts of fruit contain—	100 parts of pulp contain—	100 parts of fruit contain—	100 parts of pulp contain—
Water	53.540	92.951	57.006	90.214
Dry matter.....	4.060	7.049	6.184	9.786
Fat.....	.043	.074	Trace.	Trace.
Sugar.....	2.892	5.020	3.540	5.602
Starch and dextrin.....	.098	.169	1.701	2.692
Total nitrogen.....	.046	.080	.155	.245
Proteid nitrogen.....	.034	.058	.111	.175
Albuminous matter.....	.211	.366	.693	1.097
Ash.....	.146	.253	.209	.331

“This operation of forcing a second crop of prickly pears which are of a superior quality should certainly be tested in this country wherever prickly pears can be grown.

“The following varieties were donated by Professor Borzi, the director of the Botanic Garden at Palermo, and include those most commonly cultivated. In addition to these three varieties there is another of some interest which has no seeds. It is, however, not very fruitful and is very rarely cultivated, for which reason it was not possible to secure plants. Another variety, which has not been named, grows about Adermò on the southwestern slopes of Mt. Ætna. This variety produces a very superior quality of fruit, which may, however, be due to the special character of the volcanic soil in which it grows. This may be the plant obtained from the Botanic Garden of Catania and sent out under the number 3196. All of the improved varieties of prickly pear have spineless pads, and can be used for feeding stock. They may prove of great importance for the arid regions of the Southwest as forage.

“**3437.** *Sanguineo* (*Ficoidinnia sanguinea*). This variety has, as its names indicates, red fruits. It ripens later than two following numbers, sometimes so late that it does not mature well about Palermo. (See No. 3190, Inventory No. 7.) Distributed.

“**3438.** *Alba* (*Ficoidinnia muscaredda*) is one of the commonly cultivated varieties. It ripens early and is of good flavor. Distributed.

“**3439.** *Ordinario* (*Ficoidinnia surfarina?*). This is doubtless the yellow variety which is most commonly cultivated in Sicily. It is considered the best variety of all because it fruits so abundantly, and at the same time bears fruits which are very sweet and of good quality.” (*Swingle.*) Distributed.

3440. OPUNTIA LABOURETIANA.

Prickly pear.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

“This species is also cultivated at Palermo for its edible fruit. There are said to be two varieties of this species—one with white and the other with red fruits. It is not known which was obtained under this number. This is considered by Schumann to be a form of *Opuntia lanceolata* from South America.” (*Swingle.*) Distributed.

3441. OPUNTIA TUNA.

Prickly pear.

From Palermo, Sicily. Received through Mr. W. T. Swingle, May, 1899.

“*Ficoidinnia tincirussa*, a very spiny sort widely grown in eastern Sicily. The edible fruits are small and of medium quality, but are produced at all seasons of the

year. This species is cultivated only along the maritime zone in eastern Sicily. It is much smaller than the ordinary prickly pears of Sicily, and is marked by its numerous rigid spines. It is called *Opuntia dillenii* in Sicily." (*Swingle.*) Distributed.

3442. NOPALEA COCCINELLIFERA.

Cactus.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"A nearly spineless forage cactus. The cochineal insect is said to be cultivated on this plant. It is probably a native of southern Mexico, but is now widely cultivated in tropical countries. It is often referred to the genus *Opuntia*." (*Swingle.*) Distributed.

3443. OPUNTIA SALMIANA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.

A slender Brazilian species. Branches develop from the ripe fruits. Distributed.

3444. OPHIOPOGON JAPONICUS.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"This plant makes a very pretty lawn in the Botanic Garden of Palermo, where the climate is similar to that of southern California. It belongs to the lily family, and should be tested in making lawns, both in Florida and in the Southwest." (*Swingle.*) Distributed.

3445. CHIRANTHODENDRON PLATANOIDES.

Devil's hand.

From Sicily. Received through Mr. W. T. Swingle, May, 1899.

"*Mano di diavolo.*" This majestic tree from Mexico has large, red flowers, containing within five bright red stamens in the form of a hand, from which peculiarity it derives its name. It belongs to the family *Sterculiaceae*. Distributed.

3446. BOSEA YERVAMORA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.

A very large woody vine, native of the Canary Islands; very useful for shade. Orchids are grown among its branches at the Botanic Garden at Palermo. Distributed.

3447. FICUS LEUCANTHATOMA.

Fig.

From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.

A Malayan ornamental fig. Distributed.

3448. FICUS MAGNOLIOIDES.

Rubber tree.

From Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, April, 1899.

"This new species of *Ficus* was received nearly half a century ago at the Palermo Botanic Garden, from southern France, under the name of *Ficus nervosa*. Professor Borzi finds it, however, to be quite different from this species and to constitute a new species of the section *Urostigma*. It is closely related to the rubber tree (*Ficus elastica*), from which it differs principally in having leaves which become rust colored below, causing them to resemble the leaves of *Magnolia grandiflora*. The leaves have longer stalks and the fruits are also different. The tree attains a great size, the oldest specimen in the Palermo Garden covering a space of over 9,000 square feet; that is, a circle nearly 100 feet in diameter. It produces an abundance of aerial roots, which grow directly downwards from the older branches. If these reach the soil they take root and grow rapidly in diameter. This occurs frequently near the trunk, and in consequence the trunk is nearly hidden by the confused mass of these roots. It grows very

rapidly in the semiarid climate of Palermo. Professor Borzi considers it one of the most desirable ornamental plants of Palermo. The rounded crown of this tree is composed of a dense mass of evergreen leaves, russet brown beneath, which give the plant a splendid effect. It will probably succeed in Florida, along the Gulf States, and in California. It has been suggested as a rubber plant for dry situations. Warburg considers this species identical with *F. macrophylla*." (*Swingle*.) (See No. 3494.) Distributed.

3449. FOURCRÆA CUBENSIS.

From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.

A West Indian fiber plant, growing to enormous proportions. The leaves are yellow margined; the trunks often grow 10 feet high and 2 feet in diameter in the semiarid subtropical climate of Sicily. According to Von Mueller it has been used for fiber and for making hedges. Distributed.

3450. FOURCRÆA ALTISSIMA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.

Smaller and more graceful than the preceding, No. 3449. A fine ornamental plant for Florida and California. Distributed.

3451. VILLARESIA (?).

From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.

An ornamental evergreen tree. Labeled "*Echinca citrifolia*." Distributed.

3452. OPUNTIA ROBUSTA.

Cactus.

From Palermo, Sicily. Donated by the chief gardener of the Villa Tasca, through Mr. W. T. Swingle, May, 1899.

"Said to produce edible fruits 4 to 6 inches in diameter. Called *O. piccolominiana* in the garden of the Villa Tasca—a name said by Schumann in his Monograph of *Cactaceæ* to be synonymous with the above." (*Swingle*.) Distributed.

3453. OPUNTIA FICUS-INDICA.

Prickly pear.

From Palermo, Sicily. Donated by the chief gardener of the Villa Tasca, Palermo, through Mr. W. T. Swingle, May, 1899.

A cactus with edible fruits. Distributed.

3454. OPUNTIA.

Prickly pear.

From Palermo, Sicily. Donated by the chief gardener of the Villa Tasca, Palermo, through Mr. W. T. Swingle, May, 1899.

A remarkably fruitful sort. Quality unknown. For use in plant breeding. Distributed.

3455. FICUS RUBIGINOSA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"A rampant grower. From Australia. Makes a thicket in a few years. This is one of the most hardy species of fig trees, and has been recommended as an evergreen shade tree for planting along roadsides, but from its irregular manner of growth it would seem poorly adapted for this purpose. It makes splendid masses of evergreen foliage in ornamental planting, however, and should be tested in the South and in Arizona and California." (*Swingle*.) Distributed.

3456. FICUS PROCERA. CHANVIERI.

From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.

A pretty ornamental from Java, with yellow fruits about 1 inch in diameter. Distributed.

- 3457. CORYNOCARPUS LÆVIGATUS. Karaka.**
 From Palermo, Sicily. Donated by Professor Borzi, director of the Palermo Botanic Garden, through Mr. W. T. Swingle, May, 1899.
 "The principal forest tree of the Chatham Islands, the *karaka* of New Zealand, attaining a height of 60 feet. The pulpy fruit is edible. A fine tree for avenues in rich irrigated soils. It belongs to the family *Corynocarpaceæ*, of which it is the only representative." (*Swingle*.) Distributed.
- 3458. OPUNTIA FICUS-INDICA. Prickly pear.**
 From Rocca, near Palermo, Sicily. Received through Mr. W. T. Swingle, May, 1899.
Ficudimbia. With edible fruits. Distributed.
- 3459. OPUNTIA FICUS-INDICA. Prickly pear.**
 From Carthage, near Tunis, Africa. Received through Mr. W. T. Swingle, May, 1899.
 A spineless form, growing in a hedge composed, except for this plant, of the spiny form. Distributed.
- 3460. VITIS ANTARCTICA. Grape.**
 From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.
 "An ornamental Australian vine. The leaves are of some botanical interest because of the small cavities in the leaf inhabited by mites. Professor Borzi has worked out this interesting peculiarity of the plant and published his studies in his *Contribuzioni alla Biologia Vegetale*." (*Swingle*.)
- 3461. PISTACIA LENTISCUS. Mastic tree.**
 From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.
 An evergreen or small tree, very common about the Mediterranean. In the island of Chios, Turkey, an improved variety of this plant yields mastic gum. The leaves are used as a substitute for tanner's sumac. (See No. 3140.)
- 3462. PISTACIA TEREBINTHUS. Terebinth.**
 From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.
 Larger than No. 3461 and deciduous. It yields the Cyprian turpentine. It is the principal stock on which to graft the pistache. (See No. 3149.)
- 3463. PISTACIA VERA, TEREBINTHUS. Pistache.**
 From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.
 "A hybrid of the true pistache with the terebinth, to be tested for stocks on which to graft the pistache." (*Swingle*.)
- 3464. DIOSPYROS EBENUM. Ebony.**
 From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden at Palermo, through Mr. W. T. Swingle, May, 1899.
 A native of Ceylon, where this tree is the source of the best quality of ebony. It grows up to 5,000 feet altitude.
- 3465. CICER ARIETINUM, NIGER (?). Garbanzos.**
 From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.
 A black-seeded chick-pea. (See No. 2139, Inventory No. 5.) Distributed.

3466. ERYTHRINA CRISTA-GALLI, SPECIOSA. Coral tree.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

“This fine variety of the Brazilian coral tree attains the size of a large tree in the south of Europe. It produces large racemes of brilliant red flowers on the ends of the branches. This and the three following numbers should be tested in Porto Rico and Hawaii for coffee shade trees.” (*Swingle.*)

3467. ERYTHRINA INSIGNIS. Coral tree.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

A common deciduous shade tree in Sicily. The flowers appear before the leaves. This tree was in bloom at the end of March, 1899, in western Sicily.

3468. ERYTHRINA VIARUM.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

This species was first found in the Botanic Garden of Palermo. Its native country is not known.

3469. ERYTHRINA VIARUM, PICTA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899. (See No. 3468.)

3470. SCHOTIA LATIFOLIA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

“An evergreen leguminous shade tree from South Africa. It is hardy, with heavy white wood, which is, however, little used. The young seeds are eaten by the Hotentots and Kafirs. This plant is called *Theodora latifolia* by Taubert.” (*Swingle.*) Distributed.

3471. MELIA ARGUTA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

An ornamental shade tree for the South. Native of the Moluccas. Distributed.

3472. MELIA AZADIRACHTA. Neem tree.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

“An ornamental shade tree with blue flowers, called the *Neem* or *Margosa* tree in India. Almost all parts of the tree are employed as medicine. The seeds, according to Murray, yield an acrid, bitter oil, deep yellow in color and of a strong and disagreeable flavor. It is exported to Ceylon, where it is used medicinally and for burning in lamps. The leaves are sometimes cooked with vegetables in form of a curry or simply parched and eaten. They impart a bitter taste to the food, and this seems to be liked by the natives. The tree enters into a great variety of uses in India and is held sacred by the Hindus, being used in many of their ceremonies.” (*Swingle.*)

3473. MELIA AZEDARACH, SEMPERVIRENS. China berry.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

An evergreen form of the Pride of India or China Berry, commonly grown throughout the Southern States.

3474. OLEA CRYSOPHYLLA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"This species is closely related to the olive. It is said to be a native of the islands of Mauritius and Bourbon, and of Abyssinia. It should be tested as an ornamental in the South and Southwest, and also a stock on which to graft the olive." (*Swingle.*)

3475. PLATANUS ORIENTALIS, MACROPHYLLA. Plane-tree.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

A large-leaved variety of the ornamental plane-tree, which is native from Italy eastward to the Himalayas. (See No. 2186, inventory No. 5.)

3476. GREVILLEA HILLIANA. Silky oak.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

An Australian ornamental tree. "Timber hard, durable, and beautifully grained. Used for coopers' work, cabinet work, veneers, etc." (*Maiden.*)

3477. CITRUS AURANTIUM. Orange.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

Maroccana. This orange, said to have originated in Morocco, is considered a very good sort in Sicily. Distributed.

3478. CITRUS AURANTIUM. Orange.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

Sanguinea. A red-pulped variety of the orange. Distributed.

3479. CITRUS AURANTIUM. Orange.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

Maroccana, forma sanguinea. A red-pulped form of the *Maroccana* orange. Distributed.

3480. CITRUS VOLKAMERIANA. Orange.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

A bitter orange, the native country of which is not known.

3481. CLAUSENA EXCAVATA (?).

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

An evergreen tree from the East Indies, not uncommon in greenhouses, where it is called *Cookia punctata*. The flowers are fragrant and the fruit, a small berry, is sometimes eaten. It is related to the orange.

3482. SAPINDUS MUKOROSI. Soap berry.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"This tree, native of China and Japan, has been recommended as a possible source of saponin for use in the manufacture of toilet soaps. The Algerian variety of this species, *S. mucronatus*, the *S. utilis* of Trabut, has fruits frequently of large size, yielding as high as 38 per cent of saponin, while the Panama wood contains only from 8 to 9 per cent." (*Swingle.*)

3483. SAPINDUS MARGINATUS.**Soap-berry.**

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

It is a native of the low lands of Florida, where it forms a medium-sized tree, bearing bunches of yellow fruit which are about one-half inch in diameter. It may also prove to be a source of saponin, like No. 3482. Distributed.

3484. ARBUTUS ANDRACHINE.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"An ornamental from the eastern Mediterranean region, related to the strawberry tree, *Arbutus unedo* (No. 2657, inventory No. 5). It is a native of Greece and Asia Minor, is taller than the strawberry tree, attaining a height of from 20 to 30 feet, and has larger fruits, borne singly. This species, as well as the *Arbutus canariensis* (see No. 815, inventory No. 1, and No. 3485), should be hybridized with the common strawberry tree in the hope of originating a new fruit. No fruit is more beautiful than that of the strawberry tree, but unfortunately the flavor is rather insipid. This species is hardy in England if protected when young by being grown in pots until 2 or 3 feet high. There are several native species of *Arbutus* in the southwestern United States, where most of them are called Madroña. Some of these bear edible fruits and should also be utilized by plant breeders." (*Swingle.*)

3485. ARBUTUS CANARIENSIS.**Madroño.**

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"A beautiful evergreen tree attaining a height of 40 feet. It is, as the name indicates, a native of the Canary Islands. It has pretty, rose-colored flowers in racemes, followed by orange-colored fruits about 1 inch in diameter, which are very beautiful as seen against the shining green foliage. The fruits are sweeter and more pulpy than those of the strawberry tree, and are considered very good by the natives in spite of their rather numerous seeds. The bark is smooth and very thin, the wood rose-colored and useful in cabinet-making. This, as well as the preceding number, should be used by plant breeders in hybridizing with the strawberry tree." (*Swingle.*)

3486. DURANTA BRACHYPODA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"This small tree is a species described from the Botanic Garden of Palermo, although doubtless native in South or Central America, as are the other species of the genus. This as well as the common *Duranta plumieri* (No. 3487) is a handsome ornamental, bearing a profusion of blue or violet flowers in racemes at the end of the branches. These two are the most handsome species grown in the Botanic Garden of Palermo." (*Swingle.*) Distributed.

3487. DURANTA PLUMIERI.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

Labeled *D. microphylla*, a name given as synonymous with *D. plumieri* in the Kew Index. This spiny Mexican shrub is the best-known species of the genus. It bears abundant violet flowers in racemes at the ends of the branches, and, later, numerous yellow fruits, which are rather ornamental. It is commonly grown in Florida. Distributed.

3488. DURANTA TURBINATA.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

This species has purplish or violet flowers and is not so handsome as Nos. 3486 and 3487. It is not known where this species is native. Distributed.

3489. DURANTA PLUMIERI.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

Labeled *D. ellisii*, a white form of the common *Duranta plumieri*. This is the only white-flowered form in the collection in the Palermo Garden.

3490. ARGANIA SIDEROXYLON.

From Morocco, Africa. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"A spiny, small-leaved tree from Morocco belonging to the *Sapotaceae*. It is a much-branched evergreen tree, attaining a height of from 20 to 30 feet. The fruits, the size of an olive, are used for feeding stock. From the small kernels, after roasting and grinding, an oil is extracted of an irritating and harsh taste, but which is, nevertheless, used in Morocco for food, and also for light. It makes good soap. The tree will grow in the driest soil, and bears in 4 years. It is said not to be in full bearing, however, until 15 years old. It replaces the olive to a considerable extent in the southwestern part of Morocco, where it is said to form forests. The seeds are known as 'grains d'argans.' This plant should be tested in the arid regions of the Southwest." (*Swingle*.) Distributed.

3491. ASPARAGUS ACUTIFOLIUS.

From Palermo, Sicily. Received through Mr. W. T. Swingle, May, 1899.

A wild asparagus, native in the Mediterranean region. It is edible, but not commonly used. (See No. 3285, inventory No. 7.) Distributed.

3492. LUPINUS DIGITATUS.**Hairy lupin.**

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

The *Lupinus hirsutus* of Linnaeus. "Annual; reddish-hairy; flowers blue; seeds somewhat flattened, grayish-brown, smooth. Native of the northern shores of the Mediterranean from Spain to Asia Minor. Cultivated extensively in Germany as an ornamental plant. It has also been tried as forage, and it is said that cattle prefer both the green parts and the seeds to either the small blue or the yellow lupin. It has a disadvantage in that it does not flower till July (in Germany), and the seeds ripen late. The pods open too easily, making it difficult to collect the seed. It requires a good soil, and apparently will not thrive on the poor sandy soils on which the yellow lupin does so well." (*J. Burt Davy*.)

3493. CITRUS AURANTIUM.**Orange.**

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

Seeds of the common orange of Sicily. Distributed.

3494. FICUS MACROPHYLLA.**Moreton Bay fig.**

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"This species, a native of northern New South Wales and Queensland, Australia, is one of the largest and most rapidly growing figs that have been tested in Algeria. It is said by Rivière to be the most vigorous, to present the finest developments of aerial roots, and to yield the most latex of any that have been tried in the Jardin d'Essai, at Algiers. Maiden says of this species that the milky sap or latex of this tree yields a very fine caoutchouc. Girard finds the latex of the Algerian tree to contain 37 per cent of rubber, but of a very inferior quality, being resinous, dry, and brittle. However, *Ficus elastica*, considered by Van Rombourgh to be the best rubber tree for culture in Java, is said by Rivière to produce gum of equally inferior quality at Algiers. At any rate, *Ficus macrophylla* is worth testing in hot climates, where it may yield rubber of a better quality than at Algiers. One of the most valuable properties of *Ficus macrophylla*, according to Rivière, is the fact that large branches,

many feet in length and 8 or 10 inches in diameter, may be planted as cuttings. Such branches have at their base aerial roots, which at once develop into soil roots when planted. This, he claims, leads to a saving of time amounting to many years in starting new plantations. "The wood is very difficult to season; is of a pale brown color, with a beautiful wavy fiber on a dark brown. This wood is so very handsome when properly selected that it is a pity it does not have other properties to recommend it." (*Maiden.*) The fibers of the root are very durable, and are used by the Australian blacks in making fish nets. Warburg considers Borzi's *F. Magnolioides* (No. 3448) to be identical with this species." (*Swingle.*) Distributed.

3495. STERCULIA ACERIFOLIA.

Flame-tree.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

There are two species bearing this name, one native of Mexico and one of Australia. It can not be decided at present which is included in this number. Distributed.

3496. PLATANUS ORIENTALIS.

Plane-tree.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899.

"This handsome tree, much used for park and street planting in Europe and America, is native from Italy to the Himalayas. It is one of the largest trees in southeastern Europe and western Asia. It grows rather more slowly than the American plane tree or sycamore, but is more graceful, and is probably less injured by the smoke in cities. It does not require so moist a soil as the American plane tree. The fruits are borne in chains of two or four instead of singly, as in the common American species. The wood is close-grained and takes a high polish." (*Swingle.*)

3497. FICUS MAGNOLIOIDES.

Rubber tree.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899. (Same as No. 3448.) Distributed.

3498. DURANTA PLUMIERI.

From Palermo, Sicily. Donated by Professor Borzi, director of the Botanic Garden of Palermo, through Mr. W. T. Swingle, May, 1899. (See No. 3487.)

3499. PHOENIX DACTYLIFERA.

Date.

From Algeria. Received through Mr. W. T. Swingle, May, 1899.

M' Kentichi degla or *M' Ch' degla*. "A late, dry date of superior quality and keeping a year or more. Said by Arabs near Biskra to be much better than *M' Kentichi*, which was said by M. Yahia to be a poor sort also in *M' Zab*. This is placed at the head of the list of dry dates at Biskra. Specimens from Chetma, near Biskra, were $\frac{3}{4}$ by $1\frac{1}{2}$ inches, yellow, free from fiber, and very good flavor." (*Swingle.*) Distributed.

3500. PHOENIX DACTYLIFERA.

Date.

From Algeria. Received through Mr. W. T. Swingle, May, 1899.

Itima (The orphan). "A soft date highly esteemed in Ziban, very sweet, probably one of the very best sorts. Specimens from Filiache, near Biskra, were of the color of *deglet nour* dates, 1 by $1\frac{3}{4}$ inches, very soft and exceedingly sweet." (*Swingle.*)

"The palm is of medium size and bears from 12 to 13 fruit clusters. The dates are cream colored, large, and very good." (Reboisement Division d'Alger.) Distributed.

3501. PHOENIX DACTYLIFERA.

Date.

From Algeria. Received through Mr. W. T. Swingle, May, 1899.

Hamraïa or *Hamaraiïa* (The red). "A large, red, half-dry early date of superior quality, very common in the markets of Biskra; keeps six months. Palm of medium size, bearing 10 to 12 fruit clusters." Specimens from Filiache, near Biskra, were $\frac{3}{4}$ by 2 inches. (*Swingle.*) Distributed.

- 3502. PHOENIX DACTYLIFERA. Date.**
 From Algeria. Received through Mr. W. T. Swingle, May, 1899.
Deglet el beida. A dry date, well known throughout the western Sahara. (See No. 3202.) Distributed.
- 3503. PHOENIX DACTYLIFERA. Date.**
 From Algeria. Received through Mr. W. T. Swingle, May, 1899.
Bisraheloua. "A medium-sized date about an inch long and three-fourths of an inch in diameter. Colored like the *deglet nouw*, and resembles it except that it is a little smaller and has a blunter seed. It is of good flavor." (*Swingle.*) Distributed.
- 3504. PHOENIX DACTYLIFERA. Date.**
 From Algeria. Received through Mr. W. T. Swingle, May, 1899.
Dokar (male). "Fruits from a tree which was said by the Arabs to have been male until after having the top cut off to make palm wine. The new top which grew out is female." (*Swingle.*) Distributed.
- 3505. PHOENIX DACTYLIFERA. Date.**
 From Algeria. Received through Mr. W. T. Swingle, May, 1899.
El Helloua or Helouaia (The sweet). "A soft or half-dry date $\frac{3}{4}$ by $1\frac{1}{4}$ inches; of good quality; medium size; keeps six months. Specimens of this date obtained at Chetna, near Biskra, were very sweet. The flesh had very little fiber and was sometimes perfectly dry, but in other specimens only half dry. The palm is tall and slender and bears about 12 fruit clusters, which ripen in October." (*Swingle.*) Distributed.
- 3506. PHOENIX DACTYLIFERA. Date.**
 From Algeria. Received through Mr. W. T. Swingle, May, 1899.
Rethet regaia. "A medium sized, very soft date of value. Specimens obtained at the oasis of Cora were about an inch long and three-quarters of an inch thick. The flesh was mushy and adherent to the stone. Very sweet and nearly free from fiber; rich red in color." (*Swingle.*) Distributed.
- 3507. MEDICAGO SATIVA. Alfalfa.**
 From Buenos Aires, Argentine Republic. Received through Messrs. Lathrop and Fairchild (No. 195), 1899.
Bonarense. "Alfalfa seed from Buenos Aires province. Said to yield a heavier crop of hay than that from Mendoza (see No. 3508), and hence considered superior for baling. The temperature never reaches freezing here." (*Fairchild.*)
- 3508. MEDICAGO SATIVA. Alfalfa.**
 From Buenos Aires, Argentine Republic. Received through Messrs. Lathrop and Fairchild (No. 194), 1899.
Mendoza. (See No. 3507.)
- 3509. OPUNTIA. Prickly pear.**
 From Palermo, Sicily. Received through Mr. W. T. Swingle, May, 1899.
 Three fruits were sent under this number. They arrived fresh and in good condition. Distributed.
- 3510. DIOSCOREA TRIFIDA. Red Cush-cush.**
 From Caracas, Venezuela. Donated by Prof. A. Ernst, through Messrs. Lathrop and Fairchild, June, 1899.
 "The tubers are planted just like potatoes, in rich soil, and produce in about six months a tolerably abundant crop in a warm climate." (*Ernst.*)
 "This yam is extensively known in Venezuela by the name of *Mapuey morado.*

The tuberous roots are short and thick. Their starchy matter is mealy and savory. Eaten like bread." (*de Tourneil.*) According to Dr. Paul Sagot this species is cultivated in Guiana, Brazil, and the West Indies. "The tuberous roots are numerous, ovoid or rounded, covered with a black cracked bark. It is an excellent species." Paillieux and Bois, to whom this species was particularly recommended by Professor Ernst, say that it produces a large number of elongated or fusiform roots, like those of the Jerusalem artichoke. They are much superior to the other yams in value. They also say that it has finer tubers than the *Matponey branco*. Its flavor is excellent, and in texture so starchy that it breaks down when merely touched. This species does not succeed in the climate of Paris and doubtless can only be grown in warmer regions. Distributed.

3511. ARRACACHA ESCULENTA.

Arracacha.

From Caracas, Venezuela. Donated by Prof. A. Ernst, through Messrs. Lathrop and Fairchild, June, 1899.

"The *Arracacha* does not like a hot climate, but as the root needs about nine to ten months for full development, the temperature must be rather equable all this time—say about 60° to 68°. The root when ripe and in good condition contains a large amount of starch and a sweet yellowish sap, from which a fermented liquor is sometimes prepared. But generally the root is boiled and eaten like potatoes, being superior to the best variety of the latter. The plant grows in Venezuela under the name of 'Apio,' on account of the great similarity of its leaves with those of the true Apio or celery." (*Ernst.*) Distributed.

3512. TIBOUCHINA HOLOSERICEA.

Tiger ear.

From São Paulo, Brazil. Received through Messrs. Lathrop and Fairchild (No. 215), June, 1898.

"A species of *Melastomiaceae*, which is without doubt one of the showiest-flowered plants in Brazil. The purple flowers are very large and are produced in great number all the year round. It is about 5 feet high. A moist sandy soil is necessary; will stand very slight frost. The native name is 'Tiger ear,' because of its leaves." (*Fairchild.*) Distributed.

3513. CROTALARIA PAULINA.

From São Paulo, Brazil. Received through Messrs. Lathrop and Fairchild (No. 216), June, 1899.

"Recommended by Dr. Pereira Barreto as a forage plant. It is a native of São Paulo; from quite dry localities and on poor soil. The roots have long slender tubercles of moderate size. The stems seem to be rather woody for fodder. For California and Florida." (*Fairchild.*)

3514. TRISTACHYA CHRYSOTHRIX.

From São Paulo, Brazil. Received through Messrs. Lathrop and Fairchild (No. 217), June, 1899.

"This is said to be an important fodder grass. It grows on dry prairies in Moca and on the high plateau of the interior. It will stand drought well. For California, Arizona, and Florida." (*Fairchild.*) It belongs to the tribe *Aeneae*, which includes oats and many other useful grasses. (See No. 3516.)

3515. DESMODIUM LEIOCARPUM.

Beggar-weed.

From São Paulo, Brazil. Received through Messrs. Lathrop and Fairchild (No. 218), June, 1899.

"This species has not been fully tested for fodder. It is recommended by Dr. Barreto, a Brazilian agriculturist. It is found in the scrub everywhere about São Paulo; 8 to 10 feet high; generally without branches." (*Fairchild.*) It is a leguminous plant, presumably able to assimilate free nitrogen from the air.

3516. TRISTACHYA LEIOSTACHYA.

From São Paulo, Brazil. Received through Messrs. Lathrop and Fairchild, June, 1899. (See No. 3514.) Distributed.

3517. ORBIGNIA MARTIANA.**Palm.**

From São Paulo, Brazil. Received through Messrs. Lathrop and Fairchild (No. 221), June, 1899.

“A beautiful pinnatifid-leaved palm, native of Brazil. For southern Florida and California. From Alberto Löfgren, director of the botanic garden, São Paulo.” (*Fairchild.*) Distributed.

3518.**Carrá.**

From Petropolis, Brazil. Received through Messrs. Lathrop and Fairchild, June, 1899.

Smilacaceae. “Aerial tubers edible and large as a coconut.” (*Fairchild.*)

3519. DIOSCOREA DIVARICATA.**Yam.**

From Peru. Received through Messrs. Lathrop and Fairchild, April, 1899.

“One of the best varieties of yams. Donated by Madame Prado, of São Paulo.” (*Fairchild.*) A native of the Philippine Islands, now widely cultivated in the tropics. (See No. 3716.) Distributed.

3520 to 3523. ORYZA SATIVA.**Rice.**

These constitute a collection of rices grown in the Nile Valley, in Egypt. Presented by Mr. Alfred Dale, of Mansoura, July, 1899.

3524. ENTEROLOBIUM TIMBOUVA.**Timbo.**

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 204), July, 1899.

