

ditions. A monoëcious form, in which the trees of both sexes bear fruit, is not very general, but is often found. The same tree is quite likely to produce long or round fruit, one form weak in papain and one strong.

"According to a resident of Kegalle, the trade in papain has been carried on in that district for more than 30 years and it is chiefly in the hands of Chetties and coast Moors at the present time. Owing to religious objections, it is very difficult to get a photograph of these people and their connection with the papain industry. This resident says that a large business is at present carried on in artificial papain, which is prepared from rice flour or starch. A pound of artificial papain costs only about 14 cents gold to produce but is sold in Colombo at from 98 cents to \$1.25 per pound. It is asserted that a large number of parcels of this adulterated or artificial papain are being shipped to London. These facts, however, can not be verified by this office."

**3C280.** Ordinary Ceylonese papaya.

**36281.** "This is a selection of *Carica papaya*, the juice of which is rich in papain." (*Moser.*)

**36282.** PANAX QUINQUEFOLIUM L.

**Ginseng.**

(*Aralia quinquefolia* Decne. and Planch.)

From Songdo, Chosen (Korea). Presented by Mr. N. Gist Gee, Soochow University, Soochow, China. Received October 14, 1913.

"The soil is prepared by mixing sand and loam in the proportion of one to one. The sand is frequently obtained by sifting it from the bed of a near-by stream. In order to get as near as possible to the natural wild environments of the plant, the leaves of the oak or chestnut tree are collected, allowed to decay, and then dried. When dry, this material is crumbled very fine and then mixed, half and half, with sand sifted from the hillside. This is obtained by first removing the top layer and getting the unexposed earth. The plants are cultivated on elevated beds about 6 or 8 inches above the pathways between them. These beds are usually just about wide enough for one to work them from one side (about 2 or 2½ feet). The length of the bed varies with the kind of field; short on hillsides, quite long in the valleys. Fertilizer 1 inch thick is spread upon the beds before the seeds are planted. The beds are covered over with sheds (ordinary sheds with curtains which can be rolled up or down, closing them in front). They seem to keep the plants sheltered throughout their entire period of growth and regulate the amount of sunlight by the curtains. Before planting, soak the seeds in water for four days until they swell and are nearly ready to burst. Then take them out and dry them. This should be done before fall. Then in the fall bury a vessel in the earth in a shady place and place the seeds, as already prepared, in it, leaving it uncovered. Allow them to freeze, leaving them in the vessel until the spring. Drive nails with heads as large as the ginseng seeds in a plank, making them about 1 inch apart. Use this to plant the seeds regularly about five-eighths of an inch deep. Place a seed in each hole and cover lightly with the hand. The rows should be about 6 inches apart. Spray with a very fine stream of water twice a day. Allow the planted seeds to receive the sunlight until the sprouts appear. During all of this time the beds should be protected from rains, but sprayed regularly twice a day. The soil should be kept in good condition by hand cultivation after the young plants come up. This care must be constantly given to the plants. The plants are taken up at the time they are about 1 year old and only the best ones are saved for transplanting. Many planters do this each year for six years after the plant comes up. Others transplant and select for only the first two or three years. The plants are planted out about 6 inches apart and in rows about 1 foot apart. Care must be taken to give the two regular waterings each day during the growing seasons." (*Gee.*)