

2227. ATRIPLEX SEMIBACCATUM. Australian saltbush.

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

The plant is a native of Australia, now very successfully grown in California as a forage and fodder plant for alkali soils. (*D. G. Fairchild.*) A much-branched perennial, which forms a thick mat over the ground to the depth of a foot. The branches extend from 6 to 8 or 10 feet, so that one plant will often cover an area of 20 feet in diameter. The leaves are about an inch long, broadest at the apex, and coarsely toothed along the margin. They are fleshy and somewhat mealy on the outside. The pulpy, flattened fruits are tinged with red at maturity, but dry out as soon as they fall from the plant. They are produced in enormous numbers and ripen continuously for 3 or 4 months, or in situations where growth is perennial throughout the year. At the California Experiment Station it was determined that the seeds germinate better when sown directly on the surface without any covering. When they were harrowed in to the depth of 2 or 3 inches most of them either rotted before germination or the young seedlings were unable to reach the surface. The plant may be propagated by cuttings as well as from seed, and this method is to be preferred wherever the land contains much alkali. The seeds will germinate in the presence of an amount of soda salts which would entirely prevent the growth of cereals. This is especially true in the case of Glauber's salt, though there is, of course, a limit to the amount of alkali the plant will tolerate, as in the case of wheat or alfalfa. This saltbush is perennial in California, Arizona, and New Mexico, but must be treated as an annual wherever the winters are at all severe. In South Dakota plants from seed sown in May had just commenced to blossom at the time of the first hard frost in autumn.

2228. GARDENIA JASMINOIDES. Cape jasmine.

From France. Received through Mr. W. T. Swingle, 1899.

An ornamental shrub from China. Much grown in the South. It bears numerous large white very fragrant flowers.

2229. PASSIFLORA COCCINEA. Passion flower.

From France. Received through Mr. W. T. Swingle, 1899.

An ornamental vine from South America with fruits which are eaten both raw and cooked. The flowers are scarlet with orange rays. (See No. 1903.)

2230. TUBER MELANOSPERMUM. Truffle.

From France. Received through Mr. W. T. Swingle, 1899.

Mr. Swingle writes as follows from Paris, under date of January 29, 1899, on the subject of trufficulture:

"The annual production of truffles in France amounts to over 2,165 tons, worth at wholesale nearly \$4,000,000. Trufficulture is practiced principally in Vaucluse and Dordogne, and to a smaller extent in many departments of southwestern central France. The results have been especially striking on the slopes of Mount Ventoux, in Vaucluse, particularly in the communes of Flassan and Bédouin. During the last 30 years trufficulture has led to the reforestation of large bodies of formerly waste lands. The rental of truffle-farming lands rose at Flassan from 2,700 francs to 8,510 francs in about 20 years. In Bédouin the rise was still more marked, being 11,090 francs in 1877, 23,350 francs in 1882, and 38,485 francs in 1887. During the period from 1862 to 1886, 4,500 acres of barren lands were reforested for the purpose of growing truffles.

"Oaks or hazelnuts are the trees most commonly used in preparing land for the growth of truffles. The oaks usually preferred are *Quercus pubescens*, *Q. pedunculata*, and *Q. ilex*. In Perigord it is the custom to select acorns from trees already bearing truffles. These are sown in nursery rows, and are finally transplanted to the place where they are to grow. The taproot is cut at the time of transplanting, in order that the spreading root system may be induced, as it is extremely desirable that the main roots of the oak shall be near the surface. Hazelnuts yield truffles sooner than oaks. They are adapted to cretaceous soils rather than oölitic. The black mountain oak (*Q. pubescens*) is best for jurassic soils. It is planted in mixed plantations with *Q. pedunculata*. For chalky, cretaceous, or sandy marl soils the evergreen oak (*Q. ilex*) is best. After the forest plantations are established the soil must be artificially infected with spores of the truffles. The most approved method is to make a compost of 25 pounds of truffles with 250 pounds of peat. At the time of sowing 1 pound of this compost is mixed with 2 pounds of earth, and sown broadcast under the trees,