“The so-called *Timbo*, a handsome shade tree for avenues. Donated by the Director of the Botanic Gardens.” (*Fairchild.*) This tree, a member of the family *Leguminosae*, grows also in Brazil and the West Indies, and is said to have a bark rich in tannin and to yield timber used for construction. The flowers resemble those of an *Acacia* in appearance. The pods are flattened and much curved. Distributed.

3525. COCOS AUSTRALIS.**Palm.**

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 210), July, 1899.

“This is said by Dr. Franceschi to be probably *C. eriospatha*, and if so is one of the hardiest of palms. Should grow well in California and Florida.” (*Fairchild.*)

3526. PHYTOLACCA DIOICA.**Bella sombra.**

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 211), July, 1899.

“A shade tree 60 feet high with spreading, drooping branches. One of the finest native Argentine trees. An addition to every landscape. Requires water and does best in a good rich soil. For Florida and California.” (*Fairchild.*) (See No. 1912.) Distributed.

3527. TIPUANA SPECIOSA.

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 212), July, 1899.

“A leguminous shade tree from the Salta, of great value for avenues. It grows in very dry localities in the Chaco. Will stand 25° F. Branches a trifle unruly. Recommended for avenues in Florida. A very rapid grower. Good soil and moisture are required.” (*Fairchild.*) Distributed.

3528. ACACIA FARNESIANA.**Cassie.**

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 213), July, 1899.

"A very beautiful shrub or small tree with light gray-green foliage, spreading to a weeping habit. Grows in good soil and withstands frost well to 28° F." (*Fairchild.*) Received as *A. cavenia*. The flowers are used for perfumery in France and Algeria. (See No. 3349.) Distributed.

3529. GRABOWSKIA GLAUCA.

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 214), July, 1899.

Thorny shrub with clumps of flowers in the axils of the leaves. It belongs to the family *Solanaceae* and should be tested as an ornamental and for hedges. Distributed.

3530. CÆSALPINIA GILLESII.

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 205), July, 1899.

"A very fragrant species with acacia-like habit, from Chubut, southern Patagonia. Will stand moderately cold weather, not below 19° F., I believe." (*Fairchild.*) (See No. 1913, Inventory No. 5.) Distributed.

3531. DAUBENTONIA TRIPETII.

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 209), July, 1899.

A leguminous plant now considered a species of *Sesbania*. Distributed.

3532. PIPTADENIA CEBIL.**Cebil.**

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 206), July, 1899.

"A very beautiful shrub, with remarkably vigorous growth, resembling the *Acacia farnesiana* in habit. A showy plant for park groups. Will stand 28° F. Called 'Cebil colorado' by natives here. For California and Florida." (*Fairchild.*) Distributed.

3533. TECOMA STANS.**Bow wood.**

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 207), June, 1899.

A handsome bignoniaceous shrub, with showy flowers, native in southern North America, and is called "*Palo del arco*" in Mexico, southern Texas, and southern Arizona. "It is shrubby, not a climber; a magnificent bloomer; flowers golden yellow, trumpet shaped, delightfully fragrant." (*Franceschi.*) Distributed.

3534. CARICA QUERCIFOLIA.

From Buenos Aires, Argentina. Received through Messrs. Lathrop and Fairchild (No. 208), June, 1899.

"A hardy species, with small edible fruit. Could be grown successfully in Colorado or California." (*Fairchild.*)

It belongs to the *Caricaceae* and is related to the well-known pawpaw of tropical countries. Distributed.

3535. CAJANUS INDICUS.**Dal.**

From Botanic Garden, Kingston, Jamaica. Received through Messrs. Lathrop and Fairchild (No. 34), July 7, 1899.

"A leguminous shrub or small tree from India, where it is extensively cultivated. The pods resemble those of beans, but are much smaller. The plant commonly lives three years, and in good soil may attain a height of 15 to 20 feet, and is very productive. It is half hardy; has been cultivated in southern France. It is said to produce

enormous yields in Egypt, on good soils as high as 2½ tons of peas per acre." (*Naudin* and *von Mueller*.) In India this pea is very highly esteemed by the natives. It is frequently sold in the form of split peas or pea flour. It is sown there at the commencement of the rainy season, in March or April. It is sometimes sown with other crops, such as cotton, and is often cultivated as a dry-weather crop in rice fields. There are several varieties known in India. It is wholesome and nutritious when properly freed from the husk. It is commonly called the pigeon pea in India, but is an entirely different plant from the pigeon pea of southern Florida.

3536. CAJANUS INDICUS.**Dâl.**

From Kingston, Jamaica, Botanic Garden. Received through Messrs. Lathrop and Fairchild, July 7, 1899. (See No. 3335.)

3537. ANACARDIUM OCCIDENTALE.**Cashew nut.**

From Kingston, Jamaica. Donated by Mr. William Fawcett, director of the Hope Botanic Garden, through Messrs. Lathrop and Fairchild, July, 1899.

The cashew nut finally becomes a tree 30 or 40 feet high. The bark may be used for tanning. The juice from incisions in the bark is sometimes used in making indelible ink. The bark also yields a yellowish gum, which is obnoxious to insects. The outer covering of the fruit yields a poisonous, astringent, blistering oil, used by oriental people for preserving fishing lines and nets against the action of sea water. The kernels yield about 40 per cent of very fine quality of oil, considered superior to olive oil and the equal of almond oil. The roasted kernels are of very superior flavor, being similar to burnt almonds. The nuts are occasionally exported from India to Europe under the name of "Cassia nuts." The ripe, fleshy stalk of the fruit is eaten in Brazil and other South American countries, and is also made into candies. The juice pressed from the swollen stems is made into cashew wine, much used as a refreshing summer beverage. Distributed.

3538. PHOENIX DACTYLIFERA.**Date.**

From Figig, eastern Morocco. Donated by Dr. Trabut through Mr. W. T. Swingle. Received July, 1899.

"Excellent dry date from Figig." (*Dr. Trabut*.) A medium sized date (1½ by three-fourths inches), clear reddish-yellow. Flesh dry, sweet, and almost destitute of fiber. Seed irregular, flattened, and ribbed. Distributed.

3539-3570.

This collection of seed was purchased from a Greek gardener at Smyrna (the same who sold the collection of flower seeds Nos. 3573-3606), his entire stock being secured. It includes most of the vegetables commonly grown about Smyrna. See also Nos. 3606-3623. (*Swingle*.)

3539. CICER ARIETINUM.**Garbanzos.**

Bizel Araka. Brown peas. (See No. 2139, Inventory No. 5.)

3540. CICER ARIETINUM.**Garbanzos.**

Araka. Yellow peas.

3541. PEUCEDANUM GRAVEOLENS.**Dill.**

Anithos. Used for salad seasoning (leaves cut up fine). (See Nos. 3621, 3701.)

3542. CARUM PETROSELINUM.**Parsley.**

Mulano.

3543. CUCURBITA PEPO.**Vegetable marrow.**

Kolokythia kitrina. (See No. 3607.)

3544. CUCURBITA PEPO.**Vegetable marrow.**

Kolokythia proina (Greek), *Kabak* (Turkish). Edible gourds.

3539-3570—Continued.

3545. CUCURBITA PEPO. **Vegetable marrow.**
Kolokythia retchéli. Long gourd, used for sweetmeats.
3546. APIUM GRAVEOLENS. **Celery.**
Seleno. Turkish celery.
3547. LEPIDIUM SATIVUM? **Cardamine.**
Karthamo téré. Used for salad and seasoning.
3548. BRASSICA. **Pickles.**
Vogili.
3549. BETA VULGARIS. **Chard.**
Pazi. Leaves used for cooking and seasoning.
3550. LYCOPERSICUM ESCULENTUM. **Tomato.**
3551. CUCURBITA MAXIMA. **Pumpkin or squash.**
Meghala kolokythia. Large pumpkin or squash.
3552. ZEA MAYS. **Corn.**
Dari.
3553. CUCUMIS SATIVUS. **Cucumber.**
Adjour. Very large, white Turkish cucumber. The small ones are pickled, the large, eaten in salads.
3554. CUCUMIS SATIVUS. **Cucumber.**
Aguria (Greek), *Khiar* (Turkish). A large sort.
3555. CITRULLUS VULGARIS. **Watermelon.**
Karpouzi.
3556. LACTUCA SATIVA. **Lettuce.**
Frago maroula. French lettuce.
3557. LACTUCA SATIVA. **Lettuce.**
Maruli proïma. Early lettuce.
3558. PHASEOLUS VULGARIS. **Bean.**
Proïma fassoulia. Early beans.
3559. RAPHANUS SATIVUS. **Radish.**
Rapanaki yerli kokino. Red local radish.
3560. RAPHANUS SATIVUS. **Radish.**
Rapanaki frantzesko.
3561. RAPHANUS SATIVUS. **Radish.**
Rapanaki yerli aspro. White radish.
3562. CAPSICUM ANNUM. **Pepper.**
Piperiez. Sweet pepper.
3563. SOLANUM MELONGENA. **Egg plant.**
Meljanas.
3564. LYCOPERSICUM ESCULENTUM. **Tomato.**
Large tomato, ribbed. Presented by Salih, kavass at the United States consulate.
3565. HIBISCUS ESCULENTUS. **Okra.**
Bamia.
3566. PHASEOLUS VULGARIS. **Bean.**
Frago fassoula.
3567. CUCUMIS MELO. **Muskmelon.**
Popomni.
3568. RAPHANUS (?). **Roka.**
Roka; a bitter salad. Distributed.

3539-3570—Continued.

3569. CICHORIUM INTYBUS. **Chicory.**
Ardithia. Distributed.

3570. PORTULACA OLERACEA. **Purslane.**
Semisotu (Turkish), *Glistridha* (Greek). Used in salads with cucumbers.

3571. SESAMUM INDICUM. **Sesame.**

From Smyrna. Received through Mr. Walter T. Swingle (No. 33), July, 1899.
Black. Seeds bought of a wholesale druggist at Smyrna.

3572. CUMINUM CYMINUM. **Cumin.**

From Smyrna. Received through Mr. W. T. Swingle (No. 34), July, 1899.
Kimion. Used for seasoning minced meat; also used in curing hams, etc. Seed bought of a wholesale druggist at Smyrna.

3573-3577. FLOWER SEEDS.

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.

The following numbers constitute a collection of flower seeds purchased from a Greek gardener at Smyrna, the same who sold the collection of vegetable seeds Nos. 3539-3570. His entire stock was purchased and the collection probably includes the more common flowers grown in the vicinity of Smyrna. It was impossible to obtain anything but the local Greek name of these plants and they are consequently entered under these names in the following list. See also Nos. 3583-3589 and 3591-3596 and 3598-8605. (*Swingle.*)

3573. KARABASHI CHICHÉGL.

3574. VASILIKO.

3575. ZIBA DUYMÉSİ.

3576. KUFFÉ CHICHÉGL.

3577. LOULADHÉS. Distributed.

3578. CUCURBITA MAXIMA. **Squash.**

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.
Kolokithia.

3579. CUCURBITA PEPO. **Squash.**

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.
Kolokithia.

3580, 3581. LAGENARIA VULGARIS. **Ornamental gourd.**

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.

3580. KOLOKITHIA.

3581. KOLOKITHIA.

3582. PHASEOLUS VULGARIS. **Bean.**

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.
Sarmashikia.

3583-3589. FLOWER SEEDS.

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.

A collection of flower seeds purchased from a Greek gardener at Smyrna. It was impossible to obtain anything but the local Greek name of these plants and they

are consequently entered under these names in the following list. (See Nos. 3573-3577, 3591-3596, and 3598-3605.)

- 3583. GUMIASH CHICHEGL.
- 3584. STATHORIA.
- 3585. AMBERIA.
- 3586. SARMASHIKIA.
- 3587. FOUNES.
- 3588. BALSAMOS.
- 3589. YENI DUNNIA.

3590, 3590a. HELIANTHUS ANNUUS. Sunflower.

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.

- 3590. GUNÉ BAKAN.
- 3590a. GUNÉ BAKAN.

3591-3596. FLOWER SEEDS.

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.

A collection of flower seeds purchased from a Greek gardener at Smyrna. It was impossible to obtain anything but the local Greek name of these plants, and they are consequently entered under these names in the following list. (See Nos. 3573-3577, 3583-3589, and 3598-3605):

- 3591. MARGHARITA.
- 3592. IPEK CHICHEGL.
- 3593. GHALAZIA.
- 3594. HEDJÉ YASEMIN. Night jasmine.
- 3595. THIPLESE AMELOYÉS.
- 3596. HANOUM LULESI.

3597. PHASEOLUS VULGARIS. Bean.

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.

Saliakakia.

3598-3605. FLOWER SEEDS.

From Smyrna. Received through Mr. W. T. Swingle (No. 36), July, 1899.

A collection of flower seeds purchased from a Greek gardener at Smyrna. It was impossible to obtain anything but the local Greek name of these plants, and they are consequently entered under these names in the following list. (See Nos. 3573-3577, 3583-3589, and 3591-3596):

- 3598. MYONETTE.
- 3599. ROUBÉ.
- 3600. FRENK BIBERI.
- 3601. KADIFFÉ.
- 3602. MANTH.
- 3603. STATHORIA.
- 3604. GUL BRISHIMI.
- 3605. FÉSÉNTIA.

3606-3623. VEGETABLES.

This collection comprises seeds of seventeen kinds of vegetables grown about Smyrna, Asiatic Turkey. The seeds were purchased in Smyrna of a local Greek gardener, for the most part in small quantity for preliminary trials. (See Nos. 3539-3570.)

3606. KALOKERIANA PATIA.

3607. CUCURBITA PEPO.

Kolokythia saravana.

3608. CUCURBITA PEPO.

Bal-kabak. Gourd for sweetmeats.

Vegetable marrow.

Squash.

3606-3623. VEGETABLES—Continued.

3609. CITRULLUS VULGARIS. <i>Karbouzia.</i>	Watermelon.
3610. VIGNA CATJANG. <i>Turco fasoulia.</i>	Cowpea.
3611. PHASEOLUS VULGARIS. <i>Fasoulia kathista.</i> A dwarf variety.	Bean.
3612. LACTUCA SATIVA. <i>Yerli marouli.</i>	Lettuce.
3613. LACTUCA SATIVA. <i>Kokino marouli.</i>	Red lettuce.
3614. LACTUCA SATIVA. <i>Marouli frantzesko marro.</i> Black French lettuce.	Lettuce.
3615. RAPHANUS SATIVUS. <i>Boudjali rapania.</i> Distributed.	Radish.
3616. BRASSICA OLERACEA BOTRYTIS. <i>Kounoufithi.</i>	Cauliflower.
3617. CAPSICUM ANNUM. <i>Piperia.</i>	Sweet pepper.
3618. SOLANUM MELONGENA. <i>Meldjana.</i>	Eggplant.
3619. SPINACIA SPINOSA. <i>Spanake.</i>	Spinach.
3620. HIBISCUS ESCULENTUS. <i>Bamia.</i>	Okra.
3621. PEUCEDANUM GRAVEOLENS. <i>Anitho.</i> For seasoning salad. (See Nos. 3541 and 3701.)	Dill.
3622. OCMUM BASILICUM. <i>Vasiliko.</i>	Basil.
3623. LYCOPERSICUM ESCULENTUM. <i>Tomati.</i>	Tomato.

3624-3626. TRITICUM VULGARE. Wheat.

Samples of wheats secured from the Smyrna Exchange. Received through Mr. W. T. Swingle (Nos. 86-88), July, 1899.

The wheat crop about Smyrna was a failure in 1898, and in consequence the fine local wheats were not on sale.

- 3624.** Wheat from Salonika, European Turkey. Distributed.
3625. Wheat from Turbali (30 miles south of Smyrna). Distributed.
3626. Wheat from Angora, Asia Minor. Distributed.

3627. VIGNA CATJANG. Cowpea.

From Alashehr (Philadelphia), Asia Minor. Received through Mr. W. T. Swingle (No. 89), July, 1899.

Samples secured from the Smyrna Exchange.

3628. VICIA FABA. Broad bean.

From Alashehr (Philadelphia), Asia Minor. Received through Mr. W. T. Swingle (No. 90), July, 1899.

Samples secured from the Smyrna Exchange.

3629. SESAMUM INDICUM.**Sesame.**

From Smyrna. Received through Mr. W. T. Swingle (No. 91), July, 1899.

Samples secured from the Smyrna Exchange. "In Greece and here in Asia Minor the seeds of sesame are sprinkled over the outside of small loaves before they are baked. They adhere and in baking are roasted, giving an agreeable nutty flavor to the crust. Inferior oil for salads is also made from the seeds." (*Swingle.*)

3630. CUCUMIS MELO.**Muskmelon.**

From Kassaba, near Smyrna. Received through Mr. W. T. Swingle (No. 92), July, 1899.

Altinbach (gold head). Vegetable seeds obtained by M. Balabanian.

3631. CUCUMIS MELO.**Muskmelon.**

From Kassaba, near Smyrna. Received through Mr. W. T. Swingle (No. 93), July, 1899.

Topan (round). Vegetable seeds obtained by M. Balabanian. Distributed.

3632. HIBISCUS ESCULENTUS.**Okra.**

From Kassaba, near Smyrna. Received through Mr. W. T. Swingle (No. 94), July, 1899.

Sultanie. Seeds obtained by M. Balabanian. "Okra is considered a very important vegetable in Asia Minor."

3633. CUCUMIS MELO.**Muskmelon.**

From Kirkagatch, Asia Minor. Received through Mr. W. T. Swingle (No. 95), July, 1899. Obtained by M. Balabanian.

A celebrated muskmelon known as the Kirkagatch, from the name of the place where it was obtained. An American missionary who had recently returned home on a visit, stated to Mr. Swingle that he had been unable to eat American muskmelons on account of their inferiority to the Turkish varieties to which he had become accustomed. Of course, this would probably be true only of our ordinary sorts, for the finest Rocky Ford melons are doubtless as good as any in the world, still it will be desirable to try the Kirkagatch sort in all our melon-growing regions. Only a very small quantity of the seed was obtained, enough, however, for a fair test in the hands of careful experimenters.

3634. CUCUMIS MELO.**Muskmelon.**

From Aidin. Received through Mr. W. T. Swingle (No. 96), July, 1899.

3635. CITRULLUS VULGARIS.**Watermelon.**

From Aidin. Received through Mr. W. T. Swingle (No. 97), July, 1899.

3636. HIBISCUS ESCULENTUS.**Okra.**

From Aidin. Received through Mr. W. T. Swingle (No. 98), July, 1899.

3637. CUCURBITA PEPO.**Vegetable marrow.**

From Aidin. Received through Mr. W. T. Swingle (No. 99), July, 1899. Donated by M. Magnesales, of Aidin.

3638. LACTUCA SATIVA.**Lettuce.**

From Aidin. Received through Mr. W. T. Swingle (No. 100), July, 1899. Donated by M. Magnesales, of Aidin.

3639. GOSSYPIUM HERBACEUM?**Cotton.**

From Aidin. Donated by M. Mercurian, of Aidin, through Mr. W. T. Swingle (No. 101), July, 1899.

"The cotton of the region about Smyrna is celebrated for its whiteness of fiber. It makes beautiful fabrics." (*W. T. Swingle.*) Distributed.

3640. SCHINUS MOLLE.**Pepper tree.**

From Palermo, Sicily. Received through Mr. W. T. Swingle, July, 1899.

A Brazilian tree much used in street planting in Tunis. It is said to be much superior to the ordinary pepper tree for this purpose. The leaves are larger and a darker green. Should be tried in the South and in California. (See No. 1760, Inventory No. 2.)

3641. RHUS.

From Palermo, Sicily. Received through Mr. W. T. Swingle (No. 103), July, 1899. From the Botanic Garden.

A large and graceful tree growing in the garden labeled *Rhus pendula*, a name which can not be traced. Distributed.

3642. RESEDA ?

From the Sahara desert near Biskra. Received through Mr. W. T. Swingle (No. 104), July, 1899. Distributed.

3643. OPUNTIA FICUS-INDICA.**Prickly pear.**

From village near Catania. Received through Mr. W. T. Swingle (No. 105), July, 1899.

A very good prickly pear.

3644. CHIMONANTHUS FRAGRANS.**Japanese allspice.**

From Greece. Donated by Professor Miliarakis, director of the Athens Botanic Gardens, through Mr. W. T. Swingle (No. 106), July, 1899.

A Japanese shrub, from 4 to 10 feet high, with shiny green leaves; fragrant yellowish-white flowers in winter. It belongs to the spicebush family.

3645. PANCRATIUM MARITIMUM.

From Greece. Donated by Professor Miliarakis, director of the Athens Botanic Gardens, through Mr. W. T. Swingle (No. 107), July, 1899.

A pretty flowering plant of the Amaryllis family, having long lanceolate leaves and numerous white, odorous flowers. The bulbs should be taken out in September and replanted in October. It prefers sandy soils. These seeds came from Phalarus, Greece.

3646. PASSIFLORA ?**Passion flower.**

From Athens. Donated by Professor Miliarakis, director of the Athens Botanic Gardens, through Mr. W. T. Swingle (No. 108), July, 1899.

Received as "*Passiflora minima*," a species which can not be traced with certainty. Distributed.

3647. OLEA EUROPEA.**Olive.**

From Athens, Greece. Received through Mr. W. T. Swingle (No. 109), July, 1899.

"Under this number are included a few cuttings from some of the very old olive trees growing south of Athens. Some of these are of an enormous age, having been estimated by some to be 2,000 years old. The trunks are frequently from 6 to 8 feet in diameter and are not very tall, probably having been pruned when young." (*Swingle.*)

3648. EUCALYPTUS.

From Naples, Italy. Donated by Mr. Strickland, Villa Sans Souci, near Naples, through Mr. W. T. Swingle (No. 110), July, 1899.

This species bears large flowers and may prove of some value as an ornamental. Distributed.

3649. FICUS CARICA.**Caprifig.**

From Old Biskra, Sahara, Algeria. Received through Mr. W. T. Swingle, July, 1899.

3650. HALLERIA LUCIDA.

From Catania, Italy. Received through W. T. Swingle (No. 112), July, 1899. From the Botanic Garden.

A small South African tree with smooth, shiny leaves, and scarlet flowers. It belongs to the family *Scrophulariaceae*.

3651. MEDICAGO.**Medic.**

From Athens, Greece. Received through Mr. W. T. Swingle, July, 1899.

Yellow-flowered medic growing on the very dry Parthenon hill at Athens.

3652. CORYLUS AVELLANA.**Filbert.**

From Corfu. Received through Mr. W. T. Swingle, July, 1899.

A sample of the filberts bought in the market of Corfu.

3653. CORYLUS AVELLANA.**Filbert.**

From Catania, Italy. Received through Mr. W. T. Swingle, July, 1899.

A sample of the filberts produced about Catania, Italy.

3654. PISTACIA VERA.**Pistache.**

From Palermo, Sicily. Received through Mr. W. T. Swingle, July, 1899.

Samples of pistaches produced at Palermo, Sicily. (See No. 3135, Inventory No. 7.)

3655.

From Algeria. Received through Mr. W. T. Swingle, July, 1899. Procured at market at Sidi Okaba, near Biskra.

Ganta. The root dried and used for flavoring, something like pepper. The botanical name of this plant could not be learned.

3656. LAWSONIA ALBA.**Henna.**

From Tunis. Received through Mr. W. T. Swingle (No. 118), July, 1899.

"A powder is made from the leaves. This powder, rubbed up with milk of lime, is used by the Mohammedans for staining the finger nails. The palms of the hands are said to be dyed by simply rubbing the leaves over them. This practice is very old among Eastern people, and it is said to have been practiced by the ancient Egyptians. The plant is cultivated all through the East, and has a sweet-scented flower. It is sometimes employed as a hedge plant." (*Swingle*.)

3657. PHENIX DACTYLIFERA.**Date.**

From Patras, Greece. Received through Mr. W. T. Swingle, July, 1899.

A large date sold in the markets of Patras. Distributed.

3658. LENS ESCULENTA.**Lentil.**

From Smyrna. Received through Mr. W. T. Swingle (No. 128), July, 1899.

Merginek.

- 3659. PHASEOLUS VULGARIS.** **Bean.**
From Smyrna. Received through Mr. W. T. Swingle (No. 129), July, 1899.
Russian.
- 3660. PHASEOLUS VULGARIS.** **Bean.**
From Smyrna. Received through Mr. W. T. Swingle (No. 130), July, 1899.
Russian.
- 3661. PISUM ARVENSE.** **Pea.**
From Smyrna. Received through Mr. W. T. Swingle (No. 131), July, 1899.
Russian.
- 3662. PHASEOLUS VULGARIS.** **Bean.**
From Smyrna. Received through Mr. W. T. Swingle (No. 130a), July, 1899.
Russian.
- 3663. TRITICUM VULGARE.** **Wheat.**
From Samsun, on the Black Sea, Asia Minor. Received through Mr. W. T. Swingle (No. 133), July, 1899. Distributed.
- 3664. TRITICUM VULGARE.** **Wheat.**
From Irga? Received through Mr. W. T. Swingle (No. 132), July, 1899.
Russian wheat. Said to make very white flour; cheaper than Samsun wheat. Distributed.
- 3665. PANICUM MILIACEUM.** **Millet.**
From Adabazar, Asia Minor. Received through Mr. W. T. Swingle (No. 134), July, 1899.
- 3666. PHALARIS CANARIENSIS.** **Canary Seed.**
From Adrianople. Received through Mr. W. T. Swingle (No. 135), July, 1899.
An annual grass largely cultivated for bird seed.
- 3667. CANNABIS SATIVA.** **Hemp.**
From Constantinople. Received through Mr. W. T. Swingle (No. 136), July, 1899.
- 3668. CARTHAMUS TINCTORIUS.** **Safflower.**
From Arabia. Received through Mr. W. T. Swingle (No. 137), July, 1899.
Asper.
- 3669. PHASEOLUS VULGARIS.** **Bean.**
From Trebizond. Received through Mr. W. T. Swingle (No. 138), July, 1899.
Small white beans.
- 3670. VIGNA CATJANG.** **Cowpea.**
From Smyrna. Received through Mr. W. T. Swingle (No. 139), July, 1899.
Small gray beans.
- 3671. PHASEOLUS VULGARIS.** **Bean.**
From Roumania. Received through Mr. W. T. Swingle (No. 140), July, 1899.
Long white beans.

- 3672. PHASEOLUS VULGARIS.** **Bean.**
From Roumania. Received through Mr. W. T. Swingle (No. 141), July, 1899.
Haricots de Galatia? Broad white beans. Distributed.
- 3673. SESAMUM INDICUM.** **Sesame.**
From Constantinople. Received through Mr. W. T. Swingle (No. 142), July, 1899.
Black sesame. Distributed.
- 3674. CORIANDRUM SATIVUM.** **Coriander.**
From Constantinople. Received through Mr. W. T. Swingle (No. 143), July, 1899.
Coleander. The seeds used for seasoning bread and cakes. Distributed.
- 3675. CUMINUM CYMINUM.** **Cumin.**
From Constantinople. Received through Mr. W. T. Swingle (No. 144), July, 1899.
Kimion. An annual herb grown for the seeds, which are used in confectionery and in the manufacture of an essential oil. Distributed.
- 3676. AVENA SATIVA.** **Oat.**
From Mikhalovich. Received through Mr. W. T. Swingle (No. 150), July, 1899.
Distributed.
- 3677. HORDEUM VULGARE.** **Barley.**
From Yenidje, near Brusa. Received through Mr. W. T. Swingle (No. 151), July, 1899. Distributed.
- 3678. PANICUM MILIACEUM.** **Millet.**
From Mikhalovich. Received through Mr. W. T. Swingle (No. 152), July, 1899.
Distributed.
- 3679. PHASEOLUS VULGARIS.** **Bean.**
From Adernas. Received through Mr. W. T. Swingle (No. 153), July, 1899.
- 3680. CITRULLUS VULGARIS.** **Watermelon.**
From Russia. Received through Mr. W. T. Swingle (No. 154), July, 1899.
White.
- 3681. CITRULLUS VULGARIS.** **Watermelon.**
From Mikhalovich. Received through Mr. W. T. Swingle (No. 155), July, 1899.
- 3682. CUCUMIS MELO.** **Muskmelon.**
From Mitlar. Received through Mr. W. T. Swingle (No. 156), July, 1899.
- 3683. CUCUMIS MELO.** **Muskmelon.**
From Panar, near Mikhalovich. Received through Mr. W. T. Swingle (No. 157), July, 1899.
- 3684. CUCUMIS MELO.** **Muskmelon.**
From Balikissar. Received through Mr. W. T. Swingle (No. 158), July, 1899.
A large, sweet muskmelon.

3685. CUCURBITA PEPO.**Vegetable marrow.**

From Constantinople, Turkey. Received through Mr. W. T. Swingle (No. 159), July, 1899.

Adjer Kabak (Turkish).

3686-3692.

The following seven numbers comprise seeds purchased of a Turkish seed peddler at Brousa, in northern Asia Minor. The names are probably Turkish, and may not be correct in some cases.

3686. DAUCUS CAROTA. **Carrot.**

Mygdon. Distributed.

3687. LACTUCA SATIVA. **Cos lettuce.**

3688. PHASEOLUS VULGARIS. **Bean.**

3689. PORTULACA OLERACEA. **Purslane.**

Kuriri.

3690. LAGENARIA VULGARIS (?). **Long gourd.**

Uzun or Uzun-kabak.

3691. NICOTIANA TABACUM. **Tobacco.**

3692. HIBISCUS ESCULENTUS. **Okra.**

Bamia. Distributed.

3693. LACTUCA SATIVA.**Cos lettuce.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Verte marâchere de Yédi-Koulé. "Very hardy for winter culture." (*Argyriadis.*) "The large varieties of cos lettuce are much used in Constantinople for eating from the hand. The heads are peddled on the streets and along the wharves, and one frequently sees workmen eating simply bread and lettuce. Some of the varieties are delicious." (*Swingle.*)

3694. CITRULLUS VULGARIS.**Watermelon.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Yalora. This is a very early Turkish variety of the watermelon.

3695. CITRULLUS VULGARIS.**Watermelon.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

3696. CUCUMIS SATIVA.**Cucumber.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Très long de Bourgas. Very long Bourgas.

3697. CUCUMIS SATIVA.**Cucumber.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Fert long de Vlanga. Long green Vlanga.

