

hardest of the large-sized kinds in Japan and thrives in England, proving hardier than *Moso*, No. 9045. It never attains the same dimensions as this species, but often, however, grows to a height of 30 to 40 feet, and culms having a diameter of 2½ to 3 inches are not unusual. Even 4-inch culms are described by the books. The size of these culms depends largely upon the method of culture and how carefully the forests are thinned out and manured. About 300 plants should be set to an acre, in such a way that their spreading rhizomes will not interfere with each other at the start. The soil should be worked over to a depth of 18 inches several months before planting, and if of a heavy clay, should be lightened by working in straw and litter from the barnyard. After planting, the ground should be heavily mulched to prevent the top soil from drying out, and every means should be taken to insure that the ground is soon shaded by the growing shoots. The soil about the bases of the culms should be kept in semiobscurity. This object is only obtained by moderately thick planting and judicious thinning. Small clumps are not so likely to produce large stems as quickly as large patches, for the reason that the soil is more exposed to the drying effect of the sun. Only rich, alluvial, well-drained soil is likely to prove suitable for a bamboo forest of this species. The thickness of the pipes of this sort of bamboo is greater than that of any of the other common kinds, and this characteristic makes the culms more rigid and more serviceable for many purposes. It is of great importance that a young forest of bamboos be protected from the wind, for the young, tender shoots are easily injured. Wind-breaks of conifers are used in Japan even where the winds are anything but severe. A sheltered valley, or the base of a mountain slope, is sometimes chosen as offering such a sheltered situation. In setting young plants out great care should be taken not to injure the buds on the rhizomes or to break off the fibrous roots by packing down the soil too roughly about them. This species is likely to prove the most valuable of any of the Japanese hardy bamboos." (*Fairchild.*)

9047. PHYLLOSTACHYS HENONIS.

Bamboo.

From Yokohama, Japan. Received through Messrs. Lathrop and Fairchild (No. 989, July 29, 1902), November, 1902.

Hachiku. "The second most important timber bamboo of Japan. Its method of culture is exactly similar to that of the *Madake*, No. 9046, and often it is cultivated side by side with this species. The brittleness of its joints, I am told, prevents its being used for many purposes, such as barrel hoops, for which the *Madake* is better adapted. On the other hand, the fine bamboo ribs of Japanese paper lanterns are generally made from this species. The height of this species is little inferior to that of the *Madake*, but it may be easily distinguished from it by the absence of dark spots on the sheath in young shoots. The sheaths are a solid light-straw color. The pseudophyll has a wavy outline. As an ornamental, this species is singled out by Mitford as the most beautiful of all the Japanese bamboos. In hardness in Japan it ranks about the same as *Phyllostachys quilioi*. Mitford says it is one of the hardest species in England, retaining its green color through the winter, the leaves not being injured by the cold. It should be given good soil and protection for the first few winters, or until thoroughly established." (*Fairchild.*)

9048. PHYLLOSTACHYS MARLIACEA.

Bamboo.

From Yokohama, Japan. Received through Messrs. Lathrop and Fairchild (No. 990, August, 1902), November, 1902.

Shiho-chiku or *Shiwa-chiku.* "Plants of the wrinkled bamboo, perfectly hardy in England, characterized by having the base of the culm fluted or covered with longitudinal grooves and ridges. The stems of this species are especially prized for use in the woodwork of the special tea-ceremony rooms of old Japanese houses. An uncommon form in England and very decorative. Hard to get in quantity, even in Japan. It should be given the same treatment as that given to *Phyllostachys quilioi*." (*Fairchild.*)

9049. BAMBUSA QUADRANGULARIS.

Bamboo.

From Yokohama, Japan. Received through Messrs. Lathrop and Fairchild (No. 991, August, 1902), November, 1902.

Shiho-chiku or *Shikaku-daké.* "Plants of the square bamboo. This is not considered as hardy as the previously mentioned species, *Phyllostachys quilioi*, and it will be advisable to give it especial care upon arrival. The plants should be potted and kept