Western Sand Cherry - A Dwarfing Stock for Prunes, Plums, Peaches

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Continued interest in dwarf fruit trees has raised the question whether fruits other than apple and pear can be grown successfully as dwarf trees.

Since dwarfing of a fruit tree is most likely brought about by grafting the desired fruit variety upon a rootstock that inherently is dwarfed, attention has been given to the Western Sand Cherry, known technically as *Prunus Besseyi,* as a possible dwarfing rootstock for plums, prunes and peaches.

The plant has many characteristics that make it a possible rootstock. It is a dwarf plant itself. It is very hardy. And it can be grown easily from seed. Furthermore, the seedlings have the ability to sucker freely, making it practicable to multiply individual seedling plants and in this way establish clonal selections to be used as rootstocks for experimental studies.

Tests with prune, plum, and peach varieties have been encouraging. During nursery trials carried on over three successive years, it was observed that the shoot growth of Western Sand Cherry stocks matured earlier than most other stocks. As a result, in order to insure best bud take, budding operations had to be carried out correspondingly earlier. Instead of budding in late August or early September, as is done at Geneva with conventional rootstocks such as Myrobalan seedlings for plums and peach seedlings for peaches, the Western Sand Cherry gave best results when budded at the beginning of August.

Variety Reactions

Plum and prune varieties of three botanical species were used in the test. These included Beauty, a *Prunus Triflora* type; Italian prune, Stanley prune, and Pearl and Pacific plums, all *Prunus domestica* types; Sweet Damson, a *Prunus insititia;* and American Mirabelle, a hybrid between the *domestia* and *insititia* but more like the latter species.

Most satisfactory bud take, a strong graft union, and good budling growth were obtained with Beauty, Pearl, and Stanley. Average field stands of 90, 80, and 62 percent, respectively, of 1-year-old trees were obtained for these three varieties. Field stands from Italian prune and Pacific plum were lower, amounting to 35 and 23 percent, respectively. American Mirabelle and Sweet Damson in repeated tests gave the lowest stands of 1-year trees, with an average survival of 9 and 7 percent, respectively. Poor bud union and shoot growth indicate that varieties of *Prunus insititia* will not do well on this rootstock.

The bud take of peach varieties such as Elberta, Halehaven, and Golden Jubilee was perfect and the resulting early shoot growth of the budling appeared normal. Regardless of variety, however, during mid-summer the year following budding, from 35 to 40 percent of the budlings developed a light green colored foliage followed by premature partial to complete defoliation. Trees showing these abnormalities also had an irregular bud union that indicated some degree of incompatibility. On transplanting to the test orchard, peach trees that had defoliated prematurely either did not grow at all or made poor growth until they died two years later. In contrast to this, peach trees that kept their foliage and had smooth bud unions transplanted well and grew normally.

Orchard Observations

Since 1946 the trials have been extended to orchard observations. Plum and

peach trees of the varieties mentioned growing on Western Sand Cherry rootstock have become typical dwarf trees with healthy dark green foliage. They started to bear fruit of normal size the second to third year after transplanting to the orchard.

Peach trees in their seventh year in an orchard location are from 5 to 6 feet tall and during the past season produced from one to two 12-quart baskets of fruit per tree.

The dwarfing effect with plum and prune trees has been similar to that of peach trees. Italian as well as Stanley prune trees on Western Sand Cherry rootstocks are one-third the size of trees on Myrobalan rootstocks grown for comparison. Bearing started first with Stanley 2 years after planting, followed by Italian Prune and Beauty and Pacific plums. Maximum yields the seventh year after planting reached a full 12-quart basket for Stanley and with Italian Prune and Beauty plum, a half basket on the average. The Pacific plum averaged 2 pounds per tree in 1952, while the trees of Pearl have so far borne only a few fruits annually.

Not Suited to Cherries

Tests carried on at Geneva show that the Western Sand Cherry is not a satisfactory dwarfing rootstock for either sweet or sour cherry varieties. Of three varieties tried, buds of Montmorency and Black Tartarian failed to unite with this stock.

Windsor buds did unite but failed to grow.

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Coronet - A New, Early, Yellow-fleshed Peach for the South

The United States Department of Agriculture has just released the new Coronet peach. Coronet is the result of a cross between a seedling of Halehaven selfed (FV5-56) and Dixiegem, made in 1945 at the U. S. Horticultural Field Lab., Fort Valley, Georgia.

The Coronet ripens two or three days earlier than Dixigem and about four days earlier than Redhaven. The fruit is medium-sized, ovate, with very light pubescence. About three-fourths of the surface is covered with a bright, attractive red blush over a yellow ground color. The flesh is yellow, firm but melting, smooth-textured, and of good but mild flavor. It tends to cling at the pit when not fully mature, but is near-freestone when fully ripe, resembling Redhaven and Dixigem in this respect.

Trees of Coronet are vigorous and productive. Susceptibility to bacterial spot disease is evidently about the same as Elberta. The blossoms are small-petaled and self-fertile and they usually open shortly after those of Hiley. The chilling requirement to break the rest period of the buds is slightly higher than Hiley and less than Elberta, or about 800 hours.

The variety has been fruited at experiment stations in most of the southern states and in commercial orchards in Georgia. Since the fruit is firmer, more highly colored, and slightly earlier in ripening than Dixigem, it is recommended for trial planting to replace the latter variety.

Information on sources of budwood may be obtained from Dr. J. H. Weinberger, U. S. Horticultural Field Laboratory, Fort Valley, Georgia.