3698. CUCURBITA PEPO.**Vegetable marrow.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Sakiz kabak.

3699. PHYSALIS PUBESCENS.**Strawberry tomato.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Alkekenge jaune dour. Sweet yellow. (See No. 2001, Inventory No. 5.)**3700. PHYSALIS.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Alkekenge du Pays. A Turkish strawberry tomato. Distributed.**3701. ANETHUM GRAVEOLENS.****Anis.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Aneth. An annual herb. An essential oil, used in perfumery and for scenting soap, is extracted from the seeds. Large quantities of oil are exported from China, Japan, and India. The seeds are used in all Oriental countries in cooking, and for flavoring pickles in France. (See Nos. 3621 and 3541.)**3702. CUCURBITA PEPO.****Vegetable marrow.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Asma kabak. A Turkish variety which has a tall climbing vine. (See Nos. 3171, 3299, Inventory No. 7, and 3690.)**3703. CUCUMIS MELO.****Muskmelon.**

From Constantinople. Received through Mr. W. T. Swingle, July, 1899.

Top Atan. A Turkish muskmelon.**3704. IPOMAEA IMPERIALIS.****Ipomaea.**

From Hope Botanic Gardens, Kingston, Jamaica. Received through Messrs. Lathrop and Fairchild, July, 1899. Distributed.

3705. MANGIFERA INDICA.**Mango.**

From the Botanic Garden of Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild (No. 69), July 20, 1899.

Gordon. "Five potted plants of the Gordon mango, named supposedly after Sir Arthur Gordon, once governor of Trinidad. Large, yellow-skinned, oval fruit; skin thick; flesh soft and melting, of a fine acid flavor, similar to that of an apple. Excellent for tarts, when green; tree large and crops fairly regular." (*Fairchild.*) Distributed.**3706. MANGIFERA INDICA.****Mango.**

From the Botanic Garden of Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild (No. 68), 1899.

Peters No. 1. "Five potted plants of the Peters No. 1 mango, reputed by Mr. J. H. Hart to be the finest flavored of all the mangoes; green skinned, rosy purple bluish, and mottled with small yellow dots. Skin thick, flesh pulpy, juicy, high-flavored. Ripens best in dry climate of Jamaica; good and regular cropper; tree medium size, healthy grower; weight of fruit, 12 to 16 ounces; size, 3½ by 3½ inches." (*Fairchild.*) Distributed.**3707. MANGIFERA INDICA.****Mango.**

From the Botanic Garden, Trinidad, B. W. I. Received through Messrs. Lathrop and Fairchild (No. 70), July, 1899.

Père Louis. "Five potted plants of Père Louis mango, considered by Mr. J. H. Hart to be one of the best introduced East Indian mangoes. It is medium sized, 3½ by 3½ inches." (*Fairchild.*) Distributed.

3708. THEOBROMA BICOLOR.**Cacao.**

From Botanic Garden of Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild (No. 71), July, 1899.

“Three plants in pots; for use in crossing with other species in breeding experiments.

“This species is native in Colombia and along the Rio Negro. It is characterized by its many-flowered, lateral inflorescences. It is said to be one of the species which yields the cacao of commerce.” (*Schumann.*) Distributed.

3709. HIBISCUS ROSA-SINENSIS.**Hibiscus.**

From Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild (No. 74), 1899.

“A collection—five of a kind—of the three most showy varieties of *Hibiscus*, including only those originated in Trinidad.” (*Fairchild.*)

This *Hibiscus* is probably a native of the East Indies, and attains a height of from 6 to 15 feet, and is half hardy. There are many varieties cultivated in the gardens. Some of them have double flowers. It is reported as popular in southern California, where it is grown in the open. Distributed.

3710. HIBISCUS SCHIZOPETALUS.**Hibiscus.**

From Hope Botanic Garden, Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild (No. 74), July, 1899. (See No. 3709.) Distributed.

3711. HIBISCUS ROSA-SINENSIS.**Hibiscus.**

From Hope Botanic Garden, Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild (No. 74), July, 1899. (See No. 3709.) Distributed.

3712. CITRUS AURANTIUM.**Orange.**

From Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild, July, 1899.

“This variety resembles, more or less closely, a very large mandarin, in that the skin is very loosely attached to the flesh. The texture of the flesh is good and the flavor excellent.” (*Fairchild.*) Distributed.

3713. CITRUS LIMETTA.**Lime.**

From the Hope Botanic Garden of Trinidad, British West Indies. Received through Mr. D. G. Fairchild (No. 75), July, 1899.

Trinidad. “Ten potted plants of ‘*Trinidadine*’ lime, a chance seedling in the gardens, unusually large. Largest fruits seen were $8\frac{3}{8}$ by $9\frac{1}{4}$ in. circ. Mr. Hart, the director, says they grow twice that size. Tree a vigorous grower and good producer. Will be an acquisition for Florida and California.” (*Fairchild.*) Distributed.

3714. CARYOCAR NUCIFERUM.**Butternut.**

From Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild, July, 1899.

“This is a native of Demerara, South America, said to bear a very delicious nut; sometimes shipped to London markets. A forest tree; nuts kidney shaped, flattened, hard, woody shell, red brown. Kernel large and white. Excellent for table use.” (*Fairchild.*) Distributed.

3715-3723. DIOSCOREA DIVARICATA.**Yams.**

From Botanic Garden of Trinidad, British West Indies. Received through Messrs. Lathrop and Fairchild (No. 72), July, 1899.

This and the following eight numbers comprise a collection of samples of the best varieties of yams in the West Indies. They will be retained at the Department of

Agriculture to serve for identifying other West Indian yams to be sent later for general distribution. (See No. 3519.)

- 3715. WHITE. Distributed.
- 3716. RED. Distributed.
- 3717. ST. LUCIA. Distributed.
- 3718. NEGRO. Distributed.
- 3719. YELLOW. Distributed.
- 3720. ST. HILL SEEDLING. Distributed.
- 3721. CHINESE. Distributed.
- 3722. HORN. Distributed.
- 3723. CUSH-CUSH. Distributed.

3724. ABERIA CAFFRA.

Kei apple.

From Cape Colony, South Africa. Received from Prof. Peter MacOwan, through the Division of Agrostology, July 20, 1899.

Professor MacOwan says: "A fine strong hedge plant, equal to the European holly. The fruit is 1 inch in diameter, very acid, at length luscious, with a strong scent like apples. It is called *Wilde abrikoos* by the Dutch. The plants are monœcious. It is found only in the Kei River Valley in South Africa." (See No. 3230, Inventory No. 7.)

3725. ASTRAGALUS SINICUS.

Genge clover.

From Japan. Received through Suzuki and Iida, New York, N. Y., July 21, 1899.

"A clover, very largely grown in some parts of Japan; used for feeding cattle and as a fertilizer for rice fields. The plants resemble the American red clover." (*Suzuki and Iida.*)

"The Genge or Rengeso has always been grown in all parts of Japan as a green manure for rice fields. It is sown broadcast in September at the rate of 3 deciliters (about $1\frac{1}{2}$ pecks) per acre; it is plowed under in place the following spring at flowering time, or cut for putting on other rice fields. It is sometimes used for forage." (Cat. Japanese Dept. Agric., Paris Exp., 1900.)

The genge is described in botanical works as a prostrate annual plant having slender pinnate leaves with 5 to 11 leaflets and pinkish flowers clustered densely at the end of an upright stalk. The leaves are said to have a grateful scent, somewhat like that of fresh apples. From the statement quoted above, as well as from Mr. Barr's note (see No. 3923), it is evident that genge is a winter crop suited particularly for rice fields, where it should be given a trial in the South.

3726-3732. ORYZA SATIVA.

Rice.

From Lisbon, Portugal. Donated by the "Sociedade de Geographia de Lisboa" through Messrs. Lathrop and Fairchild (No. 230), July 22, 1899. This collection of rice was selected, because of the short blunt form of the grains, for trial in Louisiana, and also for plant breeding. It comprises varieties of the following numbers all from Portuguese India:

- 3726. ARROS COM CASCA, from Goa. (L. & F., No. 230.) Distributed.
- 3727. BATE DE BILAR, from Sanguem. (L. & F., 230, and No. 5009.) Distributed.
- 3728. BABRY CANACONA (L. & F., 230e and No. 5003). Distributed.
- 3729. BATE TAMBIPATTONIM, from Guepem. (L. & F., No. 230d, No. 5200.) Distributed.
- 3730. ARROS COM CASCA, from Prov. of Salseti. (L. & F., 230c, No. 1279.) Distributed.
- 3731. BATE DE CONCHRO, from Sanguem. (L. & F., 230b.) Distributed.
- 3732. ARROS COM CASCA, from Prov. of Salseti. (L. & F., 230a, No. 1276.) Distributed.

3733. CAPSICUM ANNUM.**Pepper.**

From Petropolis, Brazil. Received through Messrs. Lathrop and Fairchild (No. 225), July, 1899.

"A variety of chili pepper, reported to be of unusual excellence, from the United States legation in Petropolis. No native name was known." (*Fairchild.*)

3734. PHYSALIS CURASSAVICA.

From the Botanic Gardens, Buenos Ayres, Argentina. Received through Messrs. Lathrop and Fairchild (No. 216), July, 1899.

"Cultivated like ordinary *Physalis*; will stand slight frost; said to be edible." (*Fairchild.*) Distributed.

3735. CAPSICUM ANNUM.**Pepper.**

From the Botanic Gardens, Buenos Ayres, Argentina. Received through Messrs. Lathrop and Fairchild (No. 227), July, 1899.

"*Güdüga*. A very strong, tomato-shaped variety, dark red, one-half to three-fourths inch in diameter." (*Fairchild.*)

3736. SOLANUM GLAUCUM.

From the Botanic Gardens, Buenos Ayres, Argentina. Received through Messrs. Lathrop and Fairchild (No. 229), July, 1899.

"A shrubby-poisonous species of *Solanum*, for breeding purposes; may be of value." (*Fairchild.*) Distributed.

3737. CAPSICUM ANNUM.**Pepper.**

From Pernambuco, Brazil. Received through Messrs. Lathrop and Fairchild (No. 239), July, 1899.

"The hottest variety of red pepper. No native name known." (*Fairchild.*)

3738. PASSIFLORA.**Passion fruit.**

From Sao Paulo, Brazil. Received through Messrs. Lathrop and Fairchild (No. 240), July, 1899.

"Seeds from a large, very thick-rinded species of passion fruit of excellent flavor. Native name not known. For Florida and southern California." (*Fairchild.*)

3739. CASSIA.

From the Quesada of Salte, Vina del Mar, near Valparaiso, Chile. Received through Messrs. Lathrop and Fairchild, April, 1899.

"A species of *Genista* with showy yellow flowers. It grows in moist soils." (*Fairchild.*)

3740. CHUSQUEA QUILA.**Bamboo.**

From Osorno, Chile. Received through Messrs. Lathrop and Fairchild, 1899. (See No. 3355.) Distributed.

3741. CAPSICUM ANNUM.**Pepper.**

From Valparaiso. Received through Messrs. Lathrop and Fairchild, April, 1899.

"A variety of sweet pepper 4 inches long and 3 inches in diameter; bright scarlet; very showy." (*Fairchild.*)

3742. ORYZA SATIVA.**Rice.**

From Pacosmayo, Peru. Received through Messrs. Lathrop and Fairchild, April, 1899.

Peruvian rice. Distributed.

- 3743. PASSIFLORA.** **Passion fruit.**
 From Mollendo, Peru. Received through Messrs. Lathrop and Fairchild, June, 1899.
 Possibly introduced from Bolivia. Grown only by irrigation.
- 3744. CORTADERIA ARGENTEA.** **Pampas grass.**
 From Santiago, Chile. Received through Messrs. Lathrop and Fairchild, 1899.
 Grown in the gardens at Santiago. It may differ from ours in vigor. The external appearance is the same. Distributed.
- 3745. PHASEOLUS VULGARIS.** **Bean.**
 From Cerro Azul, Peru. Received through Messrs. Lathrop and Fairchild, 1899.
Frijoles. Distributed.
- 3746. PHASEOLUS VULGARIS.** **Bean.**
 From Cerro Azul, Peru. Received through Messrs. Lathrop and Fairchild, June, 1899.
Blanco pintada. Distributed.
- 3747. APHELANDRA AURANTIACA.**
 From France. Received through Mr. W. T. Swingle, July, 1899.
 "Belongs to the family *Acanthaceae*. A small, ornamental shrub, native of Mexico. This form, sometimes known as *Aphelandra rozellii*, has leaves showing silvery white veins on the clear green ground. The inflorescences are terminal. The flowers are orange red. Plants of this are said to have bloomed the first year from cuttings at St. Petersburg." (*Vilmorin.*) Distributed.
- 3748. RUBUS.** **Blackberry.**
 From Cuernavaca, Mexico. Received through Dr. J. N. Rose, July, 1899.
 "It has the stems and solid fruit of a blackberry, but the foliage and taste of a black raspberry." (*Rose.*)
- 3749. SOLANUM MURICATUM.** **Chili pepino.**
 From Cuernavaca, Mexico. Received through Dr. J. N. Rose, July, 1899.
 Very pungent and burning; the hottest of peppers. From Peru or Chili.
- 3750. CLINOSTIGMA MOORIANUM.** **Palm.**
 From France. Received through Mr. W. T. Swingle, July, 1899.
 A pinnatifid-leaved palm from New South Wales and Lord Howe's Island. This graceful palm resembles *Howea Fosteriana* somewhat in habit of growth, but its arching leaves spread wider. Its stems are dark purplish and its pinnae are tough and leathery. The palm is free and clean in growth. Distributed.
- 3751 to 3758. VICIA FABA.** **Broad bean.**
 From England. A collection of broad beans received through Messrs. Lathrop and Fairchild (Nos. 231 to 238), July, 1899.
 "The English broad bean, so well known on the Continent as a vegetable, is pronounced by connoisseurs one of the most delicious vegetables. Mr. Lathrop declares them to be as delicate as asparagus. Although well known in England for many years, they are almost entirely strange to American markets. They are offered for sale by American seedsmen, but are very seldom planted. Boiled with breakfast bacon, they are served on the tables of the most fastidious, either for breakfast or dinner. Like green peas, they are picked when young. A special attempt should be made to introduce this vegetable into popular use, or at least to discover why it does not appear on our tables. There are a number of varieties in England and on the Conti-

ment. Some possess disagreeable flavors; others are as delicate as green peas. Some varieties may be planted in autumn, others in early spring. Slight frosts do not injure them. Deep, strong, loamy soil, the richer the better, will suit them." (*Fairchild.*)

The collection comprises the following eight varieties of the English broad bean:

- 3751.** BARR'S MONSTROUS LONG POD. Said to be the finest of English varieties.
- 3752.** BARR'S IMPROVED WHITE WINDSOR. Distributed.
- 3753.** BARR'S IMPROVED GREEN WINDSOR. Distributed.
- 3754.** SELECTED EARLY LONG POD. Distributed.
- 3755.** EARLY MAZAGAN. A variety planted in warm sheltered spots in November and January. Distributed.
- 3756.** MASTERPIECE GREEN LONG POD. Distributed.
- 3757.** TOM THUMB. A dwarf variety. Distributed.
- 3758.** TOM THUMB. A green dwarf variety. Distributed.

3759. PASSIFLORA LAURIFOLIA. **Water-lemon.**

From the Hope Botanic Gardens, Jamaica. Received through Messrs. Lathrop and Fairchild (No. 45), July 27, 1899.

Pomme d'Or. A vine, native from Jamaica to Brazil. Bears an excellent fruit.

3760. PRUNUS OCCIDENTALIS. **Plum.**

From Jamaica. Received through Messrs. Lathrop and Fairchild (No. 49), July 27, 1899.

This plum is a tall tree growing in the mountains of Cuba and Jamaica. The fruit is of very fine flavor. Distributed.

3761. ZEA MAYS. **Corn.**

From Tundja Valley, East Roumelia, Bulgaria. Received through Mr. W. T. Swingle, August 5, 1899.

"Yellow flint corn, remarkable for uniform color and well-filled ears. This corn may represent the type first introduced into Europe, since in many parts of western Europe corn was for a long time known as Turkish wheat; and it is not impossible that corn may have been introduced into the west of Europe from Turkey." (*Swingle.*)

3762. POPULUS. **Poplar.**

From Brusa, Asia Minor. Received through Mr. W. T. Swingle, 1899.

"A poplar planted along roadsides, near Brusa. A remarkably beautiful tree like Lombardy poplar, except that it is not pointed at the top, but cylindrical. The top is never diseased." (*Swingle.*) Distributed.

3763. CUCUMIS MELO. **Muskmelon.**

From Constantinople, Turkey. Donated by A. O. Eram, effendi, president of the section of agriculture, ministry of agriculture, forests and mines, through Mr. W. T. Swingle. Received August 5, 1899.

Ousoun kepru.

3764. CITRULLUS VULGARIS. **Watermelon.**

From Constantinople, Turkey. Donated by A. O. Eram, effendi, president of the section of agriculture, ministry of agriculture, forests and mines, through Mr. W. T. Swingle. Received August 5, 1899.

Ousoun kepru.

3765, 3766. CUCUMIS MELO.**Muskmelon.**

From Constantinople, Turkey. Donated by A. O. Eram, effendi, president of the section of agriculture, ministry of agriculture, forests and mines, through Mr. W. T. Swingle. Received August 5, 1899.

3765. CASSABA OR ALTOURE TOBE.**3766. CHAGNETIC.****3767. CUPRESSUS SEMPERVIRENS.**

From Brusa, Asia Minor. Received through Mr. W. T. Swingle, 1899.

Seed from a particularly fine pyramidal tree in the Mohammedan cemetery at Brusa. For the Southern States.

3768. CUCUMIS MELO.**Muskmelon.**

From Smyrna, Asiatic Turkey. Received through Mr. W. T. Swingle, September, 1899.

*Alloune Bache.***3769. VICIA VILLOSA.****Hairy vetch.**

From France. Received September, 1899. Five tons of seed imported for cooperative field experiments conducted by the Mississippi Agricultural Experiment Station. (See Circ. Agros. No. 6.) Distributed.

3770-3772.

From Sydney, New South Wales, Australia. Presented by Prof. J. H. Maiden, director of the Botanic Gardens, Sydney.

A collection of seeds of the following Australian species of Eucalyptus:

3770. EUCALYPTUS PUNCTATA, GRANDIFLORA.**3771. EUCALYPTUS SALUBRIS.****3772. EUCALYPTUS SALMONOPHILOIA.****3773. POA NEMORALIS.****Wood meadow grass.**

From New York. Received September, 1899.

"The larger forms of this are hardly to be distinguished from *Poa serotina*, and have a similar range. It will, however, grow in a drier soil, excessive moisture being harmful to it. In Montana this species ascends to an altitude of 9,000 feet. At this elevation it is dwarfed in habit, but at lower elevations it becomes taller and affords excellent forage. There are several varieties of this grass in the Rocky Mountains and the Northwest, some of them growing upon the dry foothills and bench lands. The larger forms are well adapted for hay. It is less productive than many others, and its cultivation is not recommended excepting in shady lawns, and then only in the Northern and Middle States." (*Scribner.*) Distributed.

3774. CUCUMIS SATIVUS.**Cucumber.**

From Vienna, Austria. Received through Messrs. Lathrop and Fairchild (No. 256), September 18, 1899.

Moravian, a variety used extensively in Vienna for the manufacture of the *Salzgurken* or salt cucumbers, which are a specialty of Vienna, being made to perfection there. The fruits when full size, but before ripening, are picked and packed in kegs. The skin is left intact and the cucumbers are laid in layers with salt and wild cherry or some other aromatic leaves. A heavy weight is placed on the cucumbers and they are left to ferment fourteen days, after which they are ready for the table. After peeling they are served as a side dish. They are consumed in great quantities in Germany and Austria. These salt cucumbers are also made and used in America, and growers will find this variety valuable for this purpose. (Reprinted from Inventory No. 6.)

3775. PROSOPIS HORRIDA.**Algaroba.**

From Païta, Peru. Received through Mr. Eduardo Fowkes.

A tree of Peru belonging to the locust family which produces twice a year crops of yellow pods resembling those of honey locust. It grows to a height of 50 to 60 feet and 1 to 4 feet in diameter. It grows from the coast to an altitude of 2,000 feet above sea level. It needs a good and moist soil. It is propagated from seed, or, better, by means of root cuttings; the small trees must be given plenty of water until the strong taproot sinks deep into the soil. They are usually planted 4 feet apart. The tree itself makes good fuel and the pods make excellent food for stock. They fall to the ground and are gathered and stored in air-tight adobe rooms to keep out insects. As a food for mules and horses they are superior to corn, and a hard-working mule will eat 25 pounds daily and keep in good condition; they are fed to horses with grass, as they are too strong to feed alone. Suitable for growing in southern California. Distributed.

3776. CUCUMIS SATIVUS.**Cucumber.**

From Tetschen, Bohemia. Received through Messrs. Lathrop and Fairchild (No. 242), September, 1899.

Langer walzen. Considered the best cucumber of Bohemia. Many thousand pounds are shipped into Berlin and Dresden from this region, where the cucumbers are used for salads and fermented to make *Sauer gurken*. (Reprinted from Inventory No. 6.)

3777. SOLANUM TUBEROSUM.**Potato.**

From Tetschen, Bohemia. Received through Messrs. Lathrop and Fairchild (No. 241), September, 1899.

Black salad potato. Said by the owner to have been imported seven years ago from some place in Africa by Mr. Joseph Wenzel, the gardener of the agricultural college at Tetschen, a breeder of potatoes, who imported six tubers. He has been reproducing it and finds it very productive. The potato is dark purple both inside and out, somewhat marbled, but very showy as a salad potato. The quality is said to be very good and it is considered valuable as a novelty. (*Distributed.*) (Reprinted from Inventory No. 6.)

3778. COCHLEARIA ARMORACEA.**Horse-radish.**

From Tetschen, Bohemia. Received through Messrs. Lathrop and Fairchild (No. 250), September, 1899.

The variety of horse-radish known in Germany and Austria as the *Maliner* or *Maliner kren* is considered superior to any other. It is grown to perfection in Kutenberg, a small village southeast of Kolin, in Bohemia, whence large quantities are exported. It is distinguished by its unusually sharp, penetrating taste, uniform shape, and excellent keeping qualities.

A deep, loose, strong soil with plenty of moisture is best suited to the culture of horse-radish. In autumn the soil is forked over to a depth of 2 or 2½ feet and well-rotted barnyard manure is thoroughly worked in to the depth of a foot or more. A narrow bed, 3 feet wide, is prepared, and in late March or early April the horse-radish cuttings are planted along both edges, alternating so that they are not opposite each other across the bed. The cuttings are 12 inches long and are set out 18 inches apart. Instead of being placed vertically in the ground, they are planted in an obliquely horizontal position, with the upper, larger end covered by only three-quarters to 1 inch of earth, while the lower lies 3 to 4 inches deep. As a consequence of this slanting position, the new roots thrown out from the lower side of the cutting, striking vertically downward, make almost a right angle with the main stem, and it is these slender roots from which the new cuttings for the next season's planting are made.

During the summer the ground is kept free from weeds and the surface of the soil lightly stirred. Toward the end of June the bed is gone over carefully and each cutting uncovered separately and slightly raised out of the soil by hand. Care is taken not to injure the perpendicular roots which have formed at its lower end. All small rootlets are rubbed off from the body of the root with a woolen cloth; those that are too large to be removed in this manner being cut close with a sharp knife. A small

quantity of powdered charcoal is scattered over the cut surfaces to prevent decay. The cutting is again covered with earth as before.

The roots are allowed to continue growth until the end of September, at which time the harvest begins. The cuttings which have been two seasons in the ground, the first year as vertical roots and the second in an oblique position, are by this time large enough for market. In digging the horse-radish a long-bladed mattock or spade is used, which enables the digger to remove not only the obliquely planted cutting, which is the marketable product, but also the new roots from its lower side, of which the cuttings for the next year are to be made.

A more extended account of this culture has been published in Circular No. 20 of the Division of Botany. (*Distributed.*) (Reprinted from Inventory No. 6.)

3779-3819.

From Manila, P. I. A collection of seeds collected by Lieut. A. P. Hayne, California Heavy Artillery, U. S. V., and Mr. Jeremiah Rebmann, private, Company B, First Nebraska Volunteers, while serving under an honorary commission from the Secretary of Agriculture, during the period from January 7, 1899, to July 1, 1899. The seeds were received in September, 1899. They are as follows:

3779. ERYTHRINA CANNA FLACCIDA (?).

Collected in the Botanic Garden at Manila, April 15, 1899. Flowers yellow. Tagal name, *Cacentasan*.

3780. TAMARINDUS INDICUS.

Tamarind.

Collected at Manila, April, 1899. Tagal name, *Stampaloc*.

"Leaves opposite, abruptly pinnate. Leaflets 12 or more pairs, linear, tapering at apex, entire and smooth. Flowers racemed, blossoming in May. The roots of this tree are esteemed by carpenters as good, or even better, than ebony. Rosaries are made from them. The pulp of the fruit is refreshing; it is also a purgative, taken in doses of 1 or 2 ounces, and is a useful remedy in bilious fevers and in smallpox." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3781. ACACIA FARNESIANA.

Cassie.

Collected at Tondo, May, 1899. Local name, *Aroma*.

"Trunk with small, callous points and very long spines. Leaves twice pinnate. The flowers, which appear in January, are yellow, axillary, more than 50 in the globose, long peduncled heads. From each axil two peduncles arise. Tree small, 9 to 12 feet, common in the mountains of Guadalupe, in the province of Batangas, and in many other places. It exudes a transparent, straw-colored gum, said to have medicinal value, and by some is considered equal to gum arabic. The pulp of the fruit is fragrant, but the odor of the cut wood is intolerable. The legumes, when chewed, are very disagreeable. The chief value of the pods is to make a black dye and to make ink. It is said that the bark of the tree is used as a mordant. The flowers also yield a yellow dye. Ink is obtained by sprinkling a little water over the macerated pods and adding a little 'alcaparrosa.' The pulp of the pods is excellent to cure ulcerated eyes, a common and very obstinate complaint, called by the natives 'colitun.'" (*Blanco; translated by Mrs. Alice Carter Cook.*)

3782. POINCIANA REGIA.

Royal poinciana.

Collected at Manila, January, 1899. Tagal name, *Arbol de fuego*. (See No. 1915, Inventory No. 5.)

3783. MIMOSA AFZALIOI (?).

Collected at the Botanic Gardens, Manila, January, 1899. Tagal name, *Epil*.

3784. POINCIANA REGIA.

Royal poinciana.

Collected at Manila, 1899. (See No. 3782.)

3785. CEIBA CASEANA.

Cotton tree.

From Manila. Collected at Calumpit, April, 1899. Tagal name, *Bubac* or *Butac ordmito*.

"Branches black spotted. A well-known tree 12 to 15 feet high, sometimes living many years. The fruit is smaller than that of the upland cotton. The thread and the cloth made from it are much stronger and more lustrous. It

3779-3819—Continued.

was formerly planted by the natives, but was abandoned because of the small yield of cotton, and to-day is not used for cloth making. A species brought to Manila from Mauritius and said to be very fine is found to be identical with this." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3786. SESBANIA GRANDIFLORA.

Collected at Manila, May, 1899. Tagal name, *Caturai*.

"A tree of Pasig and Patura, 15 to 18 feet high, with conspicuous flowers. Its bark is used to rub fishing lines to prevent their becoming water-soaked. The natives sometimes cultivate it for the sake of the flowers, which are cooked and eaten. They are large and white, and the tree at first sight resembles *Moringa*. It is said that the leaves, placed under the pillow, induce sleep." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3787. ERYTHRINA CANNA.

From Manila. Collected at the Botanic Gardens, April 25, 1899.

Flowers red. (See No. 3779.)

3788. MIMOSA ACLE.

Collected at Paco, May, 1899. Tagal name, *Acle*.

Flowers yellow, in a raceme.

"Tree without spines or thorns, very well known in the vicinity of Manila. The natives esteem it in the building of their houses, for which the wood is very valuable. The leaves are not small, as commonly among *Mimosas*, but 8 to 9 inches long and 3 inches broad. The bark is used for washing, but is not so good as that of the species known to the natives as 'gogo.' The seeds are one-half inch long, marked with an elevated line parallel to the curve of the pod, which is a characteristic of the genus. They are eaten when young. The leaves have an indistinct gland at the base. The size of the leaf agrees with that of *Mimosa scutifera*, but the fruit is different. The native name is given to the species until more careful study establishes its true identity." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3789. MIMOSA.

Collected at Paco, May 1, 1899.

A fine, large tree.

3790. CORYPHA MINOR.

Palm.

From Manila. Collected at Botanic Gardens. Tagal name, *Anahao*.

"A tree as high as the coconut or betel palm. Trunk erect; wood very hard, containing a soft pith. The young seed is edible but very astringent. It is not much liked. The wood is used to make stockades, aqueducts, etc., being very durable. The leaves are used to thatch houses." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3791. CEIBA CASEARIA.

Cotton tree.

Collected between Manila and Calumpit, April, 1899. Tagal name, *Bulac*. (See No. 3785.)

3792. INGA LANCEOLATA.

Collected at Manila, May, 1899. Tagal name, *Camachiles*.

3793. CANANGA ODORATA.

Ilang-ilang.

Collected at Juan del Monte, April 15, 1899.

"A tall tree, with leaves 6 inches long and very odorous flowers, which can not be kept in a sleeping room over night without causing severe headache to the occupant. Fruit not fragrant. Uses unknown." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3794. MIMOSA.

Collected at Malate, February, 1899. Tagal name, *Aroma*.

Flowers in white spikes.

3795. ERYTHRINA.

Collected at Paco, May 21, 1899. Tagal name, *Dap-dap*.

3779-3819—Continued.

3796. TAMARINDUS INDICUS.

Tamarind.

Collected at Manila, April, 1899. Tagal name, *Sampatoc*. (See No. 3780.)

3797. SYZYGIUM SABULANUM.

Collected at Paco, May 20, 1899. Tagal name, *Lomboy*.

3798.

(Seed without name or data.)

3799 to 3801. ARECA CATECHU.

Betel palm.

Collected at Manila, December, 1898. Tagal name, *Banga*.

