Crane and Orrin, Two New Chinese Chestnut Varieties Released by the United States Department of Agriculture

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Two new Chinese chestnut varieties named Crane and Orrin were released for propagation by the U. S. Department of Agriculture on February 8, 1963. These varieties are being introduced at a time when interest is low in planting grafted trees of horticultural chestnut varieties. Nurseries sell only chestnut seedlings because they are cheaper to grow and grafted trees have given trouble with graft-union failure in a few cases. The history of all nut industries has shown that the growing of seedlings preceded the planting of grafted horticultural varieties for nut production. Chestnut production will undoubtedly pass through this same evolution before the industry becomes stabilized. The new varieties Crane and Orrin should contribute towards development in this direction.

Fig. 1. The Crane Chinese Chestnut.

Origin

The Crane variety originated as a seedling from nuts sent by the agricultural explorer Peter Liu to the Division of Plant Exploration and Introduction, U. S. Department of Agriculture, in 1936. The variety was tested as selection number 7932 and came from the same seed lot as did Nanking, the most popular and widely grown Chinese chestnut variety. Propagation of selection 7932 was started in 1947 on Chinese chestnut seedling rootstocks, and was grown with Nanking and other selections at various locations in Louisiana and Maryland. The variety was selected by J. W. McKay, and named in honor of H. L. Crane who worked for many years to improve nut crops.

The Orrin variety was noticed in 1953 by the late Orrin S. Good in his orchard at Lockhaven, Pennsylvania. Mr. Good planted this orchard with seedlings obtained initially from Leeland Farms, Leesburg, Georgia. Since Leeland Farms obtained seed from the orchard in which Nanking, Meiling and Kuling were found, Orrin could be a seedling of one of these three varieties. In 1955 Mr. Good made the selection available to the Horticultural Crops Research Branch,

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of the U. S. Department of Agriculture for propagation, evaluation, and potential introduction. The variety, tested as Good C-7, was named Orrin in honor of Mr. Good.

Characteristics

The nuts of Crane chestnut are dark-cherry red, and are almost completely glabrous, in contrast to those of Nanking, which have a small patch of pubescence at the stylar end. Nuts of the two varieties are comparable in size and color, and could be combined for marketing. Well grown nuts will average about 32 per pound. Edibility is excellent when the nuts are well-cured, and their keeping quality is superior to that of all current varieties.

The Crane variety flowers in midseason at the same time as Nanking, and the two varieties cross-pollinate. There is a tendency for the pollen of Crane to mature slightly before its pistil becomes receptive. Grafted trees of Crane characteristically start to bear the second year after planting, and may have some nuts the first year. Crane is introduced because of its early bearing habit, the superior keeping quality of its nuts, and the possibility of its serving as a pollinator and companion variety for Nanking.

An attractive dark-mahogany glabrous sheen, a slightly pubescent tip, and a light-colored seed scar make the nuts of the Orrin variety distinctive. Well grown nuts average 32 per pound, and are comparable in size with those of Nanking but are earlier maturing. The middle nut of the three in a bur is uniformly thick and not wedge-shaped. Keeping quality is superior to that of all other varieties except Crane. The variety is blight-resistant, and grafted trees are early producers. Orrin is being introduced because of its superior keeping quality, its slightly later flowering habit, and its early-maturing character. This short season development indicates potential adaptation in more northern areas.

Potential Value of New Varieties

Crane and Orrin start bearing nuts the second year after planting, a characteristic that will greatly increase early production in orchards. These varieties also start bearing the year after they are topworked into large trees. This makes it possible to quickly convert established seedings in orchards into uniformly productive trees. The varieties should be grafted or topworked on only pure Chinese chestnut understock, because there is some evidence that graft union trouble may be caused by the use of hybrid or mixed understocks.

Buds of Chinese chestnut varieties frequently start growth in early spring after a long warm spell. Embryonic staminate and pistillate flowers that produce the current year's nuts are present in buds, and if they are killed by a late spring frost crop failure will result. Thus, the slightly later flowering date of Orrin and its slower response to early warm spells than other varieties could give it some advantage, especially in northern areas.

Scionwood has been released to nurserymen, and grafted trees should be available in the spring of 1964.

Blackwalnuts in Pennsylvania

The nut species most widely grown in Pennsylvania is the blackwalnut. W. S. Clarke, Jr., of Pennsylvania State University, tells us that the late varieties are generally best adapted to conditions at University Park, Penna., and that the variety Thomas has been the most consistent producer. Other varieties that have produced substantial crops are Ten Eyck, Hare and Zeta. Hare has yielded the best nuts in terms of size of nut, percentage of kernel, and ease of cracking.