

39337 to 39340—Con. (Quoted notes by Dr. V. A. Argollo.)

and clay. As to quality, the *Jequie* is the worst, for it has resins and less elasticity. Growers who planted *M. dichotoma* succeeded badly because the growth of trees is extraordinarily variable. Seedlings from the same tree show an extraordinary variability of leaves and growth. *M. dichotoma* requires at least 6 years, as a rule, before tapping. The best variety for plantations is *M. piauhyensis*, for it gives the best rubber, and can be tapped at 3 years (even at 2 years under good conditions). With low prices of maniocoba rubber, maniocoba can only give profits if labor is very cheap, not exceeding 0.3 milreis (16 cents) per day. Maniocobas will not stand frost. (I have seen some severely injured in Sao Paulo by slight frosts in coffee districts.) Maniocoba requires a rainy season in summer. The *M. heptaphylla* and *M. dichotoma* are found in parts of the State of Bahia on the other side of the chains of mountains that divide the State in two climates. Between the mountains and the sea the rains are during winter, and on the other side, from the mountains to the Rio Sao Francisco, the rainfall is in summer. Maniocoba grows in the second zone if planted, but does not give much rubber nor good quality, as Villa Nova plantations show, although the trees have the best appearance. (Villa Nova is on the mountain that divides the climatic zones of the State. In the mountains you have rains in summer and *neblinas* (fog rain) in winter.) In the maniocoba districts there are heavy rains during summer for 4 to 6 months; such rains may last for 10 days, day and night. There are no rains during the dry season, and from time to time there happens a dry year and summer rains fail (about once in 10 years). In our State people who have maniocoba forests or plantations are investing in cotton, because the low price of rubber does not give enough profits to pay for the tapping of trees. Maniocoba will not stand stagnant water. I am going to gather for you seeds of the three varieties. I do not know whether any of them can be successfully cultivated in the States, but if you have the proper climatic conditions—rains in summer, no frosts, and soil from decomposed granite (red clayey sandy or sandy clayey)—I think you will prefer the small *M. piauhyensis*."

39337. MANIHOT GLAZIOVII Muell. Arg.

"*Maniocoba Ceara*. These small seeds with dark colorations are quite different from other varieties. This is the commonly known maniocoba for the first time tapped. It gives a good rubber and is tapped on the bark that is naturally exfoliated, which makes the tapping and collecting of clean rubber difficult."

39338. MANIHOT DICHOTOMA Ule.

"*Maniocoba Jequie*. Seeds long, of which the largest are quite typical."

39339. MANIHOT PIAUHYENSIS Ule.

"*Maniocoba Piauhy*."

39340. MANIHOT HEPTAPHYLLA Ule.

"*Maniocoba Sao Francisco*; round seeds."

39341. (Undetermined.)

From San Jose, Costa Rica. Presented by Mr. Carlos Wercklé, through Mr. Ad. Tonduz, Department of Agriculture, San Jose. Received October 21, 1914.