"A well-known palm which grows nearly as high as the cocoanut. Its trunk is not as thick as a man's thigh, very straight, and with many rings formed by the bases of the petioles. The fruit is the celebrated betel nut or buyo. When the natives can not obtain this they use as substitute the bark of *Arctocarpus* or Guaba. The compound of betel, piper, and lime makes the saliva red, but this does not happen if either of the ingredients is omitted. The natives sprinkle betel with macerated pepper for infants, to relieve them of colic or wind. *Areca* may perhaps serve as a basis for a red dye and it is very probable that it is used in India, perhaps in the stead of more valuable ingredients. With copperas it forms a black ink much inferior to that of *Aroma*. The lower part of the leaf petiole, called talupac, is very clean, broad, white, and flexible, and serves very well for wrapping bundles, and for this and similar purposes it is sold by the natives. The terminal bud is eaten as a salad, and its flavor is moderately good, but its removal, of course, kills the tree. Flowers in April." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3802. TERMINALIA LATIFOLIA.

Collected at Manila, May, 1899. Tagal name, *Tulisay*.

"This tree ranges from 20 to 24 feet high. The mature leaves are mulberry colored and were formerly used by the natives to dye cotton garments. The nut is too hard to serve as food. The seed has the flavor of almonds and yields a similar oil. With the sap of the tender leaves and the oil of the seeds an ointment is made which is used for leprosy and other skin diseases. In Manila many of these trees have been planted on the public roads, the horizontal growth of the branches and the breadth of the leaves affording much shade. The name 'pila' is sometimes wrongly given to this tree and should be only applied to the tree known to the natives as 'Pilavi,' which yields white resin, or pisa." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3803. ERYTHRINA CARNEA.

Collected at Paco, May 21, 1899. Local name, *Dap-dap*.

A large handsome tree, with reddish flowers.

"This common tree reaches a height of 20 feet or more and is very thick. Its wood is light and soft. It is used instead of cork for fishing nets. Shields are also made of it. The tree much resembles the species *coralodendron*, of which it may be a variety. An infusion of its leaves and bark is used in treating asthma. A drachm of leaves and bark cooked in four bottles of water until this is half boiled away, and sweetened with honey, should be drunk during the illness to facilitate expectoration. The natives apply the bark as a poultice to tumors. The flowers are large, purple, and abundant. The legumes attain a length of 6 inches. Flowers in February." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3804. STERCULIA HELICTERES.

Collected in the Botanic Gardens, Manila, April 26, 1899. Tagal name, *Dungan*.

3805. COCOS MANILLARIS.

Collected at Paco, March, 1899. Tagal name, *Adiavan*.

3806. ANACARDIUM OCCIDENTALE.

Cashew nut.

Collected at Manila, April, 1899. Tagal name, *Casai*. (See No. 3537.)

3807. STERCULIA HELICTERES.

Collected at the Botanic Gardens, Manila, April 28, 1899. Tagal name, *Dungan*. (See No. 3804.)

3779-3819—Continued.

3808 to 3811. CALOPHYLLUM INOPHYLLUM.

Collected at the Botanic Gardens, Manila, April and June, 1899. Local name, *Palo maria*.

"A well-known tree, often not erect and with rather a low trunk. Its wood is much prized for boat building. The fruit contains an abundance of oil, which is extracted by the natives to anoint and harden the hoofs of horses. It is also sometimes used in lamps, but gives a poor light. From the wounded bark exudes a fragrant resin, greenish in color, which many prefer to that of Peru or Copaiba. When mixed with wax and applied to the chest is said to be good for asthma. This resin is much sought after by ants and by a small bee, known to the natives as 'locot.' Some declare that taken internally it is beneficial in lung trouble. The wood, both fresh and burned, yields a very pleasant odor. The tree is very common near the seashore." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3812. SPONDIAS DULCIS.**Ciruela.**

Collected between San Pedro Macati and Guadalupe, May and June, 1899.

"Fruit mulberry colored with straw-colored flesh; edible, and, though astringent, not disagreeable; useful in dysentery, though the nut is said to be poisonous. The wood is hard and the tree roots easily although it may be poorly nourished. Early in January I put in the earth a branch as thick as the arm, and at the end of the month it bore flowers and fruit. Into these trees I have grafted branches of Mango (Manga) which have lived more than a month. They might, perhaps, have succeeded with better care." (*Blanco; translated by Mrs. Alice Carter Cook.*) (See No. 3080.)

3813. DIOSPYROS DISCOLOR.

Collected at Paco, Manila, January 25, 1899. Tagal name, *Mabolo*.

3814. (?)

A leguminous tree in Manila.

3815. (?)

A leguminous tree in Manila.

3816. ABRUS PREGATORIUS.

Collected at San Juan del Monte, Manila, January 25, 1899. Tagal name, *Saga*, or *Sagananimum*, or *Baugati*.

"A widely disseminated, well-known climber. Leaves one-half inch long and 2 inches broad. When chewed they taste like licorice, for which they serve as a substitute. The root does not taste as well as the leaves, and some say that it is injurious. Linnaeus gave the specific name to this plant because of the resemblance of the seeds to the beads of a rosary. Ground and mixed with water or wine they are very beneficial in cases of epilepsy or heart trouble. But the Spanish translation of Linnaeus declares the fruit to be poisonous. Flowers in December." (*Blanco; translated by Mrs. Alice Carter Cook.*) (See No. 4523.)

3817. CAJANUS BICOLOR.

Collected at the Botanic Gardens, Manila, April 28, 1899. Tagal name, *Cagnios*. (See No. 3535.)

An Indian bean extensively grown in subtropical regions for food.

3818. (?)

A climbing vine bearing red fruits the size of an orange.

3819. MANGIFERA INDICA.**Mango.**

From Manila.

"A very common tree, which some think was introduced from India. I believe that some varieties may have been brought from there, but not all. The leaves are sometimes 10 inches long; height more than 30 feet; delays fruiting, I believe, until the tenth year, and to hasten it the natives make many incisions in the trunk. They also put fire below the tree in order to obtain by the heat and the smoke early mangoes, which bring high prices. From January (or even

3779-3819—Continued.

earlier) until June the trees bear numerous fragrant flowers. The majority of these fall, and much of the fruit also afterwards perishes, especially if there is copious rain. On this account the Filipinos say that if the harvest of mangoes is good rice will be scarce and vice versa. Also, when mangoes are abundant diseases are many, because of the scarcity of rain. Though very savory, the mango of the Philippines is considered much inferior to some fruits grown in Spain. The recently arrived Spaniards declare that the mangoes have a slight odor of bugs or of onions, but it is in reality that of pitch. It is, nevertheless, the first of the fruits of the country and very healthful. The sap of the mango is caustic. Its leaves, bruised between the fingers, yield a grateful perfume. The leaves, when yellow, are steeped in water and taste like tea. White cloth may be dyed black with the bark of the mango. The roots, steeped in water, yield a straw-color dye, which becomes more pronounced upon the addition of lye. Some, without reason given, believe the fruit of mango to be heating. It certainly induces sleep. The too free use of mangoes is said to cause slight skin eruptions like those that follow the excessive use of oranges and lemons in tropical countries." (*Blanco; translated by Mrs. Alice Carter Cook.*)

3820. SAPIUM BIGLANDULOSUM.

Tolima rubber.

From Colombia. Presented by Mr. Charles Pitan, through Mr. Pierre Mali, Belgian consul at New York, September, 1899.

White Virgin Rubber of the Andes. "A new rubber plant from the province of Tolima, Colombia. As this tree grows in the Colombian Andes at an elevation of 6,000 to 8,000 feet, it is quite possible that it may be adapted for cultivation in the subtropical zone of the United States; that is, in those States where orange trees will flourish." (*Pitau.*)

The Tolima rubber achieved quite a reputation as a first-class article during the few years it was placed on the market. The tree is apparently quite local in its distribution, and the supply was soon exhausted after the discovery that it was the source of a commercial article. The Tolima rubber is said to be equal in value to the best Para rubber from Brazil. Distributed.

3821 to 3824. TRITICUM VULGARE.

Wheat.

From Budapest, Hungary. Received through Mr. W. T. Swingle, September 20, 1899.

This shipment comprises four of the best-known of the Hungarian hard winter wheats. These wheats are the qualities from which the higher grades of flour are made at Budapest. Hungary is about the only European country which exports flour, and therefore comes into competition with America in this commodity. Experts on the stock exchange at Budapest claim that some of the Hungarian hard winter wheats produce a better grade of flour than do the best American wheats. This, however, is doubtful. These varieties are worthy of careful trial wherever the winters are mild enough to permit of the growth of winter wheats. Of the varieties included in this shipment the *Banat* (No. 3822) and *Theiss* (No. 3823) are the best known. Both varieties have a large quantity of gluten of a high quality. It is doubtful whether the names applied to Hungarian wheats, such as *Theiss* and *Banat*, really represent distinct varieties of wheats. They are rather to be considered as indicating the locality from which the wheat was obtained, and these numbers may consist of a mixture of varieties. They probably differ somewhat in different localities.

3821. WEISSENBURG. Distributed.

3822. BANAT. Distributed.

3823. THEISS. Distributed.

3824. PESTER BODEN. Distributed.

3825. VICIA FULGENS.

Scarlet vetch.

From France. Purchased from Vilmorin-Audrieux & Co., Paris, September, 1899.

This new vetch is one of the most promising of the native forage plants of north Africa which have been introduced into culture and tested by Dr. Trabut, government botanist of Algeria.

"This vetch, which grows wild from Alma to Barnal in Algeria, flowers abundantly and seeds well if sown in autumn, but loses its seeds if the sirocco comes when the pods are ripe. This defect renders a special culture necessary for the production of the seed, which is rather high priced.

"Mixed with Abruzzes oats (*Avoine des Abruzes*) it yielded, in 1896, on a large plot of good soil at the experiment station at Rouïba, more than a hundred quintals per hectare of excellent forage." (*Trabut.*)

This plant is usually grown in winter in Algeria, sown shortly before the first rains in autumn, either alone or with winter oats. It is probable that it may be grown as a winter crop in the South and on the Pacific slope, and may prove useful as a summer crop in some regions. It is an exceedingly vigorous plant deserving the most careful trial, and if some region can be found where the seed will ripen without being lost because of the hot winds, it is probable that this will become a most important plant. (See Nos. 4336 and 5574.)

3826. ANANAS SATIVUS.

Pineapple.

From Guayaquil, Ecuador. Received through Messrs. Lathrop and Fairchild, April 7, 1899.

"The pineapples of Peru, Panama, and Trinidad often have many seeds in them." (*Fairchild.*) Distributed.

3827. ANANAS SATIVUS.

Pineapple.

From Paita, Peru. Received through Messrs. Lathrop and Fairchild, April 7, 1899. Distributed.

3828 to 3829. TRITICUM VULGARE.

Wheat.

From Tiflis, Caucasus, Russia. Received through Prof. N. E. Hansen, June 4, 1898.

These two varieties, which consist of small packages weighing about 30 pounds, were discovered in September, 1899, hidden in a large bale of grass seeds. There is no further data concerning them. Distributed.

3830 to 3833.

From Tiflis, Caucasus. A collection of seeds received through Prof. N. E. Hansen, September, 1899.

3830. CUCUMIS MELO.
Tiflis No. 1.

Muskmelon.

3831. CUCUMIS MELO. Distributed.
Tiflis No. 2.

Muskmelon.

3832. CUCUMIS MELO.
Tiflis No. 3.

Muskmelon.

3833. CUCUMIS SATIVUS.

Cucumber.

3834-3852. VEGETABLE SEEDS.

The following nineteen numbers comprise a collection of small quantities of vegetable seeds purchased by Mr. W. T. Swingle of a seed peddler at Sophia, Bulgaria. The peddler was in attendance at the weekly market, and samples were secured of all the seeds he had.

3834. CUCUMIS MELO.

Muskmelon.

3835. LACTUCA SATIVA.

Lettuce.

3836. LACTUCA SATIVA.

Lettuce.

3837. BETA VULGARIS.

Beet.

3838. CITRULLUS VULGARIS.

Watermelon.

3839. CITRULLUS VULGARIS.

Watermelon.

3840. CITRULLUS VULGARIS.

Watermelon.

3841. CUCUMIS SATIVUS.

Cucumber.

3834-3852. VEGETABLE SEEDS—Continued.

3842.	SPINACIA OLERACEA.	Spinach.
3843.	ALLIUM CEPA.	Onion.
3844.	ALLIUM CEPA.	Onion.
3845.	PASTINACA SATIVA.	Parsnip.
3846.	BRASSICA.	
3847.	HELIANTHUS ANNUUS. Distributed.	Sunflower.
3848.	CUCURBITA PEPO.	Squash.
3849.	CUCURBITA PEPO.	Squash.
3850.	CUCURBITA.	
3851.		

Mixed seeds. Distributed.

3852.	CUCUMIS.	Melons.
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Mixed melon seeds. Distributed.

3853. SOLANUM TUBEROSUM. Potato.

From Zacatecas, Mexico. Grown by Dr. Edward Palmer, 1899, from tubers from the wild plant. Distributed.

3854. BYRSONIMA COTINIFOLIA.

From Colima, Mexico. Received through Dr. Edward Palmer, 1897.

Large shrub to small tree, flowers yellow. The fruits are yellow and much eaten; have the flavor of overripe cheese. Sold in the markets of Acapulco and Colima. Grows on hillsides. Distributed.

3855.

From Colima, Mexico. Received through Dr. Edward Palmer, 1897.

Fruit edible and medicinal. This fruit has a watery taste with slight smoky tang and is black in color. The fruit and leaves are boiled in water and used as an astringent. Distributed.

3856-3859. THEOBROMA CACAO. Cacao.

These four numbers comprise a collection of samples of as many commercial grades of the roasted seeds. Further data in regard to them lacking.

3860. CUCUMIS? "Manila pie fruit."

From Oneida, N. Y. Received from Mr. Robert Albert, 1899.

It is not known where the seed of this plant originally came from, but Mr. Albert found it growing where general garden seeds had been planted. The plant is much like some of our melons and grows best on a sandy soil. The fruit is elliptical in shape, about the size of a large lemon, and has a thin, hard shell, which turns from green to yellow as it ripens. The flesh is milky white and resembles that of the apple in appearance. In a raw state the fruit is not particularly delicious, but as pie material or as a sauce it is very good.

3861. DIOSCOREA. Yam.

From Barbados. Received from Mr. A. A. Evelyln, through Messrs. Lathrop and Fairchild (No. 65), 1898.

"The so-called *Chinese* yam, said to be an excellent variety, but not so well thought of as some others. Should be planted like sweet potatoes and cooked or boiled exactly as potatoes are. They are excellent vegetables." (Fairchild.) Distributed.

3852. CUCUMIS SATIVUS.**Cucumber.**

From Saaz, Bohemia. Received through Messrs. Lathrop and Fairchild (No. 229), September, 1899.

Sauer Gurken or *salt pickle cucumber*. A native, medium long, very tough-rinded sort, suited especially for shipping purposes. Hundreds of tons are shipped from Saaz to points in Germany every year. It requires a clay loam and a mild climate. (Reprinted from Inventory No. 6.)

3863. SORGHUM VULGARE ?**Sorghum.**

From China. Received through Dr. H. W. Wiley, of the Division of Chemistry, September, 1899.

Kao Liang. Ten to 15 feet in height; growth similar to corn; stalk used for fuel and hedges; leaves stripped for fodder; grain extensively used for food and in the manufacture of alcohol.

3864. SESAMUM INDICUM.**Sesame.**

From China. Received through Dr. H. W. Wiley, September, 1899.

Chih ma. Seed extensively used on bread and cakes; also pressed into "chiang" for salad dressing or for use in cooking. Sesame oil, called "fragrant oil," is very commonly used in foods. The refuse left after oil extraction is used as a fertilizer.

3865. CHAETOCLOA ITALICA.**Millet.**

From China. Received through Dr. H. W. Wiley, September, 1899.

"One of the most common food materials of the region. Used most frequently as a thin porridge." Distributed.

3866. ZEA MAYS.**Corn.**

From China. Received through Dr. H. W. Wiley, September, 1899.

3867. PANICUM MILIACEUM.**Millet.**

From China. Received through Dr. H. W. Wiley, September, 1899.

Used as food, mostly in a thin porridge. Distributed.

3868. PHASEOLUS MUNGO.**Mung.**

From China. Received through Dr. H. W. Wiley, September, 1899.

3869. GLYCINE HISPIDA.**Soy bean.**

From China. Received through Dr. H. W. Wiley, September, 1899.

Black.

3870. GLYCINE HISPIDA.**Soy bean.**

From China. Received through Dr. H. W. Wiley, September, 1899. Distributed.

3871. PHŒNIX DACTYLIFERA.**Date.**

From Algeria. Received through Mr. Walter T. Swingle, October 10, 1899. Distributed.

3872. PHŒNIX DACTYLIFERA.**Date.**

From Algeria. Received through Mr. Walter T. Swingle, October 10, 1899. Distributed.

3873. PHŒNIX DACTYLIFERA.**Date.**

From Algeria. Received through Mr. Walter T. Swingle, October 10, 1899. Distributed.

3874. PHOENIX DACTYLIFERA.**Date.**

From Algeria. Received through Mr. Walter T. Swingle, October 10, 1899.

3875. VIOLA TRICOLOR.**Pansy.**

From New York. Presented by Mr. M. Beaulieu, of Woodhaven, N. Y., January 23, 1900.

Madame Perret. A new strain of giant pansy.

3876. RAPHANUS SATIVUS.**Radish.**

From Sakurajima, Japan. Received through the kindness of Mr. T. Okohira, secretary of the Japanese legation, Washington, D. C., October 11, 1899.

Daikon. A very choice and carefully selected winter radish, extensively used for food in Japan. This variety reaches perfection only in the extreme southern part of the country; it may accordingly be of use as a fall or winter crop in the Southern States. In Japan many methods of cooking and preserving are known, and if the vegetable is found to thrive in the South an account of these may be printed later and a larger amount of seed imported for distribution.

The following notes were furnished by Mr. Okohira regarding the methods of cultivation followed in Japan:

"This kind of radish grows in a small volcanic island named 'Sakurajima,' or 'Island of Cherry Blossoms,' in Kagoshima Bay, Kiushu, Japan. The climate there is generally warm and the soil is remarkably fertile, much like that of Florida and Georgia. Roots 3 feet in circumference are frequently produced, and the radish is noted for its excellent flavor. The seeds are planted about the end of September. The ground is carefully and deeply plowed, making the beds about 3 feet wide, while five or six seeds are planted together in spots 1 foot apart. In a garden containing one-fortieth of an acre it is practicable to apply a mixture of 200 to 300 pounds of artificial manures, and in a month after the vegetables sprout diluted night soil is used once or twice. The weak and sickly plants should be removed, thus leaving the finest one alone at each spot, and before they grow too large the ground should be hoed over a few times. The harvest usually takes place after a few frosts have occurred."

3877.**Palm.**

From Greytown, Nicaragua. Received through Mr. E. P. Alexander, October 17, 1899.

Coyal. Distributed.

3878.**Palm.**

From Greytown, Nicaragua. Received through Mr. E. P. Alexander, October 17, 1899.

Loillo. Distributed.

3879. GINKGO BILOBA.**Ginkgo.**

Seeds collected on the grounds of the United States Department of Agriculture, Washington, D. C., October, 1899. Introduced into this country from China or Japan seventy-five or eighty years ago.

This splendid deciduous tree attains a height of 60 to 70 feet. It has a straight trunk with a pyramidal head. The leaves are in tufts of four or five, surrounding a scaly terminal bud. They are fan shaped, leathery, with notched ends, and have numerous closely set forking veins like those of the maidenhair ferns. When ripe the seed has an outer fleshy covering, and a thin shell surrounding a somewhat gelatinous, oily kernel.

The seed may be planted in autumn in drills, and protected during the winter by a light covering. It is preferable, however, to plant in spring in like manner, the seed being kept over winter in a cool, dry place. The seedlings should be grown in the nursery row for two or three years and then planted permanently.

The ginkgo or maidenhair tree, as it is commonly called, is one of the cleanest and best for avenue planting. It makes a good shade, holds its foliage well, is less affected

by smoke than most trees, and thus far has been free from the ravages of insects. It seems to be perfectly hardy and is to be recommended especially for bordering avenues and for planting in parks.

3880. ELYMUS CONDENSATUS.**Rye grass.**

Data in regard to this number missing.

3881. PSORALEA DOUGLASSII.

From Berkeley, Cal. Received through Prof. Charles H. Shinn, 1899.

"Formerly confused with *P. macrostachya*. A common perennial species of moist places in the coast ranges of middle California. The stems are woody, straight, and tall, attaining a height of 8 to 10 feet and yielding a bast fiber which may prove of value for some purposes." (*Shinn.*)

3882. PSORALEA MACROSTACHYA.

From Berkeley, Cal. Received through Prof. Charles H. Shinn, 1899.

"A common species in the Sierra Nevada, much like *P. Douglasii*, but differing chiefly in the pubescence of the rachis. It produces long, straight shoots and yields a tenacious bast fiber." (*Shinn.*)

3883. CITRULLUS VULGARIS.**Watermelon.**

From Orlando, Fla. Received through Capt. E. A. Wilson, 1899.

Eureka. "Rich and sweet as sugar; the meat red clear out to the rind, and of a grainy, ice-cream consistency; the rind very thin with variegated stripes; the smallest melons are inclined to be round, while larger ones are oblong. The seeds are of a dark-brown color, and in size and shape precisely like an apple seed; no larger." (*Wilson.*)

3884 to 3889.

From Honolulu, Oahu, H. Ty. A collection of seeds originally from China, presented by Hon. Byron O. Clark, of Wahiawa, Oahu, October, 1899.

3884. *GLYCINE HISPIDA.* Distributed.

Soy bean.

Yellow.

3885. *GLYCINE HISPIDA.* Distributed.

Soy bean.

Black.

3886. *GLYCINE HISPIDA.* Distributed.

Soy bean.

Green.

3887. *VICIA FABA?*

Horse bean?

Isando.

3888. *VIGNA CATJANG.* Distributed.

Cowpea.

Blue bean.

3889. *VIGNA CATJANG.* Distributed.

Cowpea.

Red bean.

3890. TRITICUM COMPACTUM.**Wheat.**

From Oregon. Received through Mr. J. E. David, of Croy, Gilliam County.

Little Club. A variety extensively grown in the Northwest. Distributed.

3891. ANDROPOGON RUFUS.**Jaragua.**

From Brazil. Presented by the Brazilian Minister, Dr. J. F. De Assis-Brasil, October 25, 1899.

"A perennial grass, native of the State of Matto Grosso. Now cultivated in Minas, São Paulo, and Rio. It quickly chokes out all other vegetation, including the per-

sistent *Sape*. It reproduces itself readily, both by seeds and creeping rhizomes. The stems grow to a height of 12 feet at the time of flowering. As the stems are at that time rather hard, it is best to pasture the meadow occasionally in order to keep down the flowering stalks. An analysis made by Dr. Travassos indicates a higher percentage of protein and carbohydrates than in the best leguminous forage plants, but for the purposes of this note it is sufficient to say that this indigenous grass produces an extremely rich forage." (*De Assis-Brasil; Cultura dos Compos, p. 340.*)

3892. PHYSALIS.

From Mexico. Received through Dr. Edward Palmer, October 15, 1899.

3893. FICUS CARICA.

Caprifig.

From Loomis, Cal. Received through Mr. W. T. Swingle, October, 1899.

"Seems the most promising variety out of a hundred or more grown from seeds of Smyrna figs by Mr. Maslin, since in October it showed young figs still forming, and very possibly would carry many of these through the winter if the *Blastophaga* were present to cause the gall flowers to develop." (*Swingle.*) Distributed.

3894. DIOSCOREA.

Yam.

From Chinatown, San Francisco, Cal. Received through Mr. W. T. Swingle, November, 1899.

Tsamtsi. Distributed.

3895. CRYPTOMERIA JAPONICA.

Cryptomeria.

From the United States Botanic Garden, Washington, D. C. Received through Mr. William R. Smith, November 8, 1899.

A beautiful ornamental evergreen from Japan. Distributed.

3896. HEVEA GUIANENSIS.

Para rubber.

From the United States Botanic Garden, Washington, D. C. Received through Mr. William R. Smith, November 8, 1899.

A tall euphorbiaceous tree native of the Amazon Valley, in Brazil. It is the source of the Para rubber of commerce. Distributed.

3897. CANANGA ODORATA.

Ilang-ilang.

From the United States Botanic Garden, Washington, D. C. Received through Mr. William R. Smith, November 8, 1899.

A tree native of the Philippine Islands. An essential oil used in perfumery is distilled from the flowers. Distributed.

3898. QUERCUS CERRIS.

English mossy-cup oak.

Collected on the grounds of the Botanic Garden, Washington, D. C., November 8, 1899.

A splendid tree for park and street planting south of the latitude of Washington, D. C. Distributed.

3899. GOSSYPIMUM BARBADENSE.

Cotton.

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 278), November 13, 1899. Seeds submitted to Mr. H. J. Webber for experiments in crossing cotton varieties.

"*Stamm's No. 1.* "Variety of Egyptian white cotton, selected by Christian Stamm; prized very highly by originator and predicted as a great success. Not yet in the market and only a few hundred seed existing." (*Distributed.*) (Reprinted from Inventory No. 6.)

3900. GOSSYPIUM BARBADENSE.**Cotton.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 279), November 13, 1899. Seeds submitted to Mr. H. J. Webber for experiments in crossing cotton varieties.

Stamm's No. 2. "Variety of Egyptian white cotton, selected by Christian Stamm; prized very highly by the originator and predicted as a great success. Not yet in the market and only a few hundred seed existing." (*Distributed.*) (Reprinted from Inventory No. 6.)

3901. GOSSYPIUM BARBADENSE.**Cotton.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 280), November 13, 1899. Seeds submitted to Mr. H. J. Webber for experiments in crossing cotton varieties.

Stamm's No. 3. "Variety of Egyptian white cotton, selected by Christian Stamm; prized very highly by the originator and predicted as a great success. Not yet in the market and only a few hundred seed existing." (*Distributed.*) (Reprinted from Inventory No. 6.)

3902. CUCURBITA PEPO.**Squash.**

From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 258), November 14, 1899.

Barrucca. "The so-called 'Zucca,' a kind of squash grown to perfection in Venice and forming a favorite dish of the people. It is baked like the Hubbard squash in America, and eaten without even salt or pepper." (Reprinted from Inventory No. 6.)

3903. CUCURBITA PEPO (?)**Squash.**

From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 259), November 14, 1899.

"Sample seeds of a variety of squash or Zucca called 'Santa.' A long, slender, very large variety, shaped much like a sausage, and sometimes 5 feet long. This is considered best for making puddings and preserves. It is sweeter than the variety Barrucca. Both of these varieties are said to deteriorate rapidly when grown outside of Venice." (*Distributed.*) (Reprinted from Inventory No. 6.)

3904. CAPSICUM ANNUM.**Sweet pepper.**

From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 260), November 14, 1899.

Peperonc dolce quadrato. "Italian sweet pepper from the lagoon island of Lido in Venice. A medium-sized red pepper of truncated pyramidal shape, 1½ inches in diameter." (*Distributed.*) (Reprinted from Inventory No. 6.)

3905. CAPSICUM ANNUM.**Sweet pepper.**

From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 261), November 14, 1899.

"Italian sweet pepper from the lagoon island of Lido in Venice. Large, 2 inches in diameter, orange-yellow, persimmon-shaped, sweet pepper. No varietal name." (*Distributed.*) (Reprinted from Inventory No. 6.)

3906. HIBISCUS ESCULENTUS.**Okra.**

From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 262), November 14, 1899.

"Grown from seed imported from Constantinople into Venice; from the monastery of San Lazare. To test in comparison with ordinary okra in Louisiana." (*Distributed.*) (Reprinted from Inventory No. 6.)

- 3907. CAPSICUM ANNUUM. Red pepper.**
 From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 263), November 14, 1899.
 "Long dark-red variety, the common one in Venice, from the monastery of San Lazare." (*Distributed.*) (Reprinted from Inventory No. 6.)
- 3908. BRASSICA OLERACEA. Cauliflower.**
 From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 264), November 14, 1899.
 "Seed of a noted cauliflower grown on the Giudecca, an island in Venice; bought from a peasant." (*Distributed.*) (Reprinted from Inventory No. 6.)
- 3909. BRASSICA OLERACEA. Cabbage.**
 From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 265), November 14, 1899.
 "Seed of a famous cabbage grown on the island of Giudecca in Venice. Bought from a peasant." (*Distributed.*) (Reprinted from Inventory No. 6.)
- 3910. ALLIUM CEPA. Onion.**
 From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 266), November 14, 1899.
 "Seed of an excellent variety of onion 3 inches in diameter. Similar to the *Tripoli* onion of Vilmorin's Vegetable Garden." (Reprinted from Inventory No. 6.) *Distributed.*
- 3911. CUCURBITA PEPO. Vegetable marrow.**
 From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 267), November 14, 1899.
Zuccini. "Seed of a variety of gourd or vegetable marrow, grown to especial perfection in Venice. The fruits are picked when only 2 inches long and cooked in various ways; fried in oil and tomatoes, fried with eggs, etc., much as egg plants are treated. Said to be of very delicate flavor. The culture is the same as for cucumbers. The young fruit alone being removed, the plant flowers for a long time." (Reprinted from Inventory No. 6.)
- 3912. PRUNUS PERSICA. Peach.**
 From Venice, Italy. Received through Messrs. Lathrop and Fairchild (No. 268), November 14, 1899.
 "Peach pits from the noted Venetian peaches which are shipped to Vienna in large numbers every year. From trees grown on the island of Giudecca. The fruits are of very good form, color, and taste; are freestones with white flesh. Trees grow well on rich shallow soil of the island. For breeding, may be useful." (*Fairchild.*) *Distributed.*
- 3913. SOLANUM MURICATUM. Chili pepino.**
 From Los Angeles, Cal. Presented by Mr. Elmer Stearns, November, 1899.
- 3914. FICUS CARICA. Caprifig.**
 From Keggir, Calabria. Presented by C. Sprenger, through W. T. Swingle, Italy, November, 1899.
 Seeds from wild caprifig trees. *Distributed.*
- 3915. SOLANUM TORVUM.**
 From Italy. Presented by Commodore T. Hanbury, of La Mortola, Ventimiglia.

3916. SOLANUM BETACEUM.

From Italy. Presented by Commodore T. Hanbury, of La Mortola, Ventimiglia.

3917. VIOLA GLABELLA.**Violet.**

From Botanic Gardens, Berkeley, Cal. Received through Messrs. Lathrop and Fairchild (No. 1), December 3, 1898.

A native of California, said to be very beautiful. Distributed.

3918. ISOMERIS ARBOREA, GLOBOSA.

From Botanic Gardens, Berkeley, Cal. Received through Messrs. Lathrop and Fairchild (No. 2), December 3, 1898.

