

41316 to 41341—Continued. (Quoted notes by Mr. O. F. Cook.)

41319. *RUBUS* sp. Rosaceæ.

Raspberry.

"(No. 1233. Panticalla Valley, Peru, July 18, 1915.) Seeds of a raspberry of possible interest to breeders on account of the extremely large size of the fruits, which attain a length of nearly an inch and a half and a diameter of more than an inch. The color and general appearance are much like our red raspberry, but there is a solid fleshy core, like a blackberry. The vine is a large and very vigorous climber, with fresh bright-green foliage, the stems and petioles being armed with rather scattering hooked spines. The flowers are pinkish purple."

41320. *MANIHOT DULCIS* (Gesner) Baillon. Euphorbiaceæ.(*Manihot palmata* Muell. Arg.)

Sweet cassava.

"(No. 1680. Santa Ana, Peru, July 6, 1915.) Dried fruits of the cassava plant, known in most Spanish-speaking countries as *yuca*, which is an important root crop in most parts of tropical America. In many regions cassava is a staple article of diet, as the potato is with us, and in some respects it is superior to the potato, notably in having a richer flavor. The flavor of the fresh cassava is entirely lacking in tapioca, which is the only product of cassava widely known in the United States. The cassava would be a valuable addition to the agriculture of the United States, and especially in the warmer parts of the country where the summer weather is too hot for the potato, but thus far it has remained confined to the warmest districts of the Gulf States, on account of the very long season required to mature the crop. The prospects of more general utilization of the cassava in the United States depend obviously on the possibility of securing varieties that will grow in a shorter season or with less heat. The behavior of cassava in Peru may be said at least to justify a renewed hope of securing varieties that can be raised more widely in the United States than any that have been available in the past. On the eastern slope of the Andes the cultivation of the sweet cassava extends to an altitude of 6,000 feet, and it is also grown along the Pacific coast in a climate that is cold and cloudy for much of the year. The Peruvian varieties should be tested in southern California, as well as in the Gulf and South Atlantic States."

41321. *CANNA EDULIS* Ker-Gawler. Cannaceæ.

Achira.

"(No. 1732. Peru.) Seeds of a wild species growing in the Urubamba Valley between San Miguel and Torontoy at altitudes of 6,000 to 8,000 feet. The plant is said to be the same in every respect as the cultivated *achira* of this district, except that it does not have the enlarged fleshy rootstocks. It usually grows in rather densely wooded situations and behaves in all respects like a wild plant. The plant is larger and the flowers are smaller than those of another species of *Canna* that grows farther down the valley at Santa Ana, and the color and shape of the flowers are also different. Unlike the Santa Ana species, the petals have little of the bright red or scarlet, but more subdued yellowish or pinkish shades not easily identified with any of the Ridgway color standards. The middle of the petals is nearly orange-chrome, but most of the neighboring colors are represented, with the margins nearly scarlet, or with various pinkish shades, or toned down into such colors as apricot-orange and the neighboring shades, rufous and carnelian red. The calyx inclines to pinkish, and the fruit spines are tinged with Pompeian red."