A caper from the region of Death Valley; a curious and rather decorative shrub suitable for gardens in Florida and other frost-proof regions.

3919. SOLANUM LACINIATUM.

From Botanic Gardens, Berkeley, Cal. Received through Messrs. Lathrop and Fairchild (No. 3), December 3, 1898.

Purple-flowered Solanum with small globular edible fruit; small shrub. Introduced from New Zealand. Distributed.

3920. TACSONIA MOLLISSIMA.

From Botanic Gardens, Berkeley, Cal. Received through Messrs. Lathrop and Fairchild, December 3, 1898.

Fruit edible; a reasonably hardy and vigorous vine, growing wherever Eucalyptus trees do in California. This is a promising species, and should be grown in Florida.

3921. VITIS VINIFERA.**Grape.**

From Italy. Received through Messrs. Lathrop and Fairchild (No. 269), November 18, 1899.

The *Sultanina rosea*, *seedless raisin grape*, was procured at Saonara, near Padua.

"This grape, though a fairly good table sort, and worthy of cultivation for this purpose, is primarily for raisin production, and will meet with the keenest appreciation from raisin growers. The story of the mother plant from which these were taken is that a certain Signor Santonetti, a wealthy Roman gentleman, formerly major-domo of the Pope, gave a friend several plants ten years ago, taken from specimens in the gardens of the Vatican. The truth of this story I do not vouch for, and think it more probable that the grape was introduced from Smyrna by the Armenian monks, who have a large monastery near Saonara, and are constantly going and coming between Asia Minor and Italy. My attention was called to the grape by Father Giacomo Issanerdeus, an Armenian monk of San Lazare. The grape is a vigorous grower, and a moderately heavy producer, I am told. Like certain Riessling varieties, it often flowers two or three times a year. On the old mother plant I saw at Saonara there were blossoms, young grapes, and matured bunches. The bunches are 12 to 16 inches long, loose, with ovate or elliptical, rose-colored berries, which are seedless so far as my observation goes, only occasional rudimentary seeds being met with. Regarding the flavor, I can report from hearsay that it is excellent, very sweet and juicy. From personal experience with *unripe* bunches, it does not appear to be superior to many other sorts. The fruit ripens here in September, and by the 20th all the ripe bunches had been picked, and only a few green ones in the deep shade were obtainable. The young plants sent are grafted on resistant American stocks, and when seen in the nursery were not in a rapidly growing condition, too large grafting wood having been taken. This grape should be given the most serious attention, both by raisin growers and breeders of new varieties, as it has remarkable possibilities. That it has not become more generally known in Italy may be explained by the fact that no raisins to speak of are made in this part of the country and the Italian vine grower is bound by tradition and will plant no new sorts. The Sultanina vines thrive in rich, sandy soil, receive only stable manure, resist drought very well, and are pruned and trimmed in the ordinary ways. An abundance of sunlight is required." (*Fairchild.*) (*Distributed.*) (Reprinted from Inventory No. 6.)

3922. ATRIPLEX SEMIBACCATA. Australian saltbush.

From California. Grown by the California Experiment Station, Berkeley, Cal., season of 1899. Received November 20, 1899. (See F. B. No. 108.) Distributed.

3923. ASTRAGALUS SINICUS. Genge clover.

From Japan. Presented by Mr. Peter Barr, of London, England. Received November 23, 1899.

"This is a clover-like plant with red and white flowers. Seeds are sown in October in the fields on which rice has been grown. It flowers in April and May and is turned under as green manure. It is a great nitrogen catcher, the roots being covered with nodules. It may be cut three times in the season for hay." (Barr.) (See No. 3725.) Distributed.

3924. GOSSYPIUM HERBACEUM. Cotton.

From China. Presented by Mr. G. D. Brill, of Wuchang, China. Collected by Mr. A. W. Danforth, of Shanghai. Received November 23, 1899. A yellow cotton grown along the coast south of Shanghai.

3925. ATRIPLEX HALIMOIDES. Gray saltbush.

From California. Received November 27, 1899. Seed grown under the direction of Professor Shinn, of the California Agricultural Experiment Station, during the season of 1899. (See F. B. No. 108.) Distributed.

3926. ATRIPLEX LEPTOCARPA. Slender saltbush.

From California. Received November 27, 1899. Seed grown under the direction of Professor Shinn, of the California Agricultural Experiment Station, during the season of 1899. (See F. B. No. 108.) Distributed.

3927. EDWARDSIA GRANDIFLORA.

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899. Presented by the California Experiment Station.

"This is a very beautiful New Zealand tree, often classed as *Sophora tetraptera grandiflora*. It is a deciduous, free-flowering, small tree with attractive and characteristic pinnate foliage. The flowers are golden green, tubular, about 2 inches long, appearing in pendulous racemes. It is one of the best of the *Sophora* group. Introduced into California by Dr. S. M. Curl, of New Zealand. Half-hardy; does not need much water. A fine sidewalk tree, and probably long-lived." (Shinn.)

3928. MAYTENUS BOARIA.

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899. Presented by the California Experiment Station.

"This is a small-leaved evergreen tree, native of Chile, graceful in appearance and having fragrant white flowers. Altogether a charming tree for lawn or garden." (Shinn.)

3929. CRYPTOCARYA MIERSII.

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899. Presented by the California Experiment Station.

"This is a rare and beautiful broad-leaved evergreen belonging to the laurel family. It is an attractive and rather fast-growing lawn tree, fruiting when 15 feet or so in height, and probably not becoming more than 30 feet high. The fragrance of the leaves, though peculiar, is to most people very attractive. The large nuts contain starch and saponin in such quantities that if the tree were common it might possibly have a distinct commercial value. The seeds offered are from a tree grown at Niles, Cal., from Chilean seed obtained through Mr. G. P. Rixford, of San Francisco. They seem to sprout as easily as a buckeye." (Shinn.)

3930. PHASEOLUS.**Bean.**

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899.
Presented by the California Experiment Station.

"*Irvine's Hybrid Perennial Bean.* This is a cross between Painted Lady and Melde's Perennial, made on the experiment station grounds. In California the roots have remained for ten years, and are still thriving. Shoots come up every year from these large, fleshy roots and cover a trellis. The bean is of high quality, and has proved very popular in southern California for garden purposes. If the roots were heavily protected with earth and straw they should endure a northern winter." (*Shinn.*)

3931. PYRETHRUM ROSEUM.**Pyrethrum.**

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899.
Presented by the California Experiment Station.

"This is the red-flowered Persian insect powder plant." (*Shinn.*)

3932. PYRETHRUM CINERARIFOLIUM.**Pyrethrum.**

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1889.
Presented by the California Experiment Station.

"This is the species known as 'Buhach' in California, and is the Dalmatian variety, the seed of which is quite difficult to obtain. It appears in few catalogues, and sold last year at \$5 or \$6 a pound." (*Shinn.*)

3933. LINUM USITATISSIMUM.**Flax.**

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899.
Presented by the California Experiment Station.

"California flax (large flowered). This is a fine, showy variety, grown locally for seed alone, and considered distinct from any imported sort." (*Shinn.*)

3934. ATRIPLEX HORTENSIS.**Orach.**

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899.
Grown by the California Experiment Station, 1899.

"This is a giant form of the common 'Orach,' the seed of which was sent to California from the Algerian Experiment Station, Algiers. It has not proved as valuable as the Australian perennial species for fodder purposes, but it has made an immense growth, is very hardy, and doubtless will be useful as a vegetable." (*Shinn.*)

3935. LUPINUS ANGUSTIFOLIUS, CÆRULEUS.**Blue lupin.**

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899.
Presented by the California Experiment Station.

"This lupin, the common European blue, was grown at the Pomona substation, and proved absolutely free from the fungoid disease that last season destroyed many of the plants from imported seed." (*Shinn.*)

3936. IRIS PABULARIA.

From Berkeley, Cal. Received through Mr. C. H. Shinn, November 27, 1899.
Presented by the California Experiment Station.

"This plant comes from central Asia and was recommended for fodder by the late Baron von Mueller. It seems to stand much drought; seeds very readily." (*Shinn.*)

3937. FICUS CARICA.**Caprifig.**

From Reggio, Italy. Received through Mr. W. T. Swingle, November 28, 1899.
Presented by Mr. C. Sprenger.

Green; very late variety. This number comprises seeds, which are rare in caprifigs. Distributed.

3938. PANAX QUINQUEFOLIUM.**Ginseng.**

From Apulia Station, New York. Received December 1, 1899.

Ginseng seeds are said to require eighteen months for germination, and must be kept moist during the entire period. The roots are exported in great quantities into China, where they are used for medicinal purposes. Distributed.

3939. NICOTIANA TABACCUM.**Tobacco.**

From Cuba. Presented by Dr. William Trelease, Director of the Missouri Botanical Gardens, St. Louis, Mo., November, 1899.

This seed is a part of a supply obtained by the British Government in Cuba for use in Jamaica, and sent to Dr. Trelease by William Fawcett, Director of the Botanic Gardens in Jamaica. Distributed.

3940.**Orchid.**

From Porto Rico. Received through Mr. O. F. Cook, December 1, 1899.

Sent to Henry Pfister, gardener, Executive Mansion, Washington, D. C. Distributed.

3941. BETA VULGARIS.**Sugar beet.**

From France. Received through Messrs. Vilmorin-Andrieux & Co., December, 1899.

White improved (Vilmorin, France). Imported for use in cooperative experiments during 1900, under the direction of the Division of Chemistry, United States Department of Agriculture, Washington, D. C. Distributed.

3942. BETA VULGARIS.**Sugar beet.**

From Germany. Received through Ad. Strandes, December, 1899.

Zehringen (Strandes, Germany). Imported for use in cooperative experiments during 1900, under the direction of the Division of Chemistry, United States Department of Agriculture, Washington, D. C. Distributed.

3943. BETA VULGARIS.**Sugar beet.**

From Russia. Received through Dr. Mrozinski, of Podolien, March, 1900.

Kleinwanleben (Mrozinski, Russia). Seeds from beets grown on clay soil. Imported for use in cooperative experiments during 1900, under the direction of the Division of Chemistry, United States Department of Agriculture, Washington, D. C. Distributed.

3944. BETA VULGARIS.**Sugar beet.**

From Germany. Received through Dippe Brothers, December, 1899.

Kleinwanleben (Dippe, Germany). Imported for use in cooperative experiments during 1900, under the direction of the Division of Chemistry, United States Department of Agriculture, Washington, D. C. Distributed.

3945. CUCUMIS MELO.**Winter muskmelon.**

From Utah. Grown from seed No. 114, imported from Khiva, Turkestan, by Prof. N. E. Hansen.

Khiva. Sow in hills and cultivate like other melons. Irrigate sparingly. After vines have four leaves pull up all but three or four of the healthiest plants in each hill. Allow only one melon to ripen on each vine, pinching off all but the first fruit to set. Cut the melon from the vine just before the autumn frosts, leaving 3 inches of stem attached to the fruit. Handle carefully and store in cool, dry place, but protect from frost until the melon ripens, about Christmas or later. The Khiva melon is shaped like a watermelon, without longitudinal furrows. The melons are 12 to 20 inches long and 8 to 10 inches in diameter, weighing 10 to 25 pounds; dark green at first, later becoming striped with dull lemon yellow. When fully ripe the stem will drop off, showing a yellow spot underneath. Flesh thick, crisp, yellowish green to

rich, creamy yellow, with a fine, characteristic, somewhat aromatic flavor. This melon seems to be well adapted to the dry regions of the West, but has not yet been successfully grown in the East. It is a promising novelty and may find a place in the fruit market. Our correspondents are accordingly advised to save the seed and avoid intermixture with the ordinary muskmelons.

3946. CUCUMIS MELO.**Winter muskmelon.**

From Green River, Utah. Presented by Mr. J. F. Brown, December, 1899. American grown seed of No. 116, originally imported from Turkestan by Prof. N. E. Hansen.

Twentieth Century. Larger than the *Khiva*, and with a different flavor. Distributed.

3947. ORYZA SATIVA.**Rice.**

From Louisiana. Grown in southwestern Louisiana in 1899, from seed imported from Kiushu, Japan, in 1898.

Kiushu. This is a lowland rice, suitable only for growing under irrigation. The methods of cultivation are the same as for other strains of lowland rice. This variety has a short, hard grain. In Louisiana it has proved to be about 25 per cent more productive than the Honduras rice, and the loss through breakage of the grains in the process of milling was only 14 to 18 per cent as opposed to 40 to 60 per cent in the case of the common field rice.

Reports received from the rice districts along the coast from Georgia to North Carolina indicate that the Kiushu rice requires a longer season for maturity than the common field rices of that region. Hence, it will be advisable to plant this seed at least two weeks earlier than the general crop throughout this section. In South Carolina the Kiushu rice is reported as no better than the Gold Seed. The Kiushu rice, so far as tried, seems to be best adapted to Louisiana and Texas. Distributed.

3948. SAPIUM BIGLANDULOSUM.**Tolima rubber.**

From Colombia. Received December 4, 1899.

This rubber is known in commerce as *Colombia virgin*. It has been exported chiefly to the United States, and, next to Para rubber, has realized the best prices in the market. Under cultivation, this tree thrives admirably, growing with great rapidity, averaging about 5 feet a year. Crops are obtainable in from six to eight years, but a tree 5 years old yields as much as 1 pound of rubber. It is a large forest tree, the trunk attaining 6 and 7 feet in circumference. Four arrotas of rubber have been extracted from a single tree, but the average yield is much less. (See No. 3820.) Distributed.

3949. ZEA MAYS.**Corn.**

From Haiti. Received through Hon. A. M. Thackara, United States consul at Havre, France.

This Haitian corn from Petit Gouaives is sold in Havre at 63.7 cents per bushel of 56 pounds, duty paid. Consul Thackara states that there is considerable demand for corn of this grade in the French markets. It is a yellow flint corn. Should be tried from North Carolina to Florida.

3950. ORYZA SATIVA.**Rice.**

From Illinois. Presented by Dr. N. Robinson, of Canton, Mo. Received December 12, 1899.

An upland rice grown in central Illinois. Prof. S. A. Knapp, of Louisiana, makes the following statements concerning it: "This would not sell, as a milling rice, for enough to pay for production. There is about 20 per cent of immature rice in it. The grains are variable in size, the hulls thick and exceedingly tenacious. After the hull has been removed the kernel is small, and I think you will find its quality differing materially from ordinary rice. The rice we produce in Louisiana, called Providence rice, depending upon rainfall, frequently presents an appearance much like this in the first two points named. I do not believe that there is a 'highland' variety of first quality anywhere in the world, nor can it be made profitable for milling purposes. Rice can be produced as far north as Chicago, provided a variety

can be secured that will mature in ninety days, but cold weather is destructive to rice during the period of bloom and later. I think the north of China, somewhat in the interior, would be the place to secure such seed rice." Distributed.

3951. RHIZOPHORA MANGLE.**Mangrove.**

From Florida. Received through Mr. Frank Dean, Miami, Fla., December 13, 1899.

This is the characteristic tree of the coastal swamps and mud flats in southern Florida. Distributed.

3952. VICIA FABA, EQUINA.**Horse bean.**

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger; received December 1, 1899.

"The horse bean (called fèvevole by the French) is frequently cultivated in north Africa both as a forage plant and for green manure. According to Dr. Trabut, the small seeded varieties are much better for forage plants, inasmuch as they produce taller and more leafy plants. In north Africa the horse beans are sown in autumn, and on account of their having stiff stems are often used to support more slender forage plants, such as the climbing Narbonne vetch (*Vicia narbonensis*). When so grown together 1 kilogram of vetch is sown to 4 kilograms of the horse bean. The Fenugrec (*Trigonella foenum-graecum*) is also cultivated in north Africa in connection with the horse beans." (*Swingle.*) Distributed.

3953. PHALARIS NODOSA.

From Algeria. Donated by Dr. L. Trabut, government botanist. Received December, 1899.

A perennial grass which bears swollen root stocks or tubers just below the surface of the ground. It is propagated principally by means of these tubers. The variety *hirtiglumis* has proved to be a valuable forage plant at Rouïba. It should be tested in Washington and other regions where *Phalaris arundinacea* has succeeded. Distributed.

3954. VICIA BENGALENSIS.**Bengal vetch.**

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger. Received December 1, 1899.

"A vigorous vetch which does very well at the Rouïba experiment station. It somewhat resembles the native Algerian scarlet vetch." (*Swingle.*)

3955. ALBIZZIA LEBBEK.**Lebbek.**

From Egypt. Received through Messrs. Lathrop and Fairchild, December 12, 1899. (See No. 3988; also Div. Bot. Circ. 23.)

3956. MELILOTUS MACROSTACHYS.**Sweet clover.**

From Algeria. Presented by Dr. L. Trabut, government botanist of Algeria. Received December, 1899.

"This sweet clover, unlike most of the others of this genus, has no discernible odor and is readily eaten by stock. It is a native north African species, which may be readily cultivated. It grows irregularly, is early, and yields from 16 to 24 tons of green forage to the acre. It grows from 4 to 6 feet high." (*Swingle.*) Distributed.

3957. PENNISETUM RUPELLIANUM.

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger. Received December 1, 1899.

"This grass, recently introduced into north Africa from Abyssinia, grows larger than *Pennisetum villosum* and is a better forage plant. This plant, which does not suffer from drought, yields seed which may prove valuable. It shows a tendency to become wild in north Africa." (*Trabut.*) Distributed.

3958. DALEA ASTRAGALINA.

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger. Received December, 1899. Distributed.

3959. HEDYSARUM CORONARIUM.**Sulla.**

From Algeria. Presented by Dr. L. Trabut, government botanist. Received December, 1899.

"This leguminous plant, used both for forage and green manure, is much prized in Italy. It is a perennial or biennial. It is said to do best on marl lands and succeeds on deep cold soils. The roots penetrate very deeply—6 feet or more.

Dr. Trabut thinks it is best to sow decorticated seeds at the rate of 10 to 15 pounds to the acre. Many have found it difficult to secure a good stand of sulla and recommend sowing the seed in the husk on wheat stubble and then burning the stubble. The heat is said to facilitate germination. In Algeria it may be sown in autumn before the first rains, and if it germinates well the plant develops enough to be cut the following May. During the following summer the old plants are allowed to go to seed, and at the end of the first year there is a good stand in part composed of the 1-year-old plants and partly of the young seedlings. When well established sulla is said to yield from 40 to 90 tons of green forage to the acre. In Italy it is frequently used in rotations. One which has been successful on the domain of Cologne, near Venice, is a 6-year rotation arranged as follows:

First year, corn with manure; second year, wheat with sulla; third year, sulla with forage; fourth year, wheat with sulla; fifth year, sulla with green manure; sixth year, wheat.

In some parts of Italy sulla succeeds well on sandy loams containing very little lime, but it is highly probable that it will not succeed in soils which entirely lack lime. Most authors agree that it is necessary to have the land free from weeds and very well prepared in order to get a good stand of sulla. In north Africa and in Cyprus it is frequently sown in early spring, which may be found necessary in this country in the cooler regions, where the young plants may be hurt by frosts in winter. It is sensitive to cold and probably will not succeed to the north of the limits of olive and fig culture." (*Swingle.*) Distributed.

3960. ATRIPLEX NUMMULARIA.**Round-leaved saltbush.**

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger; received December 1, 1899. Distributed.

3961. HEDYSARUM PALLIDUM.

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger; received December 1, 1899.

"This is a native north African forage plant which resembles sulla. It is not so promising, but, like the other north African species, shows a remarkable root development. It thrives on steep side hills and has been recommended for trial in olive orchards for green manure." (*Swingle.*) Distributed.

3962. PYRETHRUM MYCORIS.**Pyrethrum.**

From Algiers. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger; received December 1, 1899. Distributed.

3964. TRISSETUM.

From Lima, Peru. Presented by Dr. Carlos Cisneros, December 15, 1899. Distributed.

3965. TRISSETUM.

From Lima, Peru. Presented by Dr. Carlos Cisneros, December 15, 1899. Distributed.

3966. CALAMAGROSTIS.

From Lima, Peru. Presented by Dr. Carlos Cisneros, December 15, 1899. Distributed.

3967. FESTUCA.

From Lima, Peru. Presented by Dr. Carlos Cisneros, December 15, 1899. Distributed.

3968.

From Lima, Peru. Presented by Dr. Carlos Cisneros, December 15, 1899. Mixture of grass seeds. Distributed.

3969. TRITICUM VULGARE.**Wheat.**

From Lima, Peru. Presented by Dr. Carlos Cisneros, December 15, 1899. "This wheat is from an altitude of 11,000 feet." (*Cisneros.*) Distributed.

3970. RUMEX HYMENOSEPALUS.**Canaigre.**

From Arizona. Received through Prof. R. H. Forbes, Tucson, Ariz., December 15, 1899. Distributed.

3971. LACTUCA.**Lettuce.**

From Edfu, Egypt. Received through Messrs. Lathrop and Fairchild (No. 290), December 28, 1899.

Arabic *Khass*. A sample of seed of a lettuce used for the preparation of oil. The culture is extensive in Egypt, and the method of making the oil is quite similar to that for the sesame oil. (See description under No. 3972.) The oil is considered by the natives as inferior to sesame, whether in quality or yield I was unable to make out. Mr. George Bonaparte of the Agricultural College of Cairo says it is an excellent table oil. (Reprinted from Inventory No. 6.)

3972. SESAMUM INDICUM.**Sesame.**

From Edfu, Egypt. Received through Messrs. Lathrop and Fairchild (No. 291), December 28, 1899.

Simsim. The seed is sown in rotation with sorghum, often while the sorghum is ripening, between the rows. The land is irrigated once, immediately after sowing, and a second time when 2 inches high. No more water is then applied to the crop. The plants thrive on poor land. Planted here in November, the crop ripens in four months. The plants are cut green and exposed to the sun until dry. The seed is thrashed with flails, ground fine, and put in collapsible baskets of matting, 1 foot in diameter. These baskets, full of sesame meal, are piled up one on the other under a screw press, and vertical pressure is applied until the oil flows out and is collected in a small pit below the press. The oil sells in Egypt for about \$8.50 per 100 pounds. It is used as a table oil, but is considered inferior to olive oil. (Reprinted from Inventory No. 6.)

3973. CICER ARIETINUM.**Garbanzos.**

From Edfu, Egypt. Received through Messrs. Lathrop and Fairchild (No. 292), December 28, 1899.

This is a red variety. The seeds are roasted and eaten like peanuts by the native farming class. They taste not unlike popcorn. The roasted peas are also used in soups. Roasted in the green state they are said to be the most delicate. The vines are dried and fed to cattle; said also to be an excellent fodder crop; grown extensively in Upper Egypt. Seed planted 5 or 6 inches apart, drilled, or sown broadcast. In places overflowed by the Nile it needs no watering, but is sown after the subsidence of the water and left to take care of itself. On irrigable land it is watered when sown, again when in flower, and a third time when the seeds are being formed. One 'fedan' (about 1.1 acres) yields a profit of \$20, according to the statement of a large land owner of Edfu. About 27 bushels of seed are produced per 'fedan.' (Reprinted from Inventory No. 6.) Distributed.

3974. CUCURBITA PEPO.**Vegetable marrow.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 293), December 28, 1899.

A green variety. In Egypt the seeds are planted $2\frac{1}{2}$ inches deep, 2 seeds in a hill on the sides of an irrigated embankment; the hills 3 by 5 feet apart. A small quantity of pigeon manure is first buried in the hill and the seeds are planted above it. This process is used for winter culture as the pigeon manure is heating. Plants yield fruits beginning with the fortieth to fiftieth day for three and one-half months. The fruits are stuffed with chopped meat and served. (Reprinted from Inventory No. 6.)

3975. CUCURBITA PEPO.**Vegetable marrow.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 294), December 28, 1899.

An excellent white variety. For culture see No. 3974. (Reprinted from Inventory No. 6.)

3976. CAPSICUM ANNUM.**Sweet pepper.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 295), December 28, 1899.

Thin-skinned, indigenous variety of sweet pepper, $2\frac{1}{2}$ inches in diameter, and of excellent flavor. Shape, flattened oblong. Plants 3 feet high, perennial in a warm country; will stand slight frosts. (*Distributed.*) (Reprinted from Inventory No. 6.)

3977. CAPSICUM ANNUM.**Red pepper.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 296), December 28, 1899.

A very hot red pepper, oblong in shape, 3 inches long, and bright red in color. It is perennial, many seeded, and thin skinned. (*Distributed.*) (Reprinted from Inventory No. 6.)

3978. CORCHORUS OLITORIUS.**Edible jute.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 297), December 28, 1899.

Seeds sown and cultivated just like those of jute, broadcasted thick together in beds. It is ready to cut in 40 to 50 days and may be cut twice. The dried leaves are powdered and used for thickening soups, or chopped green, exposed to the sun for a few hours, and then cooked, forming a very thick mucilaginous soup. It forms a favorite dish of the Egyptian peasants, probably because of its cheapness. (Reprinted from Inventory No. 6.)

3979. HIBISCUS ESCULENTUS.**Okra.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 298), December 28, 1899.

A long-fruited, native Egyptian variety. According to Mr. G. Bonaparte, of the Agricultural College of Gizeh, this is a more succulent sort than No. 3980. (Reprinted from Inventory No. 6.)

3980. HIBISCUS ESCULENTUS.**Okra.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 299), December 28, 1899.

"Short-fruited variety." Reported to be a heavier cropper than No. 3979. A French seedsman has just ordered 200 tons of seed of this variety. Preferred by the natives for drying purposes when young; very hardy. The young fruits, one-half to three-quarters of an inch long, are strung on strings and dried. In this state they are kept indefinitely. This variety is reported the best for this purpose. Sow 4 or 5 seeds in hills 1 foot apart, on ridges $2\frac{1}{2}$ to 3 feet apart. Okra is often planted as a mixed crop with cotton. (Reprinted from Inventory No. 6.)

3981. ERUCA SATIVA.**Rocket salad.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 300), December 28, 1899.

Seed broadcasted. Forty days until harvest. Said to be an excellent Egyptian variety.

"A low-growing plant with leaves like those of the radish. Stem erect, smooth, and branching; flowers rather large, white or yellow, veined with violet; seed vessels cylindrical, with three not very prominent ribs on each side; seeds brown, smooth, and somewhat flattened. The seed is sown in the open ground from April to the end of summer, and the leaves may be cut in about six weeks or two months. In spring or autumn fresh leaves are abundantly produced after cutting, but in midsummer the plants run to seed rapidly. Frequent waterings are useful in keeping the leaves tender, and in modifying the flavor, which is very strong and somewhat like that of horse-radish. The young leaves are eaten as salad." (*Vilmorin*.) (Reprinted from Inventory No. 6.)

3982. LUFFA CYLINDRICA (?).**Sponge gourd.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 301), December 28, 1899.

This is a very pretty perennial creeper for trees or trellises. It requires little care and forms a luxuriant foliage. The blossoms are much sought by honey bees. When sown in March in France it yielded fruits in July. When young the fruits are pickled like cucumbers, or fried. The mature fruits contain a tough skeleton of the greatest convenience, when dried and split open, as a scrubbing brush for bath or kitchen. Although a perennial, it is grown as an annual preferably, as the fruits which are grown the first year are larger. It is very profitable as a small crop in Egypt. The plant requires plenty of water and is easily propagated by layering. Most native houses are provided with the skeletons of this gourd for domestic purposes. Hats and various other articles of apparel are manufactured from Luffa fiber. (Reprinted from Inventory No. 6.)

3983. LACTUCA SATIVA.**Lettuce.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 302), December 28, 1899.

Grown in Upper Egypt exclusively for oil production. Sown broadcast in beds and left to seed. Oil is pressed from the ground seed precisely as from cotton seed. The yield of oil is 200 kilos per 4,200 square meters, or from 9 to 11 pounds per bushel of seed. The oil is an excellent substitute for olive oil. (Reprinted from Inventory No. 6.)

3984. BRASSICA RAPA (?).**Strawberry spinach.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 303), December 28, 1899.

Leaves of the Strawberry spinach are used as a salad, especially on account of the green coloring matter, which is easily extracted and gives a brilliant color to vegetable dishes. The seed is sown broadcast. Five to ten cuttings of leaves may be made. The scientific name is doubtful. This is reported as an Egyptian variety. (Reprinted from Inventory No. 6.)

3985. CUCURBITA MAXIMA.**Pumpkin.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 304), December 28, 1899.

A yellow, oblong variety, 1½ feet long. Both this variety and No. 4265 were compared with 15 European sorts grown in Egypt and found superior, both in amount of flesh and in sweetness. The trials were made by Mr. George Bonaparte, Gizeh, near Cairo. (Reprinted from Inventory No. 6.)

3986. CITRULLUS COLOCYNTHIS.**Colocynth.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 305), December 28, 1899.

Cultivated like other gourds. It has medicinal properties, but the reason for introducing it at the present time is as a moth preventive. In Egypt the dried fruits are crushed to powder, mixed in the proportion of 2 to 1 with black pepper, and spread over clothing to prevent moths from eating it. As it has no odor, this preventive is worthy of consideration. The seeds and fruits are extremely bitter and poisonous. (Reprinted from Inventory No. 6.)

3987. VICIA FABA.**Broad bean.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 306), December 28, 1899.

A red-seeded variety of Egyptian origin. Planted here two seeds in a hill, 12 inches apart, in November. It fruits in five months. The young pods and seeds are cooked and eaten. The beans mature dry and are cooked. This variety does better here than the imported European sorts. (Reprinted from Inventory No. 6.) Distributed.

3988. ALBIZZIA LEBBEK.**Lebbek.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 307), December 28, 1899.

The *Lebbek* is altogether the most beautiful shade tree that is extensively planted in Egypt. It was introduced from the East Indies previous to 1807, and hundreds of thousands are now planted along the roadways. As an avenue tree it is not excelled for shade and grace. The seeds are planted in seed beds and when the young plants are 1 year old they are transplanted to nursery rows, where they are allowed to remain three years. They are then "topped" to the desired height and transplanted. The first year after transplanting they need water, later they stand drought exceedingly well. If left in the nursery rows until the trunks are 3 inches through, the three or four new branches formed make a graceful crown. The tree has endured 28° F., or possibly lower. The blossoms are sought by bees. The wood is of good quality. It grows in poor-limestone or rocky soils. This one tree has transformed the roadways about Cairo into most beautiful shady avenues. For southern California and Florida. A more extended account may be found in Circular No. 23 of the Division of Botany. (Reprinted from Inventory No. 6.)

3989. CYPERUS LAEVIGATUS.

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 308), December 28, 1899.

Sedge from which Egyptian mats are made. The plant is used in reclaiming salt marshes and the leaves are utilized for mat manufacture. The seeds are broadcasted in beds, well watered, and after fifty days transplanted 1 foot apart each way. The plants must have their roots always covered with water. It is perennial, 9 to 13 feet high, with stems one-half inch in diameter. There are many cultivated varieties. (Reprinted from Inventory No. 6.)

3990. CUCUMIS CHATE.**Salad cucumber.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 309), December 28, 1899.

Salad cucumber, grown very extensively in Egypt, as it ripens fruit for the table twenty days earlier than the ordinary cucumber and is a heavier producer. The fruits are long, horn-shaped, and of delicate flavor. They are more succulent than ordinary cucumbers, according to Mr. George Bonaparte, of the Gizeh Agricultural College, near Cairo. The young fruits are pickled. (Reprinted from Inventory No. 6.)

3991. GOSSYPIUM BARBADENSE.**Cotton.**

From Alexandria, Egypt. Received through Messrs. Lathrop and Fairchild (No. 310), December 28, 1899.

Jannovitch. This new variety of Egyptian cotton, the *Jannovitch*, was originated as a sport from the *Abbasi* variety and was first brought to notice in 1897. Seed sold last year for \$20 a bushel, later for \$12. It is asserted to be by all means the finest cotton of the white, long-staple class ever produced in Egypt. The fiber is scarcely any shorter than the Sea Island staple and has the characteristic twist. It is snow white and of remarkably fine, silky texture. This season is the first one in which this variety has been cultivated in commercial quantities. The lint from this variety brought in Egypt, where a very small quantity was sold last year, over 50 cents a pound. A rough guess was made by Mr. George Foaden, secretary of the Khedivial Agricultural Society, that not more than 1,000 bales of this cotton will be sold this year in Egypt. For methods of culture in Egypt see Bulletin No. 33 of the Department of Agriculture, Office of Experiment Stations. For breeding purposes this cotton should be of decided value, as its origin can be traced with probability, according to Mr. Foaden, to crosses between the Egyptian cottons and the introduced Sea Island varieties. The Egyptian brown cottons may possibly have sprung from Peruvian varieties which are reported to have been introduced into Egypt early in this century. This Jannovitch variety has hence quite possibly strains of both Sea Island and Peruvian stock. The *average* length of the Egyptian cotton, ordinary varieties, is given in Bulletin No. 33 as 35.79 millimeters in comparison with 40.87 for Sea Island. If the fiber of the Jannovitch, as claimed, is longer than the ordinary varieties, it will approach very closely that of the Sea Island. It is worthy serious tests in all the cotton-growing districts of America. Its successful culture in the uplands of the United States would increase the profits of cotton growing materially, as the Egyptian cotton brings prices only inferior to those of the Sea Island. (Reprinted from Inventory No. 6.)

3992. GOSSYPIUM BARBADENSE.**Cotton.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 311), December 28, 1899.

Mitaffi. The most commonly known and grown variety of Egyptian cotton until the discovery of the *Jannovitch* (No. 2991). Discovered in 1883. This yields the heaviest of all Egyptian cottons. It is a *brown* fibered variety. For experimental purposes only. It was introduced by the Department three or four years ago. (Reprinted from Inventory No. 6.) Distributed.

3993. GOSSYPIUM BARBADENSE.**Cotton.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 312), December 28, 1899.

A variety resembling No. 3992, from which it was derived. It has been cultivated only six or seven years. Succeeds better on loamy soils than on clays. It is more susceptible to unfavorable climatic conditions and slightly earlier. It has a fine, silky, very long, *white* staple. Gins with more difficulty than No. 3992. For breeding purposes. (Reprinted from Inventory No. 6.) Distributed.

3994. CUCUMIS MELO.**Cantaloupe.**

From Bassousa island in the Nile. Received through Messrs. Lathrop and Fairchild (No. 313), December 28, 1899.

Cantaloupes from Bassousa, where the most noted melons of Egypt are grown. The fruits are oblong, 8 to 10 inches long, many seeded, yellow to pale green in color, and thin skinned. The flesh is pale yellow. For experiments in the South. (Reprinted from Inventory No. 6.) Distributed.

3995. CUCUMIS MELO.**Cantaloupe.**

From Abou-el-rate, Egypt. Received through Messrs. Lathrop and Fairchild (No. 314), December 28, 1899.

Seed from excellent cantaloupes from the most noted melon-growing region in Egypt, except Bassousa. Similar to fruits of No. 3994. A typical Egyptian strain. (Reprinted from Inventory No. 6.)

3996. ALLIUM CEPA.**Onion.**

From islands of Upper Nile, Egypt. Received through Messrs. Lathrop and Fairchild, (No. 315), December 28, 1899.

The onions from the islands of the Upper Nile are exported in very large quantities to England. They are said to be an unusually sweet variety, of medium size and irregular form. They are yellowish pink. For trial in warm, dry regions of the South. Plant in the usual way. Recommended for irrigated Western lands. (Reprinted from Inventory No. 5.)

3997. VICIA FABA.**Horse bean.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 316), December 28, 1899.

Selected seed of the Egyptian fodder bean from 'Saidi' or Upper Egypt. *'This plant produces the principal cattle and horse food of Egypt,'* according to Mr. George Foaden, secretary of the Khedivial Agricultural Society. The seed is sown in November at the rate of 3 bushels per acre, and if on soil which has been overflowed by the Nile, receives no water during the season. If sown on irrigated land, it is watered when sown and once when the crop is half grown. Matures in from five to six months. Harvested with scythe or knife. Stalks dried in field and beans thrashed out; yields 50 bushels per acre. Fed to cattle ground and mixed with chopped straw. A ration is 8 to 10 pounds of beans to 26 pounds of straw per day. (Reprinted from Inventory No. 6.) Distributed.

3998. ZEA MAYS.**Corn.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 317), December 28, 1899.

A variety which yields heavy crops, and from comparison with introduced varieties is a heavier bearer and much preferred by cultivators. According to Mr. George P. Foaden, secretary of the Khedivial Agricultural Society, the yield is often 40 or 50 bushels per acre. Receives five waterings during the season. This is a field variety, said to be superior to any variety grown in Egypt from European seed. (Reprinted from Inventory No. 6.) Distributed.

3999. ZEA MAYS.**Corn.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 318), December 28, 1899.

Used by Europeans and natives for roasting ears. Matures in sixty days from planting. Doubtful if superior to our varieties of sweet corn, but should be tested. Sown in April here as a catch crop. (Reprinted from Inventory No. 6.)

4000. ZEA MAYS.**Corn.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 319), December 18, 1899.

A variety of Egyptian corn used for roasting by the natives. Matures in seventy days. Recommended for the drier regions of the South. (Reprinted from Inventory No. 6.)

4001 to 4136.

The following 136 numbers comprise part of a collection of native North American plants offered for foreign exchange. A descriptive account will be given in a special publication.

4001. VICIA LEAVENWORTHII.**Vetch.**

From Burnet, Tex. Received through Mr. George Stolley, October 10, 1899.

4002. ATRIPLEX PABULARIS.**Saltbush.**

From Laramie, Wyo. Received through Prof. Aven Nelson, November, 1899.

4001 to 4136—Continued.

4003. *SCIRPUS PALUDOSUS*.
From Laramie, Wyo. Received through Prof. Aven Nelson, November, 1899.
4004. *HETEROMELES ARBUTIFOLIA*. **Christmas berry.**
From Vacaville, Cal. Received through Mr. W. T. Swingle, November, 1899.
4005. *PLATANUS OCCIDENTALIS*. **Plane tree, or Sycamore.**
From Missouri Botanic Gardens, St. Louis, Mo. Received through Prof. William Trelease, November 8, 1899.
4006. *CLADRASTIS LUTEA*. **Yellow wood, or Virgilia.**
From Missouri Botanic Gardens, St. Louis, Mo. Received through Prof. William Trelease, November 8, 1899.
4007. *BROMUS HOOKERIANUS*. **Hooker's Brome-grass.**
From Pullman, Wash. Received November 9, 1899.
4008. *AGROPYRON DIVERGENS*. **Bunch Wheat-grass.**
From Pullman, Wash. Received November 9, 1899.
4009. *ACER SACCHARUM*. **Sugar maple.**
From New York. Received through Miss M. C. Mann, November 9, 1899.
4010. *ELYMUS CONDENSATUS*. **Bunch grass.**
From Washington. Received October, 1899; through Mr. A. B. Leckenby.
4011. *QUERCUS COCCINEA*. **Scarlet oak.**
From Biltmore, N. C. Received through Mr. C. D. Beadle, November 24, 1899.
4012. *HICORIA VILLOSA*. **Hickory.**
From Biltmore, N. C. Received through Mr. C. D. Beadle, November 24, 1899.
4013. *HYPERICUM LOBOCARPUM*. **St. John's wort.**
From Biltmore, N. C. Received through Mr. C. D. Beadle, November 24, 1899.
4014. *HYPERICUM SPHEROCARPUM*. **St. John's wort.**
From Biltmore, N. C. Received through Mr. C. D. Beadle, November 24, 1899.
4015. *OXYDENDRON ARBOREUM*. **Sour-wood.**
From Biltmore, N. C. Received through Mr. C. D. Beadle, November 24, 1899.
4016. *EUONYMUS AMERICANUS*. **Strawberry bush, or Burning bush.**
From Biltmore, N. C. Received through Mr. C. D. Beadle, November 24, 1899.
4017. *ILEX VERTICILLATA*. **Virginia winter berry.**
From Biltmore, N. C. Received through Mr. C. D. Beadle, November 24, 1899.
4018. *CERCIS OCCIDENTALIS*. **Red bud.**
From Berkeley, Cal. Received through Prof. C. H. Shinn, of the California Experiment Station, November 27, 1899.
4019. *RHAMNUS CALIFORNICA*. **Coffee berry.**
From California. Received through Prof. C. H. Shinn, November 27, 1899.
4020. *RUMEX HYMENOSEPALUS*. **Canaigre.**
From California. Received through Prof. C. H. Shinn, November 27, 1899.
4021. *CYTISUS PROLIFERUS, ALBUS*. **Tagasaste.**
From California. Received through Prof. C. H. Shinn, November 27, 1899.
4022. *VITIS CALIFORNICA*. **California grape.**
From California. Received through Prof. C. H. Shinn, November 27, 1899.

4001 to 4136—Continued.

4023. *NEOWASHINGTONIA FILAMENTOSA*. **Fan palm.**
From Indio, Cal. Received through Mr. W. T. Swingle, November 28, 1899.
4024. *DIOSPYROS VIRGINIANA*. **Persimmon.**
From Washington, D. C. Received November 25, 1899.
4025. *OPUNTIA ENGELMANNI*. **Prickly pear.**
From Texas. Received through Mr. George Stolley, of Burnet, Tex., November, 1899.
4026. *ÆSCULUS CALIFORNICA*. **Horse chestnut.**
From California. Received through Mr. V. K. Chesnut, December 4, 1899.
4027. *NYSSA MULTIFLORA*. **Sour gum tupelo.**
From Gage, Tenn. Received December 6, 1899.
4028. *CORNUS FLORIDA*. **Flowering dogwood.**
From Gage, Tenn. Received December 6, 1899.
4029. *SASSAFRAS SASSAFRAS*. **Sassafras.**
From Gage, Tenn. Received December 7, 1899.
4030. *MAGNOLIA GLAUCA*. **Sweet bay.**
From Gage, Tenn. Received December 7, 1899.
4031. *RHODODENDRON MAXIMUM*. **Great laurel.**
From Gage, Tenn. Received December 7, 1899.
4032. *MAGNOLIA ACUMINATA*. **Cucumber tree, or Mountain magnolia.**
From Gage, Tenn. Received December 7, 1899.
4033. *CARPINUS CAROLINIANA*. **Blue beach, or Hornbeam.**
From Gage, Tenn. Received December 7, 1899.
4034. *LIQUIDAMBER STYRACIFLUA*. **Sweet gum.**
From Gage, Tenn. Received December 7, 1899.
4035. *CHIONANTHUS VIRGINICA*. **Fringe tree, or Old man's beard.**
From Gage, Tenn. Received December 7, 1899.
4036. *MAGNOLIA TRIPETALA*. **Umbrella tree.**
From Gage, Tenn. Received December 11, 1899.
4037. *BUTNERIA FLORIDA*. **Sweet shrub.**
From Gage, Tenn. Received December 11, 1899.
4038. *QUERCUS VIRGINIANA*. **Live oak.**
From Louisiana. Presented by Charles E. Roos, Southern University, New Orleans, La. Received December 13, 1899.
4039. *SPONDIAS*. **Ciruela.**
From Acapulco, Mexico. Presented by Dr. Edward Palmer, December 1, 1899.
4040. *CRATAEGUS MEXICANUS*. **Hawthorn.**
From Saltillo, Mexico. Presented by Dr. Edward Palmer, December 1, 1899.
4041.
From Saltillo, Mexico. Presented by Dr. Edward Palmer, December 1, 1899.
4042. *CELTIS BERLANDIERI*. **Palo Blanco.**
From Saltillo, Mexico. Presented by Dr. Edward Palmer, December 1, 1899.
4043. *BYRSONIMA CRASSIFOLIA*. **Coliguana or Nance.**
From Colima, Mexico. Presented by Dr. Edward Palmer, December 1, 1899.

4001 to 4136—Continued.

4044. ACROCOMIA SCLEROCARPA. **Palm.**
From Acapulco, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4045. **Trompa.**
From Acapulco, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4046. EUGENIA. **Capulin.**
From Acapulco, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4047. CORDIA ALBA. **Sasanil.**
From Acapulco, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4048. LEUCAENA GLABRATA. **Guaje.**
From Acapulco, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4049. VITEX MOLLIS. **Collo tomato.**
From Colima, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4050. MABA ALBENS. **Coacollutillo.**
From Acapulco, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4051. CASEARIA NITIDA. **Frutilla.**
From Colima, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4052. OPUNTIA. **Red-fruited tuna.**
From Durango, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4053. OPUNTIA. **White-fruited tuna.**
From Durango, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4054. OPUNTIA. **Red-fruited tuna.**
From Durango, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
Tuna durasucios.
4055. OPUNTIA. **White-fruited tuna.**
From Durango, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
Tuna durasucios.
4056. OPUNTIA. **Tuna cardona.**
From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer,
December 1, 1899.
4057. OPUNTIA. **Tuna toconostle.**
From Zacatecas, Mexico. Presented by Dr. Edward Palmer, December
1, 1899.
4058. OPUNTIA. **Tuna morada.**
From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer,
December 1, 1899.
4059. OPUNTIA. **Tuna jarrilla.**
From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer,
December 1, 1899.
4060. OPUNTIA. **Tuna blanca cristalina.**
From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer,
December 1, 1899.

4001 to 4136—Continued.

4061. *OPUNTIA*. **Tuna amarilla.**
From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer,
December 1, 1899.
4062. *OPUNTIA*. **Tuna chavena.**
From Zacatecas, Mexico. Presented by Dr. Edward Palmer, December
1, 1899.
4063. *OPUNTIA*. **Tuna camucsa.**
From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer,
December 1, 1899.
4064. *OPUNTIA*. **Tuna cuija.**
From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer,
December 1, 1899.
4065. *PITHECOLOBIUM DULCE*. **Huamúchil.**
From Guaymas, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4066. *VITEX MOLLIS*. **Collo tomate.**
From Colima, Mexico. Presented by Dr. Edward Palmer, December 1,
1899.
4067. *LINDERA BENZOIN*. **Spice-bush or Wild allspice.**
From Gage, Tenn. Received through Mr. J. H. H. Boyd, December 18,
1899.
4068. *YUCCA CONSTRICTA*. **Spanish dagger.**
From Benson, Ariz. Received through Mr. W. T. Swingle, December 18,
1899.
4069. *PHASEOLUS RETUSUS*. **Metcalfe bean.**
From Silver City, N. Mex. Received through Mr. J. G. Smith, December
21, 1899. Grown by Mr. Jas. K. Metcalfe, Silver City, N. Mex.
4070. *PHASEOLUS ANGUSTISSIMUS*. **Wild bean.**
From Silver City, N. Mex. Received through Mr. J. G. Smith, December
21, 1899. Grown by Mr. Jas. K. Metcalfe, Silver City, N. Mex.
4071. *HILARIA CENCHROIDES*. **Curly mesquite.**
From Silver City, N. Mex. Received through Mr. J. G. Smith, December
21, 1899.
4072. *BOUTELOUA HUMBOLDTIANA*. **Spruce-top.**
From Silver City, N. Mex. Received through Mr. J. G. Smith, December
21, 1899.
4073. *RUELLIA BOURGAIL*.
From National Herbarium, Washington, D. C., March, 1900.
4074. *AGROPYRON SPICATUM*. **Bunch grass.**
From North Yakima, Wash. Presented by Mr. A. B. Leckenby, of
Rainier, Wash. Received January 8, 1900.
4075. *AGROPYRON SPICATUM*. **Bunch grass.**
From Wenatchee, Wash. Presented by Mr. A. B. Leckenby, of Rainier,
Wash. Received January 8, 1900. (See No. 4074.)
4076. *OPUNTIA BIGELOVII*. **Cholla.**
From Arizona. Received through Mr. W. T. Swingle, December, 1899.
Collected at Ventana Canyon, 12 miles northeast of Tucson, Ariz.
4077. *OPUNTIA ARBUSCULA*, *MONOSPERMA*.
From Arizona. Received through Mr. W. T. Swingle, December 11, 1899.
4078. *OPUNTIA ARBUSCULA*.
From Arizona. Donated by Prof. J. W. Toumey, of the University of
Arizona, through Mr. W. T. Swingle, December 11, 1899.

4001 to 4136—Continued.

4079. *OPUNTIA VERSICOLOR*.
From Arizona. Received through Mr. W. T. Swingle, December 11, 1899.
Collected at the Ventana Canyon, 12 miles northeast of Tucson, Ariz.
4080. *UMBELLULARIA CALIFORNICA*. **California laurel.**
From Berkeley, Cal. Received through Mr. W. T. Swingle, January 24, 1900.
4081. *LAGENRIA PATTERSONI*.
From California. Received through Prof. Charles H. Shinn, of the California Agricultural Experiment Station, January 25, 1900.
4082. *FRAXINUS VELUTINA*. **Arizona ash.**
From California. Received through Prof. Charles H. Shinn, of the California Agricultural Experiment Station, January 25, 1900.
4083. *CERASUS ILLICIFOLIA, INTEGRIFOLIA*. **Cherry-holly.**
From California. Received through Prof. C. H. Shinn, of the California Agricultural Experiment Station, January 25, 1900.
4084. *RHUS LAURINA*. **Sumach.**
From California. Received through Prof. C. H. Shinn, of the California Agricultural Experiment Station, January, 25, 1900.
4085. *YUCCA WHIPPLEI*. **Spanish bayonet.**
From California. Received through Prof. C. H. Shinn, of the California Agricultural Experiment Station, January 25, 1900.
4086. *DASYLIRION WHEELERI*. **Sotol.**
From Bowie, Ariz. Presented by Prof. J. W. Toumey, January 26, 1900.
4087. *AGAVE PALMERI*.
From Bowie, Ariz. Presented by Prof. J. W. Toumey, January 26, 1900.
4088. *YUCCA ELATA*.
From Bowie, Ariz. Presented by Prof. J. W. Toumey, January 26, 1900.
4089. *AGAVE SCHOTTII*.
From Bowie, Ariz. Presented by Prof. J. W. Toumey, January 26, 1900.
4090. *OPUNTIA LAEVIS*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4091. *OPUNTIA RAFINESQUII*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4092. *OPUNTIA RAMOSISSIMA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4093. *OPUNTIA RAMOSISSIMA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4094. *OPUNTIA BASILARIS*.
From California, opposite Yuma, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4095. *OPUNTIA MICRODASYLIS*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4096. *OPUNTIA TETRACANTHA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.

4001 to 4136—Continued.

4097. *OPUNTIA SPINOSIOR*, *NEOMEXICANA*.
From Ventana Canyon, 12 miles northeast of Tucson, Ariz., altitude, 3,000-3,500 feet. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4098. *OPUNTIA SPINOSIOR*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4099. *OPUNTIA FULGIDA*, *MAMMILATA*.
From Ventana Canyon, 10 miles northeast of Tucson, Ariz., altitude, 3,000 feet. Received through Mr. W. T. Swingle, December, 1899.
4100. *OPUNTIA SPINOSIOR*.
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4101. *OPUNTIA LAEVIS*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4102. *OPUNTIA ACANTHOCARPA*.
From Tempe, Ariz. Received through Mr. W. T. Swingle, November, 1899.
4103. *OPUNTIA ARBUSCULA*, *MONOSPERMA*. (?)
From Ventana Canyon, 12 miles northeast of Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4104. *OPUNTIA ARBUSCULA*, *MONOSPERMA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4105. *OPUNTIA CHLOROTICA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4106. *OPUNTIA ENGELMANNI*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4107. *OPUNTIA FULGIDA*. **Cholla.**
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4108. *OPUNTIA LEPTOCAULIS*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4109. *OPUNTIA LEPTOCAULIS*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4110. *OPUNTIA MICRODASYS*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4111. *OPUNTIA SPINOSIOR*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4112. *OPUNTIA SPINOSIOR*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4113. *OPUNTIA SPINOSIOR*, *NEOMEXICANA*.
From Arizona. Received through Mr. W. T. Swingle, December, 1899.
4114. *OPUNTIA TETRACANTHA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.

4001 to 4136—Continued.

4115. *OPUNTIA BIGELOVII*. **Cholla.**
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, November, 1899.
4116. *ECHINOCACTUS WISLIZENI*. **Visnaga, or fishhook cactus.**
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4117. *KOEBERLINIA SPINOSA*. **Christ thorn.**
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4118. *ACACIA GREGGII*.
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4119. *ACACIA CONSTRICTA*.
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4120. *OPODANTHERA UNDULATA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4121. *ASTRAGALUS THURBERI*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4122. *CELTIS PALLIDA*.
From Ventana Canyon, near Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4123. *CUCURBITA FOETIDISSIMA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4124. *EPHEDRA TRIFURCA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4125. *KOEBERLINIA SPINOSA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4126. *LYCIUM ANDERSONII*, WRIGHTII.
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4127. *MICRORHAMNUS ERICOIDES*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, 1899.
4128. *MICRORHAMNUS ERICOIDES*.
From Ventana Canyon, near Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4129. *MORANDA WISLIZENI*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, 1899.
4130. *PARKINSONIA MICROPHYLLA*.
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, 1899.
4131. *PINUS EDULIS*. **Piñon pine.**
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4132. *PROSOPIS VELUTINA*. **Mesquite.**
From Arizona. Received through Mr. W. T. Swingle, December, 1899.

4001 to 4136—Continued.

4133. *PSILOSTROPHE COOPERI*.
From Tucson, Ariz. Received through Mr. W. T. Swingle, December, 1899.
4134. *RUMEX HYMENOSEPALUS*. **Canaigre.**
From Tucson, Ariz. Donated and determined by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.
4135. *COVILLEA TRIDENTATA*. **Creosote bush.**
From Tucson, Ariz. Received through Mr. W. T. Swingle, November, 1899.
4136. *AGAVE SCHOTTII*. **Amole, or soap root.**
From Tucson, Ariz. Donated by Prof. J. W. Toumey, through Mr. W. T. Swingle, December, 1899.

4137-4250.

From Naples, Italy. Received through Dr. Carl Sprenger, November, 1899.

This comprises a collection of small samples of seeds of the indigenous leguminous plants of Italy, secured by Dr. Sprenger, of Villa Rispoli, San Giovanni à Teduccio, near Naples, and presented by him to this Section. The quantities are too small for distribution. They will be used in experiments conducted by this Department. They are as follows: Distributed.

4137. *ASTRAGALUS BAETICUS*.
4138. *ASTRAGALUS CANADENSIS*.
4139. *ASTRAGALUS FALCATUS*.
4140. *ASTRAGALUS GALEGIFORMIS*.
4141. *SECURIGERA CORONILLA*.
4142. *CORONILLA SCORPIOIDES*.
4143. *DOLICHOS ANGUSTIFOLIUS*. **Bean.**
4144. *DOLICHOS UNGUICULATUS*. **Bean.**
4145. *DOLICHOS ORNATUS*. **Bean.**
4146. *DOLICHOS ORNATUS, ALBUS*. **Bean.**
4147. *ERVUM ERVILLA*. **Lentil.**
4148. *ERVUM LENS*. **Lentil.**
4149. *ERVUM LENS, NIGRUM*. **Lentil.**
4150. *ERVUM LENS, PUNCTATUM*. **Lentil.**
4151. *ERVUM LENS, VIRIDIS*. **Lentil.**
4152. *ERVUM PUNCTATUM*. **Lentil.**
4153. *ERVUM TENORII*. **Lentil.**
4154. *VICIA FABA*. **Horse bean.**
4155. *GALEGA OFFICINALIS*. **Goat's rue.**
4156. *GLYCERRHIZA ECHINATA*. **Licorice.**
4157. *HEDYSARUM CORONARIUM*. **Sulla.**
4158. *LATHYRUS ALATUS*. **Vetch.**
4159. *LATHYRUS CICER*. **Vetch.**
4160. *LATHYRUS CLYMENUS*. **Vetch.**
4161. *LATHYRUS COCCINEUS*. **Vetch.**
4162. *LATHYRUS ELEGANS*. **Vetch.**
4163. *LATHYRUS AURICULATUS*. **Vetch.**
4164. *LATHYRUS NAPOLEONIS*. **Vetch.**

4137-4250—Continued.

4165.	LATHYRUS ODORATUS.	Vetch.
4166.	LATHYRUS OCHRUS.	Vetch.
4167.	LATHYRUS SATIVUS.	Vetch.
4168.	LUPINUS ALBUS.	Lupin.
4169.	LUPINUS ELEGANS, CÆRULEUS.	Lupin.
4170.	LUPINUS LUCIDUS.	Lupin.
4171.	LUPINUS MUTABILIS.	Lupin.
4172.	LUPINUS VARIUS.	Lupin.
4173.	LUPINUS VENUSTUS.	Lupin.
4174.	MISSING.	
4175.	ONOBRYCHIS SATIVA.	Sainfoin.
4176.	MEDICAGO ARBOREA.	Tree medic.
4177.	MEDICAGO ARENARIA.	Medic.
4178.	MEDICAGO HISPIDA.	Medic.
4179.	MEDICAGO CASPICA.	Medic.
4180.	MEDICAGO DECANDOLEI.	Medic.
4181.	MEDICAGO DENTICULATA.	Medic.
4182.	MEDICAGO HISPIDA, HYSTRICATA.	Medic.
4183.	MEDICAGO LACINIATA.	Medic.
4184.	MEDICAGO LITTORALIS.	Medic.
4185.	MEDICAGO LAPPACEA.	Bur clover.
4186.	MEDICAGO ORBICULARIS.	Bur clover.
4187.	MEDICAGO TURBINATA.	Bur clover.
4188.	MEDICAGO SARDOA (?)	Medic.
4189.	MEDICAGO SATIVA.	Alfalfa.
4190.	MEDICAGO SCUTELLARIA.	Bur clover.
4191.	MELILOTUS TOMMASINI.	Melilot.
4192.	MELILOTUS BICOLOR.	Melilot.
4193.	MELILOTUS BONPLANDIA.	Melilot.
4194.	MELILOTUS INTESTA.	Melilot.
4195.	MELILOTUS MACRORHIZA.	Melilot.
4196.	MELILOTUS OFFICINALIS.	Yellow sweet clover.
4197.	MELILOTUS ROTUNDIFOLIA.	Melilot.
4198.	MELILOTUS PARVIFLORA.	Melilot.
4199.	MELILOTUS VULGARIS.	Melilot.
4200.	PHASEOLUS COMPRESSUS, ATROPUNCTATUS.	Bean.
4201.	PHASEOLUS COMPRESSUS, CARNEUS, FLAVESCENS.	Bean.
4202.	PHASEOLUS COMPRESSUS, CARNEUS.	Bean.
4203.	PHASEOLUS COMPRESSUS, CERVINUS.	Bean.
4204.	PHASEOLUS ELLIPTICUS, ALBUS.	Bean.
4205.	PHASEOLUS ELLIPTICUS, ATROPURPUREUS.	Bean.
4206.	PHASEOLUS ELLIPTICUS, HELVOLUS, VARIEGATUS.	Bean.
4207.	PHASEOLUS ELLIPTICUS, MESOMELON.	Bean.
4208.	PHASEOLUS ELLIPTICUS, FERRUGINEUS.	Bean.

4137-4250—Continued.

4209.	PHASEOLUS ELLIPTICUS, PICTUS.	Bean.
4210.	PHASEOLUS ELLIPTICUS, SPADICEUS.	Bean.
4211.	PHASEOLUS GONOSPERMUS, ORYZOIDES.	Bean.
4212.	PHASEOLUS GONOSPERMUS, VARIEGATUS.	Bean.
4213.	PHASEOLUS OBLONGUS, ALBUS.	Bean.
4214.	PHASEOLUS OBLONGUS, ZEBRINUS.	Bean.
4215.	PHASEOLUS OBLONGUS, AUREOLUS.	Bean.
4216.	PHASEOLUS OBLONGUS, CERVINUS.	Bean.
4217.	PHASEOLUS OBLONGUS, CARNEO-PUBESCENS.	Bean.
4218.	PHASEOLUS OBLONGUS, SPADICEUS.	Bean.
4219.	PHASEOLUS OBLONGUS, SPHAERICUS, MINOR.	Bean.
4220.	PHASEOLUS SPHAERICUS, PICTUS.	Bean.
4221.	PHASEOLUS VULGARIS, ALBUS, MICROSPERMUS.	Bean.
4222.	PHASEOLUS VULGARIS, NIGER, NITIDUS.	Bean.
4223.	PHASEOLUS VULGARIS, OCHRACEUS.	Bean.
4224.	PHASEOLUS VULGARIS, ZEBRA, CARNEUS.	Bean.
4225.	PHASEOLUS VULGARIS, ZEBRA, PURPUREUS.	Bean.
4226.	PHASEOLUS VULGARIS, VARIEGATUS.	Bean.
4227.	PHASEOLUS VULGARIS, SPADICEUS.	Bean.
4228.	PISUM SATIVUM ABYSSINICUM, SACCHARATUM.	Pea.
4229.	PISUM ARVENSE.	Pea.
4230.	PISUM MARITIMUM.	Pea.
4231.	PISUM SATIVUM.	Pea.
4232.	PISUM SATIVUM, ABYSSINICUM.	Pea.
4233.	PISUM SATIVUM, SACCHARATUM.	Pea.
4234.	PISUM THEBAICUM.	Pea.
4235.	TRIFOLIUM ANGUSTIFOLIUM.	Clover.
4236.	TRIFOLIUM HYBRIDUM.	Alsike clover.
4237.	TRIFOLIUM INCARNATUM.	Crimson clover.
4238.	TRIFOLIUM MOLINERIX.	Clover.
4239.	TRIFOLIUM OCHROLEUCUM.	Clover.
4240.	TRIFOLIUM PRATENSE.	Red clover.
4241.	TRIGONELLA FOENUM-GRÆCUM.	Fenugreek.
4242.	TRIGONELLA GLADIATA.	
4243.	VICIA ANGUSTIFOLIA.	Vetch.
4244.	VICIA ATROPURPUREA.	Vetch.
4245.	VICIA DASYCARPA.	Vetch.
4246.	VICIA NARBONENSIS.	Vetch.
4247.	VICIA SATIVA.	Spring vetch.
4248.	VICIA SATIVA, MACROCARPA.	Vetch.
4249.	VICIA SATIVA, NIGRA.	Spring vetch.
4250.	VICIA WABIANA.	Spring vetch.

4251. ZEA MAYS.**Corn.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 320), December 28, 1899.

A corn for roasting. Matures in 90 days. Like Nos. 3999 and 4000. Said to be superior to any variety grown in Egypt from European seed. (Reprinted from Inventory No. 6.)

4252. LINUM USITATISSIMUM.**Flax.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 321), December 28, 1899.

The Egyptian flax is of inferior quality, but grows in regions which are dry. It receives only two irrigations, and may be of use in crossing with northern flaxes for drier lands. (Reprinted from Inventory No. 6.)

4253. ARACHIS HYPOGAEA.**Peanut.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 322), December 28, 1899.

Seed peanuts from the cultivator who took the first prize at last year's exposition of the Khedivial Agricultural Society of Cairo. Reported especially rich in oil and extensively grown for oil production. Deserve testing in irrigated dry regions of the South especially. (Reprinted from Inventory No. 6.) Distributed.

4254. TRIFOLIUM ALEXANDRINUM.**Egyptian clover.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 323), December 28, 1899.

Bersecm Muscovi. The great fodder crop of Egypt. As a catch crop, considered in lower Egypt as unequaled by any other plant. Winter culture is necessary for its success, as the hot summers kill or seriously injure the plants. The variety 'Muscovi' has been grown successfully in England, according to Mr. George P. Foaden, secretary of the Khedivial Agricultural Society. It would be advisable to sow this variety as follows: In regions which can be irrigated, sow broadcast at the rate of not less than 40 pounds per acre. In Egypt as high as 50 and 60 pounds per acre are sown upon the mud left after subsidence of the Nile, or upon soil previously thoroughly overflowed by means of the irrigation ditches. Seed should be sown immediately after the subsidence of the water, directly on the mud. As the plants are very sensitive to cold, the seed should not be sown until all danger of frost is over. In Egypt the seed is sown toward the end of October and the first cutting can be made after 45 to 50 days, while if sown 20 days later, when cooler weather has set in, 70 days are required by the crop to reach a stage fit for cutting. If planted here in October, it is often left in the soil until the following June and five cuttings taken. This Muscovi variety is suited only for well-irrigated land, as it requires much water. For seed, the last cutting is omitted in June and the plants allowed to go to seed. This variety is not sown with wheat or barley and in this respect differs from the two following varieties, Saida and Fache. A thorough trial should be made to utilize this most important crop in America. (Reprinted from Inventory No. 6.)

4255. TRIFOLIUM ALEXANDRINUM.**Egyptian clover.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 324), December 28, 1899.

Saida. This variety is the dry land sort, requiring comparatively little water but giving fewer cuttings than the Muscovi variety. It should be sown after irrigation, as in case of the latter variety, but requires much less water subsequently. Any attempts to grow it as a summer crop in very warm regions will fail, for it is distinctly a cool-season crop in Egypt. The three varieties mentioned have perfectly distinct uses, which should not be disregarded in any attempted culture. The tendency of the Saida variety is to trail or creep along the ground. Large quantities of seed, 40 to 50 pounds per acre, are considered profitable for sowing. (For general statement see No. 4254.) (Reprinted from Inventory No. 6.)

- 4256. TRIFOLIUM ALEXANDRINUM. Egyptian clover.**
 From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 325),
 December 28, 1899.
Fache. This is a strong, upright growing variety of Berseem which is especially adapted to precede cotton or sugar cane. It is cut only once. It requires less water than the Muscovi (No. 4254). It is sown on the overflowed land which is not irrigated. It is often sown with wheat or barley, the wheat or barley being sown first, the Fache added broadcast. (Reprinted from Inventory No. 6.)
- 4257. ZEA MAYS. Corn.**
 From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 326),
 December 28, 1899.
 The variety *Nabarawi* field corn, a variety especially suited for irrigated land in hot climates like Florida or Arizona. Said to be superior to any variety grown in Egypt from European seed. This is a field variety. (Reprinted from Inventory No. 6.)
- 4258. CAPSICUM ANNUM. Pepper.**
 From Capri, Italy. Received through Messrs. Lathrop and Fairchild (No. 327),
 December 28, 1899.
 A sample of seed of a native variety of red pepper; very uniform in size and shape; dark red. Bought in market at Capri; many-seeded; very showy color. (Reprinted from Inventory No. 6.) Distributed.
- 4259. CAPSICUM ANNUM. Pepper.**
 From Luxor, Egypt. Received through Messrs. Lathrop and Fairchild (No. 328),
 December 28, 1899.
 A variety of very hot peppers introduced into upper Egypt from the Soudan. Found growing in garden of Hadji Hammed Mohammed at Luxor. Fruits bright red, very small when ripe, and full of flavor. The plant is a perennial in hot countries, but bears in one year from seed; highly prized by the natives. (Reprinted from Inventory No. 6.) Distributed.
- 4260. CAPSICUM ANNUM. Pepper.**
 From Assuan, Egypt. Received through Messrs. Lathrop and Fairchild (No. 329),
 December 28, 1899.
 Soudanese red pepper bought in the market in Assuan in dried state; a small form resembling bird pepper in shape and color. (Reprinted from Inventory No. 6.) Distributed.
- 4261. CAPSICUM ANNUM. Pepper.**
 From Luxor, Egypt. Received through Messrs. Lathrop and Fairchild (No. 330),
 December 28, 1899.
 Dark red, few-seeded, vigorous grower, reported of Italian origin, from garden of Hadji Mohammed. (*Distributed.*) (Reprinted from Inventory No. 6.)
- 4262. LAWSONIA INERMIS. Henna.**
 From Edfu, Egypt. Received through Messrs. Lathrop and Fairchild (No. 331),
 December 28, 1899.
 Seeds of the henna are ground and used for dyeing cloth a dull red; also used by the Arabs for dyeing the palms of the hands and the finger nails. A desert shrub 9 or 10 feet high that deserves trial, as it lives without water from irrigation. Should be tried as hedge plant in southern California. Grows easily from cuttings. Blossoms white, fragrant. (Reprinted from Inventory No. 6.) It is one of the best hair dyes. Distributed.

4263. LIPPIA NODIFLORA.**Lippia.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 332), December 28, 1899.

"According to Ascherson and Schweinfurth the Lippia is a native of Egypt. It has probably been used for lawn purposes for a great many years.

"It is a low, creeping plant of the Verbena family, with broad, flat, obovate leaves of a deep green color. The creeping stems throw out roots wherever they come in contact with the earth, and form thick mats of herbage. It is well known that in regions with climatic conditions similar to those of Egypt, grass lawns are generally very difficult to maintain. Although there are several substitutes for lawn grasses, none that I have seen are as good as Lippia. Owing to its rapid growth, the plant can be mown closely, and to a layman the lawn effects resemble closely those produced by English lawn grasses.

"In order to plant a lawn with Lippia the ground is prepared as it would be for the reception of grass seed. A mass of old Lippia is dug from some neighboring lawn or field. The native gardener cuts off or breaks off two or three long cuttings of the plant, makes a hole with a pointed stick in the soft earth, thrusts the cuttings, doubled up, into the hole and packs the earth securely about them. These cuttings are placed about 4 to 6 inches apart, quite irregularly over the field. They are given plenty of water, being sprinkled every day until well started. In winter in Egypt the lawns made of this Lippia are watered every four to five days, while in summer they are kept green by daily waterings. Every twenty days the lawns are gone over with a scythe and in this way kept quite closely mown. There is no evident reason why a lawn mower would not answer the purpose better than a scythe.

"Lawns of Lippia will last five to six years without renewing. Whenever a patch gets old or is injured by the shade of some tree, it is very easily repaired by setting new cuttings.

"While, according to the statement of Mr. Colombo of the Gizeh Gardens, no grasses form in Cairo a real sod, this plant produces a permanent sod lasting five to six years.

"The Lippia deserves a thorough trial as a lawn plant in southern California, Arizona, Texas, and Florida. Just what degree of hardiness it will show remains to be seen. It is not exposed to a temperature below freezing here in Cairo, except at extremely long intervals. Whether it is injured then or not I have been unable to ascertain. Although, during the hottest part of the summer, the lawns of Lippia wear a much less vigorous look than they do in winter, yet, from the fact that they are able to withstand the extreme heat and dryness of the Egyptian summer, it is evident that the plant is well suited for hot dry climates. It is to be hoped this will prove a valuable new lawn plant for the parks and gardens of the South." (*Fairchild.*)

It is well to note that this plant is already quite commonly introduced, especially in the Southern States. It occurs in low, moist situations from North Carolina to Florida, Texas, and Missouri, and is also present in California. So far as known it has not been utilized as a lawn plant in this country, although it is recognized as having some value as a sand-binder on the South Atlantic and Gulf coasts. Distributed.

4264. MANIHOT GLAZIOVII.**Ceara rubber.**

Presented by Rear-Admiral Crowninshield, Chief of the Bureau of Navigation. Received October 13, 1899.

"Ceara rubber occupies the second rank and it would undoubtedly be equal to Para rubber if the sap were collected by some method so that it would not include so much foreign stuff. Ceara rubber is very elastic, dry, and not sticky unless it is impure, but when impure the loss in bulk amounts often to 25 per cent. It is derived from a euphorbiaceous tree, *Manihot glaziovii*, which is native in the Provinces of Rio de Janeiro and Ceara. The tree grows to a height of about 30 feet with a round head. It has 3- to 7-lobed gray-green leaves, in shape and size resembling those of the castor bean plant. The trees may be tapped for rubber when they are 3 years old, or when the stem diameter attains 4 or 5 inches. The rubber collector first scrapes the loose dirt and stones away from under the tree and then covers the ground with broad leaves in order to catch the dripping sap. He then strips the bark from the trunk to a height of 4 to 5 feet, making a number of spiral incisions. The thick viscid milk flows from these incisions. Some of it runs down to the ground, but most of it remains on the trunk. It requires a good many days to dry completely. It is then broken off in long string-like pieces, which are rolled together in a ball or are simply packed in sacks. The product is then ready for market without further preparation." (*Semmler.*) Distributed.

4265. CUCURBITA MAXIMA.**Squash.**

From Cairo, Egypt. Received through Messrs. Lathrop and Fairchild (No. 304a), December 28, 1899.

A small, round variety. Both this variety and No. 3985 were compared with 15 European sorts grown in Egypt and found superior to them, both in amount of flesh and in sweetness. The trials were made by Mr. George Bonaparte, of Gizeh, near Cairo. (Reprinted from Inventory No. 6).

4266. TRITICUM VULGARE.**Wheat.**

From Japan. Presented by Prof. Setsusehuro Tawaka, of the Agricultural College, Imperial University, Komaba, Tokyo, Japan. Received January 4, 1900.

Aka-Yemide. A small sample of a red chaff variety of wheat. Distributed.

4267. TRITICUM VULGARE.**Wheat.**

From Japan. Presented by Prof. Setsusehuro Tawaka, of the Agricultural College, Imperial University, Komaba, Tokyo, Japan. Received January 4, 1900.

Shiro-Yemide. A small sample of a white chaff wheat. Distributed.

4268. STACHYS AFFINIS.**Crosne.**

Grown in Pennsylvania from stock imported from France. Received January 6, 1900.

Chinese artichokes. "The most important of the new vegetables introduced by Paillieux from China. I find them very good and think they will find favor in America for much the same uses as new potatoes.

"This is a perennial herb with simple or branched four-sided stems, 12 to 16 inches high. The leaves are opposite, lance-shaped, cordate at the base, crinkled and rough, and the flowers are borne in whorls of 4 to 6 on the upper part of the stems. The tubers are borne on the rootstocks in the same manner as potatoes. They resemble a string of coarse beads closely crowded together and flattened at their ends. When prepared according to French methods, the tubers are cooked from twelve to fifteen minutes. If boiled for a longer time they soften and become watery. They are served with sauces like broad beans, and possess a delicious but delicate flavor. They may be fried or cooked in a variety of ways or may be used in salads alone or with other vegetables. They also make fine pickles with onions, peppers, and gherkins. The plant is hardy, resisting severe cold. It is propagated from the tubers. These are set out in rows in a rich, loamy, clay soil very early in the spring, about potato-planting time. They are covered to the depth of 6 or 8 inches in hills 16 inches apart. The weeds are kept down during the summer, but the ground must not be stirred after the 1st of October, so as not to disturb the new tubers which are forming about that time. They will be ready to dig in November. The chief difficulty with the stachys is the difficulty of keeping the tubers after digging. They should be stored in a cellar in dry sand or earth and kept at a low temperature until required for the table. In France yields of 5 or 6 tons of stachys tubers per acre are often obtained. The stachys is a lover of moist, cool situations and does not thrive where exposed to great heat." (*Swingle.*) Distributed.

4269. CITRULLUS VULGARIS.**Watermelon.**

From Monetta, S. C. Received January 4, 1900.

Mathis. A new watermelon of superior quality and productiveness, shaped like the Kolb Gem, but larger, brighter green, with brighter stripes, and white seeds. The melons range from 30 to 100 pounds in weight and average from 700 to 1,000 to the carload. A carload (32,000 pounds) shipped from Monetta during the season of 1899 contained 700 melons, which averaged 46 pounds each. The vines are very thrifty and prolific. The yield often reaches 1 carload per acre. The Mathis is a fine shipper. Plant and cultivate as for other watermelons.

4270. HECHTIA.

From Hermosillo, Mexico. Received through Mr. W. T. Swingle, December 18, 1899.

For foreign exchange.

4271. CUCURBITA?

From Morenos, Sonora, Mexico. Received through Mr. W. T. Swingle, December 18, 1899.

For foreign exchange.

4272. JACQUINIA PUNGENS.

From Hermosillo, Mexico. Received through Mr. W. T. Swingle, November 18, 1899.

For foreign exchange.

4273. IPOMOEA ARBORESCENS.**Palo santo.**

From Morenos, Sonora, Mexico. Received through Mr. W. T. Swingle, November 16, 1899.

For foreign exchange.

4274. SAPIUM BIGLANDULOSUM.**Tolima rubber.**

From England. Received December, 1899.

Tolima rubber, or *White Virgin Rubber of the Andes*. (See No. 3820.) Distributed.

4275. TRITICUM VULGARE.**Wheat.**

From California. Received February 7, 1900.

Sonora. A winter wheat in mild climates. It has a reddish velvet chaff, without beards, and a white or reddish-white grain. It is rather productive and somewhat drought-resistant. It is adapted for the Pacific coast States and for growth under irrigation.

4276. TRITICUM VULGARE.**Wheat.**

From Washington. Received from Mr. L. F. Hammersmith, Lincoln County, Wash., January, 1900.

Lamona. Mr. Hammersmith describes this variety of wheat as follows: "It is the best drought-resistant wheat ever tried here, yielding from 20 to 30 bushels per acre of fine, plump kernels. It is a No. 1 milling wheat and sells for the highest price in our markets. This wheat was sown late last spring (1898) on a field where winter wheat had failed through being frozen out. It was planted almost too late for blue stem even." For trial in Kansas, Nebraska, Colorado, and Wyoming. Distributed.

4277. TRITICUM DURUM.**Wheat.**

From Texas. Received January 10, 1900.

Nicaragua. This variety is one of the macaroni wheats and has been grown on the Southwestern plains of the United States for a number of years. It is the only durum wheat that has yet gained any very great popularity in the country. But from the cultural standpoint it is so successful that only its general employment in macaroni making is needed to make it one of the most important of our wheat varieties. It is at present grown chiefly in Texas, but its area of cultivation needs to be much more widely extended. It is adapted for growing in a hot climate, and, though it requires considerable moisture at certain periods, it will mature a good crop with a less rainfall than is required by other varieties. It yields 30 to 40 bushels per acre in the black, waxy soils of central Texas, but will probably produce a grain of a little better quality farther westward, near the one hundredth meridian, where the soils are a little grayer and the climate drier. It is most successfully grown as a winter variety, at least as far north as the thirty-third parallel, and should be sown about November 1 to November 15 south of latitude 30° and about October 15 to November 1 between that parallel and latitude 33°. In Oklahoma and other districts farther north it will probably not survive the winter, but must be grown as a spring variety, and, if so, should be sown from February 1 to February 15, or as early as the opening of spring will allow. It should not be very thickly sown and should always be sown with a

drill. The crop should be harvested in as dry a condition as possible. Nicaragua will do well in the greater part of Texas, in Oklahoma, western Kansas, and eastern Colorado.

An analysis made by the chemical division of the Department of Agriculture shows that first-grade wheat of this lot contains 14.76 per cent nitrogen as albumin, whereas the second-grade wheat contains 16.31 per cent, an appreciably larger quantity. Distributed.

4278. AVENA SATIVA.

Oat.

From Ohio. Received January 9, 1900.

Early Ripe. An early ripening white oat with medium-length straw which stands up well. For trial in the Northern States. A very good yielder. Distributed.

4279. CUCUMIS MELO.

Winter muskmelon.

From Applegate, Cal. Presented by Col. John P. Irish, through Mr. W. T. Swingle. Received January, 1900.

Casaba. Colonel Irish says that this is a most delicious melon, having a taste somewhat resembling a mixture of muskmelon and watermelon, with a slight dash of cucumber, which is, however, an improvement. In shape and size it resembles the Hubbard squash, but is covered with long longitudinal stripes. These stripes become closer and finer as they approach the blossom end. There are no ribs and ridges as on the ordinary muskmelon. In color it is grayish green, and it keeps well far into the winter. Repeated inquiry for this melon in Eastern markets has proved unavailing. It may prove valuable for melon growers in the South. Distributed.

4280. TRITICUM VULGARE.

Wheat.

From New York. Received January 15, 1900.

Clawson Longberry. "A dark amber berry of the finest quality; is a giant in growth, with very strong straw; grain large and long. A longberry cross from the same parentage (on one side) from which Red Clawson came, but appearing superior to that sort as it was first sent out. It resembles, in some respects, Red Clawson in the field, but is a stronger grower and a more prolific stooler; has a stout, thick-walled, wiry straw of a light-yellow shade. Heads long, wide, and full, tending to club shape on all heavy soils. Chaff dark and free from beards; grain large, of true longberry type, and when grown on strong clay soils would be classed as light red. It delights in a strong clay or clay loam. On such soils, with thorough preparation, it will often yield 50 or more bushels per acre." (*Jones.*) Distributed.

4281. TRITICUM VULGARE.

Wheat.

From New York. Received January 15, 1900.

Pedigree Early Genesee Giant. "Originated from seedlings grown from a combination of crosses from the leading standard sorts. It is of strong growth and heavy root, with the ability to withstand spring frosts and summer drought, soon covering the ground with a dense growth of side shoots and leaves. It is adapted to a great variety of soils and will be of value to the farmer in cold, bleak sections of northern Illinois, Wisconsin, Iowa, and as far north and west as winter varieties can be grown. It does remarkably well even when sown late. It should be sown on rich, dark, loamy, strong, gravelly, or clay soils. On land liable to heave in the spring, it will prove of great value, as its strong roots and rapid growth quickly repair the slight thinning on wet soils. It grows a little above medium height and is short jointed and stocky, the wall of the straw being very thick and hard, resisting severe winds and rain storms to a remarkable degree without lodging. Heads are long, broad, and square, enlarged near the top and completely crowded out of shape with large, plump, medium-long kernels. A noticeable point in this sort is the prominent row of kernels through center of head, which in most varieties are in a degree deficient. The straw is very strong at the base of the head, which is carried upright even when overripe. Chaff smooth, thick, and hard, varying from a light to a dark-brown color with dark spots. Beards short with many lacking on side of heads and some growing only to short spurs. Grain large and plump, standing out very prominent on the head, of a light-amber shade, very hardy, and rich in gluten." (*Jones.*)

4282. TRITICUM VULGARE.**Wheat.**

From New York. Received January 15, 1900.

Early Arcadian. "Originated from a cross between Early Genesee Giant and Early Red Clawson, having the compact, square-built head, strong, medium-long straw, and light amber grain of Giant, and bald, brown chaff, earliness, and even growth in the field of Early Red Clawson. It is strong in growth, stocky and strong in straw, and a most prolific stooler. The straw is of a light yellow color, free from any purple shade, and exceptionally free from rust, and should be cut before it is overripe. It will prove one of the most reliable for all strong soils and river bottoms. On strong clay and gravelly clay it has given large yields." (*Jones.*)

4283. TRITICUM VULGARE.**Wheat.**

From New York. Received January 5, 1900.

Diamond Gril. "A very productive, hardy red winter wheat with strong wiry straw, and of sturdy growth. Straw is of medium height, thick-walled and wiry, of a light yellow color. Heads of medium length and carried nearly erect; grains close set, four or five abreast, short, plump, and dark, weighing 64 pounds to the measured bushel; chaff lightly bearded, thick and small, holding the grain firmly in place, the middle row showing very prominent and full, giving the head a very solid appearance, being noticeable at a distance in the field. On clay and strong limestone soils it will be found to produce grain darker and more brilliant than when grown on poor, light land." (*Jones.*) Distributed.

4284. VIGNA CATJANG.**Cowpea.**

From Virginia. Received January 15, 1900.

Taylor. Sow the seed broadcast about corn-planting time, or scatter in the corn rows at the last cultivation, using 10 to 16 quarts per acre. The vines may be cut for hay or turned under for green manure. (See Farmers' Bulletin No. 89.)

4285. GLYCINE HISPIDA.**Soy bean.**

From Richmond, Virginia. Received January 15, 1900.

Yellow. An erect, branching, hairy annual, with large compound leaves, each composed of three leaflets; inconspicuous pale violet flowers in small clusters in the axils of the leaves, and broad, several-seeded pods covered with stiff bristly hairs. The seeds are rounded and pale yellow in color. The plant thrives in medium or rich soil. The seeds should be planted in drills about 3 feet apart and cultivated until the plants are large enough to shade the ground. Cut for hay when the first pods are forming, and for seed before thoroughly ripe. This is a medium variety for the South.

4286. RHAGODIA HASTATA.**Saltbush.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

Halbert-leaved saltbush. "A divaricately branched undershrub, attaining often a height of 6 feet. The whole plant is covered with a gray tomentum, intensified in dry seasons. Leaves are mostly opposite, ovate-hastate in outline, about 1 inch or less long on short stalks. The flowers are small, clustered on slightly branched terminal spikes. The fruit is a succulent red berry. The aborigines of Central Australia, of the Dieyerie tribe, collect these berries and use them as an article of food; they call the shrub *Yillaroo*. The drought enduring qualities of this plant are phenomenal. Stock of all description are particularly fond of it. It grows easily in the natural way by seed, and it has been successfully grown from cuttings. It stands clipping well and can be recommended as a hedge plant. Sow 6 feet apart after autumn rains." (*Koch.*)

4287. ENCHYLAENA TOMENTOSA.

From South Australia. Received through Mr. Max Koch, of Mount Lyndhurst, January 18, 1900.

"A procumbent or divaricately branched undershrub, sometimes ascending, or even erect. The branches are hoary or silvery with a woolly tomentum, sometimes gla-

brons. The leaves are linear, entire, an inch long or less; flowers axillary, solitary, and sessile. The fruit consists of the succulent calyx inclosing one seed. The fruit is either yellow or red in color, and the aborigines of the Dieyerie tribe, of Central Australia, eat them in great quantities. It is drought enduring. When other herbs become scarce this plant is greedily eaten by sheep. The plant grows from seed; to be planted 4 feet apart after the early autumn rains." (*Koch.*)

4288. KOCHIA APHYLLA.

Cottonbush.

From South Australia. Received through Mr. Max Koch, of Mount Lyndhurst, January 18, 1900.

"Considered by Baron von Mueller a variety of *K. villosa*. Aboriginal name in the Dieyerie dialect of South Australia, *Bulka*, also *Poondoo-Poondoo*. A rigid intricately branched, scrubby shrub with slender, sometimes spinescent, branches growing 2 to 3 feet high. The leaves are minute, often deciduous, varying in length from one-eighth to one-half inch. The fruiting calyx is furnished with a horizontal membranous wing, which is finely veined and spreads to nearly three-fourths of an inch in diameter. Considered the best of the *Kochias*. Horses or cattle fatten on it quickly. It makes good chaff cut up with *Mulga* (*Acacia aneura*), and *black oak*, (*Casuarina glauca*). It grows well on alluvial flats along water courses. Should be planted 6 feet apart in February or March, after rain." (*Koch.*)

4289. KOCHIA BREVIFOLIA.

Bluebush.

From South Australia. Received through Mr. Max Koch, of Mount Lyndhurst, January 18, 1900.

"A rather slender, mostly erect, undershrub growing about 2½ feet high. The branches and foliage are clothed with short woolly hairs. The leaves are alternate, sessile, linear, and about one-fourth inch long. The fruiting calyx is bordered by 5 horizontal membranous wings. Herbivora of all kinds are remarkably fond of this shrub, which is, like all the *Kochias*, very hardy. The seeds should be sown 3 feet apart during the early autumn months after rain." (*Koch.*)

4290. KOCHIA VILLOSA.

Cottonbush.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"An undershrub of erect, spreading or decumbent habit, more or less covered with silky, villous wool. The leaves are alternate, linear, thick, and soft, about one-half to three-fourths inch long. The fruits resemble those of *K. aphylla*. As this plant is not so robust in growth as *K. aphylla* it has become rather scarce through long droughts and close cropping, but it is well worthy of conservation and cultivation. Plant at about the same time as *K. aphylla*, in rows 3 feet apart." (*Koch.*)

4291. KOCHIA PYRAMIDATA.

Bluebush.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"Aboriginal name is *Koonambirra*, also *Ooncroo*. A divaricately branched shrub, growing 3 to 4 feet high. The leaves are alternate, linear, obtuse, thick, and soft, and often clustered in the axils. The fruiting calyx is an entire, annular, membranous wing with a pyramidal membranous appendage. In severe seasons, when herbage or grass has long disappeared, the usefulness of this shrub as a fodder is inestimable. Seed should be sown in autumn, 6 feet apart." (*Koch.*)

4292. ATRIPLEX ANGULATA.

Saltbush.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"A spreading saltbush; aboriginal name, in the Dieyerie dialect of Central Australia, *Maltoo*. A dwarf shrubby plant with spreading branches of about 2 feet. The leaves are on rather long stalks and are variable in shape and size. The fruiting calyx is flat-stalked, membranous, and angular. This annual is fairly plentiful in the district and is extensively cropped by cattle, sheep, and horses, and is certainly a valuable constituent of the winter or spring pasture." (*Koch.*)

4293. ATRIPLEX HALIMOIDES.**Saltbush.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

Annual saltbush. "A widely distributed procumbent or diffuse underbush, attaining a height of 1 foot or more. The leaves are variable in form, mostly ovate-lanceolate or rhomboidal, from 1 to 1½ inches in length. This plant is peculiar to the arid saline country; it is a good fodder plant and has the reputation, like all the species of *Atriplex*, of preventing fluke in sheep. In fact, these plants have been known to entirely cure sheep badly afflicted with this or other distoma diseases, when kept grazing for a few months on these salinous plants." (*Turner.*)

4294. ATRIPLEX KOCHIANUM.**Saltbush.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"This perennial (or annual, with a woody base), is a comparatively new plant, first brought under notice by the writer and described by Mr. J. H. Maiden, director of the Botanic Gardens, Sydney, New South Wales. It is thinly distributed in the vicinity of Mount Distance and is a good fodder plant. It is nearest allied to *A. vesicarium*, which it much resembles in habit and foliage, and from which it is chiefly distinguished by the short and broad segments of the fruiting calyx, which are scarcely half as long as the dorsal appendages." (*Koch.*) Distributed.

4295. HETERODENDRUM OLEAEFOLIUM.**Mondera.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"A tall shrub, sometimes a tree. Leaves lanceolate or narrow, oblong, from 2 to 4 inches in length, leathery and often rigid. The hot winds and long spells of dry weather have little effect in checking its growth, and during the time when other fodders are scarce it is a valuable standby for the flock owners, who cut down large quantities for forage, which cattle and sheep greedily feed upon. The seeds should be sown during the early autumn months after rain. The aborigines of the Dieyerie tribe call this shrub *Mondera*. They eat the seed." (*Koch.*)

4296. BAUHINIA CARRONII.**Bean tree.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"Every traveler speaks highly of this tree on account of its attractive appearance and the dense shade its foliage affords. (?) I have one of them growing in my garden. Not having seen the plant in flower I am not quite certain whether the seed I send you is of *Bauhinia carronii* or *B. leichhardtii*. The tree thrives in a moist position, in alluvial flats liable to be inundated after rains. The seed should be softened by pouring boiling water over it and soaking it for twenty-four hours or more before sowing, in February or March. The aborigines of the Dieyerie tribe called the tree *Moodloo*, and the seeds are eaten by them." (*Koch.*) Distributed.

4297. PITTOSPORUM PHILLYRAEOIDES.**Pittospore.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

Willow leaved. "A small tree, attaining a height of from 15 to 20 feet, with its smaller branches pendulous, giving the tree a graceful appearance. When the fruits are developed the tree is an object of beauty and may be classed with the ornamental plants. The leaves are linear-lanceolate, from 2 to 5 inches in length, of a thick texture. The foliage, which is cut down in times of scarcity, yields fodder for cattle and sheep. The seeds, though very bitter, but not poisonous, used to be pounded up into flour by the blacks, made into cakes, roasted in the ashes, and eaten. The name of the tree in the Dieyerie dialect of central Australia is *Madroo*. Sow the seed in February or March, after rain. It does not succeed in moist situations." (*Koch.*)

4298. FREMOPHILA LONGIFOLIA.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"A tall, erect shrub of a slightly hoary appearance, from 10 to 15 feet high; leaves scattered, linear-lanceolate, 3 to 5 inches long, tapering into recurved points. Flowers about 1 inch long, dull red, velvety outside. The sacred tree of the blacks, who call it *Koojamurra* in the Dieyerie dialect of central Australia. The aborigines use the branches of this tree, or large shrub, for the sacred purpose of covering their dead. The wood is used also in certain operations by the blacks. A piece of wood of the *Koojamurra* about 6 inches long is pointed at one end sufficiently sharp to pierce the nose, the partition of which the operator takes in his left hand, while he pierces it with the right. Before and after the operation the men and women sing, believing that by singing a great deal of pain is taken away from the child. After the hole is made a large quill is inserted to prevent it from closing up and kept there until the wound is thoroughly healed. This operation is inflicted on boys or girls at the age of from 5 to 10 years and is called Moodla-willpa, which means nose hole. Another performance in which the wood of the *Koojamurra* is used is the Chirrin-chirrie, or extraction of the teeth. This cruel and painful practice consists in knocking out two front teeth of the upper jaw. Two pieces of the *Koojamurra* tree, each about a foot long, are sharpened at one end to a wedge-like shape, then placed on either side of the tooth to be extracted and driven between as tightly as possible. The skin of a wallaby, in two or three folds, is then placed on the tooth about to be drawn, after which a stout piece of wood about 2 feet long is applied to the wallaby skin and struck with a heavy stone, two quick blows being sufficient to loosen the tooth, which is then pulled out by the hand. This operation is repeated on the second tooth. To stop the bleeding, damp clay is placed on the holes whence the teeth were extracted." (From G. Gason's "*The Dieyerie Tribe of Central Australia.*")

4299. FREMOPHILA MACULATA.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"A tall, handsome shrub with rigid, spreading branches, nearly glabrous. The flowers, which are very numerous, are red, more or less variegated with yellow, and dotted inside. Besides the lovely flowers, it retains its distinctive evergreen appearance during the driest weather, and is a conspicuous feature among the surrounding vegetation. It is well worth cultivating for its ornamental qualities. The aboriginal name is *Nanyoo*." (Koch.)

4300. MYOPORUM MONTANUM.**Myrtle bush.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"A large shrub, leaves narrow lanceolate, acute, on long stalks, corolla white, with violet dots inside and bearded, flowers in clusters from 3 to 6. The aboriginal name in the Dieyerie dialect of Central Australia is *Adloo*. The fruits are eaten by the blacks." (Koch.)

4301. TRIBULUS HYSTRIX.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"This annual herb, with long prostrate branches and pinnate leaves, the leaflets of which are obliquely oblong in about 7 pairs, produces an abundance of good fodder for all herbivora during the hot summer months. The seeds germinate readily in October or November after a good rain, but they are somewhat prickly and objectionable in the fleeces of sheep. Nevertheless it is a very useful fodder and worthy of trial. The aboriginal name in the Dieyerie dialect is *Koola*." (Koch.)

4302. ABUTILON MITCHELLI.**Abutilon.**

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"An undershrub, growing from 2 to 3 feet high, with large, velvety leaves and showy, yellow flowers. Like all species of mallows, this is favorably known as a

hardy fodder plant, which possesses also some claim as an ornament, and can be recommended either as a garden or fodder plant. Seeds sown in March or February, about 4 feet apart, after rain, will readily germinate, and under favorable conditions develop into presentable plants the first year." (Koch.)

4303. EREMOPHILA DUTTONII.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"An ornamental shrub, attaining a height of 5 to 8 feet. Corolla orange red; calyx segments much enlarged after flowering; leaves narrowly lanceolate. Aboriginal names in the Dieyerie dialect of central Australia: *Kallya, hlaja*." (Koch.)

4304. ELEUSINE CRUCIATA.

Eight-day grass.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

Summer grass. "This annual, which starts into growth any time from October to the end of February, after a sufficient fall of rain, is valuable on account of its extremely quick growth, especially when the country has been reduced to a desert through the long absence of rain. A few days after a rain in summer it will produce fodder for sheep, and keep them going until the slower-growing grasses or herbs yield a crop. This grass grows on alluvial flats, especially in sandy soils. The aboriginal name in the Dieyerie dialect is *Wallanoorroo*." (Koch.)

4305. ACACIA SENTIS.

Prickly wattle.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

Bramble Acacia. A small, spreading, thorny tree, sometimes 30 to 40 feet high, with linear or lanceolate phyllodes; occurring in all the colonies of Australia. In western New South Wales "its presence is considered to be a sure indication of underground water. It resists drouth and heat very well, probably because of the enormous depths to which its roots penetrate. Mr. Scott, in sinking wells in the Grey Ranges, northwest New South Wales, traced the roots down to a depth of 80 to 90 feet." (Maiden). "The timber is soft, but tough. A light-colored gum of good quality is produced sparingly. The bark contains some tannin. The seeds are eaten by the Australian blacks." (F. Mueller.) "Cropped by herbivora in dry seasons and receiving special attention from the camel at all times. Can also be tried as a hedge plant, as it stands clipping well. Seed should be steeped in water for a day or two before sowing in February or March. The aboriginal name in the Dieyerie dialect is *Kalyoo*." (Koch.) Distributed.

4306. BASSIA DALLACHYANA.

From South Australia. Received through Mr. Max Koch, Mount Lyndhurst, January 18, 1900.

"An undershrub of erect habit, cottony, growing about 1 foot or more high. The branches are clothed with wool; the leaves are sessile linear, obtuse, thick, soft, and densely tomentose, about one-half to one inch long; the flowers are mostly in pairs and crowded into terminal leafy spikes; the fruiting calyx is nearly globular, membranous and densely woolly tomentose. It is eaten by sheep, but when in fruit I believe it to be injurious to them. As a fodder plant it therefore can not be recommended, yet it may be useful to ascertain whether the cottony substance of the fruiting calyx be suitable for manufacture of cotton or felt. These plants produce this cottony or woolly material in great quantities, which, when matured, can easily be stripped off with the hand. The time to sow, like the *Atriplex*, is in early autumn, 3 feet apart." (Koch.)

4307. TRITICUM VULGARE.

Wheat.

From Michigan. Received January 19, 1900.

Budapest. "A red, bearded, winter wheat, with rather hard grains, and ripening fairly early. It has narrow compact heads, well filled. Introduced into Michigan from Hungary by C. G. A. Voigt, of Grand Rapids. The grain is dark red in

color and possesses a good gluten content. Adapted for trial in the North Central States. It will stand considerable drought and rather hard winters. Should be sown early in September." (*Carleton*.) Distributed.

4308. SORGHUM VULGARE. Sorghum.

From Kansas. Received January, 1900.

Colman. Grown from selected seed at Medicine Lodge during the season of 1899. An improved variety containing a high percentage of sucrose. Distributed.

4309. SORGHUM VULGARE. Sorghum.

From Kansas. Received January, 1900.

Collier. Grown from selected seed at Medicine Lodge during the season of 1899. An improved variety containing a high percentage of sucrose. Distributed.

4310. SORGHUM VULGARE. Sorghum.

From Kansas. Received January, 1900.

Folger's. Grown from selected seed at Medicine Lodge during the season of 1899. An improved variety containing a high percentage of sucrose. Distributed.

4311. SORGHUM VULGARE. Sorghum.

From Kansas. Received January, 1900.

Amber. Grown from selected seed at Medicine Lodge during the season of 1899. An improved variety containing a high percentage of sucrose. Distributed.

4312. SORGHUM VULGARE. Sorghum.

From Kansas. Received January, 1900.

Edgar. Grown from selected seed at Medicine Lodge during the season of 1889. An improved variety containing a high percentage of sucrose. Distributed.

4313. GOSSYPIMUM HERBACEUM. Cotton.

From Georgia. Received January 22, 1900.

Truitt's Big Boll. "A very hardy, prolific variety developed by careful selection and good cultivation by Mr. George W. Truitt in dry, hilly upland of medium fertility at La Grange, Ga. Plants large, 3 to 5 feet high, with rather long, spreading limbs; leaves firm in texture; bolls very large, about 2 inches long, roundish; maturing rather late; lint 30 to 32 per cent of the weight of seed cotton; staple three-quarters to seven-eighths of an inch. This is one of the hardiest and best drought-resisting varieties of the Piedmont region, and has borne good crops even under adverse conditions. It is recommended as one of the most prolific varieties for the upland region of the cotton belt. Plant in drills 4 feet apart, leaving plants 15 inches apart in the drill. Keep the surface of the ground well cultivated until the time of flowering. Save seeds for planting from early pickings from the most prolific plants." (*Dewey*.)

4314. ZIZANIA AQUATICA. Wild rice.

From Minnesota. Received January 22, 1900.

"A tall, erect annual, 3 to 10 feet high, growing in shallow water along rivers and lakes from Canada southeast to Florida and westward to Texas. The grain is a favorite food of the reed bird, and it is cultivated to some extent by sportsmen with a view to attracting these and aquatic fowls. It grows very rapidly in 1 to 8 feet of water, and matures its seeds in August or early September. It succeeds best when sown in the fall broadcast in 2 to 3 feet of water having a muddy bottom, but it can be sown in spring, in water from 6 inches to 5 feet deep. Before sowing soak the seeds in water a few hours, so that they will sink readily. This grass is abundant in the tide waters of the rivers of the Middle States—notably, in the Delaware below Philadelphia, where it is designated as 'the reeds.' This grass is the 'manorrim' of the Chippewa Indians, who gather the grain for food." (*Scribner*.)

4315. VIGNA CATJANG.**Cowpea.**

From North Carolina. Received January 22, 1900.

Wonderful. This is one of the best cowpeas grown in the South. It is semi-erect, with large and abundant foliage, and is a prolific yielder both of vine and seed. Sow the seed broadcast about corn-planting time, or scatter in the corn rows at the last cultivation, using 10 to 15 quarts per acre. The vines may be cut for hay or turned under for green manure. (See Farmers' Bulletin No. 89.)

4316. VIGNA CATJANG.**Cowpea.**

From North Carolina. Received January 22, 1900.

Southern. This is the most commonly cultivated variety in the South. It is very prolific, but does not compare with the "Wonderful" in amount of seed or forage. Sow the seed broadcast about corn-planting time, or scatter in the corn rows at the last cultivation, using 10 to 15 quarts per acre. The vines may be cut for hay or turned under for green manure. (See Farmers' Bulletin No. 89.)

4317. VIGNA CATJANG.**Cowpea.**

From North Carolina. Received January 22, 1900.

Black. One of the earliest cowpeas; suitable for cultivation in the North. Sow the seed broadcast about corn-planting time, or scatter in the corn rows at the last cultivation, using 10 to 15 quarts per acre. The vines may be cut for hay or turned under for green manure. (See Farmers' Bulletin No. 89.)

4318. VIOLA TRICOLOR.**Pansy.**

From New York. Presented by M. Beaulieu, of Wood Haven, January 23, 1900.

Mille Cecile Davy. An improved strain of giant pansy.

4319. AMARANTHUS PANICULATUS.**Common amaranthus.**

From India. Received through the Division of Agrostology, January 24, 1900.

An annual weed which is cultivated as a food plant in the hill country of southern India. The seeds are parched, ground, and made into cakes with sugar. The green leaves are also used as a vegetable.

4320. PINUS GERARDIANA.**Neosia.**

From India. Received through the Division of Agrostology, January 24, 1900.

"A medium-sized pine found in the arid parts of northwestern India and Afghanistan. The seeds are collected and stored, and form an important item in the food supply of the region." (*Church.*)

4321.

From Ferndale, Wash. Presented by Dr. A. W. Thornton, January 17, 1900.

Some Chilean nuts from Valdivia. Adapted only to the citrus belt of California or Florida. Distributed.

4322. CITRULLUS VULGARIS.**Tsamma melon.**

From Berkeley, Cal. Presented by Prof. Charles H. Shinn, of the California Experiment Station. Grown in California from seed imported from South Africa by the Division of Agrostology through Prof. Peter MacOwan.

A forage melon from the Kalahari Desert of South Africa. The fruits are small, 4 to 6 inches in diameter, but are produced in the greatest abundance. It is said that travelers crossing the deserts of South Africa depend largely upon them for water for their stock. Of value for introduction in the deserts of southern California and Arizona.

4323. QUERCUS SUBER.**Cork oak.**

From Fayal, Azores. Donated by Mr. Caleb Wilkinson, United States consul at St. Michaels, Azores, through Hon. Geo. H. Pickerill, January 26, 1900.

"In Portugal and Spain the best way of growing the cork oak is found to be by scooping a shallow hole in the ground about 18 inches in diameter, stirring the earth well, then making a small mound of earth in the middle of the hole, on the top of which the acorn is placed on its side. A couple of handfuls of earth are then put over the acorn lying on the flattened top of the mound and a little brushwood on the weather side of the hole to protect the seedling. Rich ground or manure is unnecessary; in fact the harsher and drier the ground the better is the quality of the cork." (*Caleb Wilkinson.*) Distributed.

4324. EUCHLAENA LUXURIANS.**Teosinte.**

From Florida. Received January 27, 1900.

"This stout, leafy grass, 8 to 10 or 12 feet high, resembling Indian corn, to which it is botanically closely related, has been cultivated in various parts of the South and West. It has a habit of tillering or sending up many—20 to 50—stalks from the same root. From this habit the bulk of fodder produced to the acre is very large, probably unequalled by any other grass. It is liked by all kinds of stock and has a special value as a green fodder when other forage is dried up. It may be cut several times during the season, but nearly as good results will be obtained from a single cutting made just before frost. The stalks are tender, and there is no waste in the fodder when dry or green. One pound of seed to the acre, planted in drills 3 feet apart and thinned to a foot apart in the drill, is recommended. It is a native of the warmer portions of Central America and Mexico. The seed rarely matures north of southern Florida." (*Tracy.*) Distributed.

4325. GOSSYPIUM HERBACEUM.**Cotton.**

From Louisiana. Received January, 1900.

Lewis Prize. "A prolific variety developed by Mr. W. B. F. Lewis, of Tangipahoa Parish, La., yield of seed cotton nearly as great as that of the most prolific big boll varieties and percentage of lint nearly 35½ per cent. Although developed near the Gulf coast and at only a small elevation above tide water, it proved during the dry season of 1899 to be very hardy and very prolific at the Georgia Experiment Station, 45 miles south of Atlanta. It is recommended for trials in alluvial lands in all parts of the cotton belt except at the north, where the season may be too short. Plant in deep, rich, sandy loam or in clay loam, made mellow by deep cultivation, in drills 4 feet apart, leaving plants about 18 inches apart in the row. Keep the surface soil well stirred by frequent cultivation until the time of flowering." (*Dewey.*)

4326. GOSSYPIUM HERBACEUM.**Cotton.**

From Naples, Italy. Received February, 1900.

Neapolitan. One of the best varieties of cotton recently developed in the principal cotton-growing district of Italy, near Naples; fiber of medium length, very fine. A rich, deep, mellow soil is preferable for this variety. Prepare the land as for the cultivation of upland cotton. Plant in drills 4 feet apart, leaving them about 15 inches apart. Distributed.

4327. GOSSYPIUM HERBACEUM.**Cotton.**

From Alabama. Received January, 1900.

Russell's Big Boll. "A variety developed by careful cultivation and selection from seed from a very prolific plant found in 1893 by Mr. J. T. Russell in his cotton fields in Alabama. Plant erect, broadly pyramidal, with spreading branches, and rather stout central stalk 3 to 6 feet high; bolls large, 1¾ to 2¼ inches long, rounded, somewhat clustered along the branches; lint of medium length, about three-fourths of an inch, averaging about 32 per cent of the weight of the seed cotton. Fifty-four bolls yield 1 pound of seed cotton. In variety tests at several of the experiment stations during the past two years, Russell's Big Boll has proved to be one of the most prolific varieties, and especially during the dry season of 1899, it exhibited remarkable

drought-resistant qualities. Although producing a larger crop than most varieties on poor, dry upland, it responds well to better conditions. Forty bales have been produced on 14 acres. Plant in drills 4 feet apart, leaving plants 15 inches apart. Give thorough surface cultivation until the time of flowering. Keep the picking up as closely as possible to prevent loss from lint falling out, although the loss from this source is not likely to be greater than in other big boll varieties. Save seeds for planting from early pickings from the best plants." (*Devey.*)

4328. GOSYPIUM BARBADENSE.

Egyptian cotton.

From Texas. Received January, 1900.

Matafifi. "The leading variety of Egyptian cotton imported by the U. S. Department of Agriculture and acclimated by five generations of cultivation by W. H. Wentworth in southern Texas. Plants robust, 4 to 7 feet high, with numerous spreading branches; leaves deeply 3-lobed; flowers large, yellow; bolls rather small, three-locked, numerous, scattered along the branches; lint light brown—lighter than the imported Egyptian cotton—soft, oily, strong, with well-developed twist, clinging together and remaining compact after the boll opens; staple about $1\frac{1}{4}$ inches long. A long, warm season is required for the growth of this cotton. It is desirable to have sufficient moisture during its early growth to induce a rapid development of the plant, followed by warm, dry weather while the bolls are forming, and to plant before the end of March, if possible, on an upland loamy soil long under cultivation. The bolls do not begin to form until the plant has attained nearly its full size, and in rich, moist land it continues to grow too long, producing large plants with few bolls. Plant in drills 6 feet apart, leaving plants about 30 inches apart in the row. Give frequent surface cultivation until time of flowering. Pick the cotton as soon as possible after the bolls open, as the fiber loses its luster and soft, oily qualities by long exposure to the weather. A roller gin must be used to obtain the fiber without injury and produce a good quality of cotton that will compare favorably with that imported from Egypt. Seed for planting should be saved from the early pickings from selected plants of the best type. A peck of seed should plant three-fourths of an acre, and under favorable conditions the yield should beat least three-fourths of a bale per acre." (*Devey.*)

4329. GOSYPIUM BARBADENSE.

Egyptian Cotton.

From Egypt. Received through Vilmorin, February, 1900.

Matafifi. The leading variety grown in Egypt, where it is supposed to have developed from American Sea Island, early introduced there. A robust plant 4 to 7 feet high, pyramidal, with numerous spreading branches; leaves deeply three-lobed; bolls numerous, scattered along the branches, small, three-locked; seed black, with small tufts of green fiber at the ends; lint yellowish brown, fine, oily, soft, very strong, with well-developed twist making it cling together like wool, remaining compact after the boll opens; staple about $1\frac{1}{4}$ inches long. The lint averages about 33 per cent of the weight of seed cotton. The yield of this variety is usually higher than that of other Egyptian cottons. There is a demand for it at prices about double those of ordinary upland cotton. In Egypt it is cultivated throughout the cotton-growing region of the Nile delta, where very little rain falls from the time of planting in March to harvest time in November, but it is irrigated early in the season. It requires a long, warm, dry season and is recommended only for the southern part of the cotton belt in this country. It should be planted on upland sandy loam, in old cultivated land, in drills 5 or 6 feet apart, with plants about 30 inches apart in the drill. In rich moist soil more room will be needed, as large plants may be produced with few bolls. Frequent cultivation should be given until time of blooming. Picking should follow the opening bolls as soon as possible to prevent injury to the soft, oily qualities of the fiber by exposure to the weather. A roller gin must be used to obtain the fiber in a condition that will compare with that of the imported Egyptian cotton. The yield from the first planting of imported seed is likely to be less than that of later generations that have become acclimated. Seed for planting should be saved from early pickings from early maturing plants of the best type. (*Devey.*)

4330. GOSYPIUM BARBADENSE.

Egyptian Cotton.

From Egypt. Received through Vilmorin, February, 1900.

Abasi. "A variety of long staple cotton developed by selection in Egypt from the variety known as "Kafiri," which in turn was obtained from Matafifi. It has a spreading habit, branching from near the base; leaves rather deeply three-lobed,

similar to those of Sea Island cotton, from which it is supposed to be remotely descended; bloom large and yellow; bolls small, three-locked, sharp-pointed; lint white, fine, silky, remaining compact after the bolls open; fiber about $1\frac{1}{4}$ inches long, very strong, with a well-developed twist, making it cling together like wool. The best Abbasi brings the highest price of any cotton produced in Egypt. The Abbasi requires a long season, and may succeed well in this country only in the southern part of the cotton belt, where it may be planted in March and harvested as late as November. A rather dry, sandy loam upland, retaining moisture below the surface, is best for its growth. Fertilize and prepare the land as for ordinary upland cotton. Plant in rows about 5 feet apart, leaving the plants 20 inches apart in the row; cultivate sufficiently to keep the surface continually mellow until the plants begin to bloom. Pick as soon as possible after the bolls are open, to prevent injury to the lint from exposure. The fiber should be ginned on a roller gin to obtain the best results and produce a fiber that will compare favorably with imported Egyptian cotton. Seed for planting should be selected from the early pickings, which usually produce the best fiber. Previous trials of this variety in this country indicate that the yield the first year is likely to be smaller than after the plants have become acclimated by growing here two or three generations." (*Dewey.*)

4331. *Gossypium herbaceum.*

Cotton.

From Arkansas. Received February, 1900.

Eldorado. "A recently developed variety of much promise. Plant robust, erect, 46 feet high, with numerous spreading branches; bolls above medium size, very numerous, giving a large yield of seed cotton, maturing early; lint below the average percentage, because of the comparatively large seed, but with long staple, commanding one-quarter to 1 cent above the average market price. Its growth and production at the experiment station at Newport, Ark., during the last three years, indicate it to be the most profitable variety for that region. It is recommended for trial in sandy loam or alluvial soils. Plant in drills $4\frac{1}{2}$ to 5 feet apart, leaving plants 20 inches apart in the drill." (*Dewey.*)

4332. *Lotus uliginosus.*

Swamp Clover.

From France. Received February 2, 1900.

This is a slender, branching clover with heads of rather large, yellow flowers, and slender, elongated pods. It is a native of Northern Europe, where it is esteemed for swampy meadow lands. It is now cultivated in Wisconsin and Minnesota on sour, peaty, or muck soils.

4333. *Mucuna utilis.*

Velvet bean.

From Florida. Received January, 1900.

The velvet bean is apparently a native of India, and has been in cultivation as an ornamental garden plant for a good many years. It is believed to have been first introduced into this country by the Department of Agriculture for this purpose about 25 or 30 years ago. In favorable localities it often forms vines 30 to 50 feet in length. It is an excellent plant for quickly covering unsightly objects or arbors. The purple flowers are borne in clusters at intervals of 2 to 3 feet at the joints of the stem. These are followed by clusters of short, cylindrical pods, covered with the black, velvety down which has given the name to the plant. Each pod contains 3 to 6 large, rounded, brown and white mottled seeds. The pods are constricted laterally between the seeds, and are often more or less curved.

In Florida the seed is sown in drills 4 feet apart, from 2 to 4 seeds being planted in hills 2 feet apart in the row. The seed may be dropped in furrows when the ground is plowed and covered 2 to 3 inches deep. The crop should be cultivated several times. In orange groves and orchards the beans may be sown in drills 4 to 5 feet apart, and not less than 5 feet away from the trees, in order to keep the vines out of them. They make a better mulch crop in the orchard than cowpeas, because when the vines are cut down by a frost they form a tangled mass which retains the leaves and protects the soil from rain and sun. The leaves stay on the vines longer than on cowpeas. Farther north the seeds should be sown thicker, in drills 2 to 3 feet apart, or broadcast at the rate of 1 to 2 bushels per acre. The velvet bean makes its best growth on the lighter, sandy soils.

4334. POA SUDETICA.**Lawn grass.**

From France. Received February 2, 1900.

A good grass for shaded lawns.

4335. NICOTIANA TABACCUM.**Tobacco.**

From France. Received February 2, 1900.

Aromatic Turkish. The Turkish tobaccos are similar to the bright cigarette tobaccos of Virginia and the Carolinas. The plants are small, with very small leaves, and must be planted 18 to 24 inches apart in the rows. They require similar cultivation in the field and similar methods of curing to the bright tobaccos. Distributed.

4336. VICIA FULGENS.**Scarlet vetch.**

From France. Received February 2, 1900.

"An Algerian vetch with handsome red flowers. It is an annual and grows with extraordinary vigor, reaching a height of 6 to 8 feet and yielding an abundance of excellent forage. Dr. Trabut, who introduced the species into culture, reports that at the experiment station of Rouïba, near Algiers, it yields 40 tons of green fodder to the acre. The great drawback of this most promising vetch is that the pods when ripe snap open, especially under the influence of hot winds, and scatter the seeds, rendering their collection very difficult and the seed in consequence high priced. It is sown in autumn before the first rains, in Algeria, either alone or with winter oats. It occasionally produces seed abundantly. It is to be hoped that some region may be found in the United States where there is a sufficiently humid atmosphere during the ripening period of the pods to prevent their scattering the seeds. It might be possible to breed varieties which would hold the seed better. This vetch is most likely to succeed in the Southern States and on the Pacific slope." (*Swingle.*) (See 3825 and 5574.)

4337. VICIA MACROCARPA.**Vetch.**

From France. Received February 2, 1900.

"A variety of the common vetch (*Vicia sativa*) differing in having larger leaves and especially by its very large inflated pods, which resemble those of some garden peas. It is a native in Algeria and is much liked by the Arabs who eat the pods when full grown but still succulent. It should be sown in autumn, and has succeeded best in warm regions, though it should also be tried in the North where it should be sown in the spring. It is worthy of trial as a forage plant." (*Swingle.*)

4338. CANNABIS SATIVA.**Hemp.**

From Naples, Italy. Received February 5, 1900.

Giant of Naples, large seeded. "The best hemp on the market in this country comes from Italy. In Italy the seed is sown on deep, mellow, well-stirred soil at the rate of 2½ bushels per acre. The ground is well fertilized. The crop is harvested when the tops become yellow and the base of the stalks turn white. The male plants mature and are harvested first; the seed plants 20 to 24 days later. After cutting the plants are dried in a shady place. In favorable soils Italian hemp averages a yield of 1,700 to 2,200 pounds of dry stalks per acre, which produces 450 to 530 pounds of fiber." (*Dodge.*) Distributed.

4339. CANNABIS SATIVA.**Hemp.**

From Naples, Italy. Received February 5, 1900.

Giant of Naples, small-seeded. The best hemp on the market from this country comes from Italy. In Italy the seed is sown on deep, mellow, well-stirred soil. Sow as early as the ground is ready, 1 bushel per acre, broadcast for fiber, and cut when in full bloom. For seed, plant in drills 3 feet apart, 2 quarts of seed per acre. (See No. 4338.) Distributed.

4340. HORDEUM VULGARE. Barley.

From Naples, Italy. Received February 5, 1900.

Altamura. One of the best varieties of Italian barleys. For trial in the Southern States and in Texas.

4341. CANNABIS SATIVA. Hemp.

From Naples, Italy. Received February 5, 1900.

Giant Piedmont. In Italy the seed is grown on deep, mellow, well-stirred soils. Seed should be sown at the rate of 1 bushel per acre, broadcast for fiber, and cut when in blossom. For seed, 2 quarts per acre, in drills 3 feet apart. (See 4338.)

4342. TRITICUM VULGARE. Wheat.

From Naples, Italy. Received February 5, 1900.

Rieti. A bearded, winter wheat, with large, rather hard, red grains. It is fairly hardy and rather rust resistant. It is adapted to all winter wheat States east of the Rocky mountains, but especially to Kentucky, Tennessee, and the Southern States, where a rather hard, red, rust resistant wheat is desired.

4343. SECALE CEREALE. Rye.

From Naples, Italy. Received February 5, 1900.

Abruzzes. A superior rye grown in the Abruzzi province, a mountainous district east of Rome. This strain is one of the best grown in Italy. For trial in the South and in the Central and Southwestern States.

4344. AVENA SATIVA. Oat.

From Naples, Italy. Received February 5, 1900.

Black Hungarian. A rather prolific black side oat, which originated in Hungary. It is fairly hardy, quite rust resistant, and of excellent quality. It is well adapted for all middle latitudes of this country, but especially the Great Plains region. Seed should be sown as early in the spring as possible.

4345. CYNARA SCOLYMUS. Artichoke.

From Naples, Italy. Received February 5, 1900.

Large Early Green Naples. Distributed.

4346. CYNARA SCOLYMUS. Artichoke.

From Naples, Italy. Received February 5, 1900.

Large Green of Laon. "A vigorous, comparatively hardy plant, of medium height; leaves silvery gray, the ribs reddish, especially at the base, end without spines; stems stiff, erect, usually branching two or three times; heads large, broader than long, particularly remarkable for the breadth of the receptacle; scales very fleshy at the base, at first very closely pressed together, later opening out and the two upper rows slightly bent back; scales pale green, tinged with purple at the base, with few or no spines; stems 2½ to 3 feet high. A plant two years old will have three to four stems. It is a very early variety, but is the best for yielding heads every year of its cultivation. No other variety has such a thick, broad, fleshy receptacle or bottom. It comes fairly true from seed." (*Vilmorin.*) Distributed.

4347. CYNARA SCOLYMUS. Artichoke.

From Naples, Italy. Received February 5, 1900.

Purple of Venice. "A new variety." (*Dammann.*)

4348. CYNARA SCOLYMUS.**Artichoke.**

From Naples, Italy. Received February 5, 1900.

Remontant. "This is one of the best of all. The heads are very large, heavy, dark green, tinged with violet, and absolutely free of spines. The heads are tender and of fine flavor. It bears two crops each year, one in spring and the second in autumn." (*Dummain.*) Distributed.

4349. CYNARA SCOLYMUS.**Artichoke.**

From Naples, Italy. Received February 5, 1900.

Molice. "A giant variety, with glaucous green leaves, without spines. Very prolific and very early, the swollen bases of the scales tender and very thick." (*Dummain.*) Distributed.

4350. CYNARA SCOLYMUS.**Artichoke.**

From Naples, Italy. Received February 5, 1900.

Terranova. "A medium large variety. Fruits very early and very numerous, earlier than any other known variety. Receptacle broad and thick. Bases of the involueral scales moderately thickened, violet, the apex without spines, but bent backward. An early market sort." (*Dummain.*) Distributed.

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