

Upgrading Prune Orchards

by propagating with cuttings

H. A. Weinland

Rootstocks made from cuttings, rather than propagated by seed, are coming into favor with many growers in Sonoma County.

By propagating with cuttings, growers have been able to upgrade their orchards by using buds or scions from trees of known productivity and quality.

Almost any prune orchard containing trees that have been bearing for at least five years will have certain trees that produce the quantity and quality of fruit the grower would like to have over his whole orchard and from which he could—with some heavy pruning—obtain propagating wood. An appreciable number of trees now coming into bearing in Sonoma County have been budded or grafted to large prunes—either 1418's, Double X's or ordinary French—which have a history of production of larger than ordinary fruits and more regularity in bearing.

A comparison of the relative growth of trees budded on rootstocks No. 29, No. 2624 and Turner, stands on a ranch in Dry Creek, north of Healdsburg. More than a hundred of each of the three rootstocks were placed in the spring of 1941 and grafted to French prunes in 1944. Measuring with a caliper at six inches above the ground last January—three years after grafting—the average diameters were: Turner's, 2.93 inches; No. 2624, 2.95 inches and No. 29's, 3.33 inches.

Vegetative Propagation

Vegetative propagation—using cuttings instead of seedlings—came into practice as a result of experiments conducted in the Santa Clara Valley, in which some 200 rootstocks, from many parts of the world, were tested for resistance to oakroot fungus.

The tests gradually reduced the number down to a half dozen or so which contained Myroblan No. 29, Mariana No. 2624, a variety known as Turner, and two or three others.

Test trees were sent to Sonoma County in 1936 and planted in spots where trees were known to have died out from oakroot fungus.

The original experiment, that of determining the relative resistance to oakroot fungus, is still underway. Time is still too short to say which of the varieties has the greatest resistance as, apparently, they all have some resistance to oakroot fungus.

At the present time, Mariana No. 2624 and Myroblan No. 29 are somewhat preferred over the others.

The principal result so far, came in another—and unexpected—field.

The test trees in Sonoma were more vigorous in growth than most of the familiar Myroblan seedlings. Advised by the Experiment Station that these species lent themselves very well to propagation by cuttings, a few growers took cuttings from the previous season's growth of their resistant rootstocks and propagated them by that means.

Propagating with Cuttings

In this method of propagating, cuttings are taken from last year's growth—usually in December or January. These may vary in size from that of a large pencil down to a rather small twig, and still grow. Usually they are cut in eight- to 10-inch lengths, tied in bundles, put in a callousing bed of sand or sand and peat moss, where they are left for a few weeks, much as is done with grape cuttings.

Where the soil is light, sandy and well drained the cuttings can be placed directly into the nursery. Cuttings usually are planted six to 10 inches apart in rows 18 to 24 inches apart, and are inserted to leave only the top bud or two above ground. The cuttings should be given close attention through the summer. If the soil is well fertilized and the cuttings are given some summer training by nipping off the side branches as they develop, nice straight whips result.

Some growers insert buds, during the first August following cutting, into those trees that are large enough.

Other growers plant the cuttings in the orchard the following spring after propagating and whip graft the trees the same season.

In some cases, growers head the trees in the orchard and bud the first or second summer following, inserting buds in the branches as formed.

Still other growers let the trees stand in the orchard for one, two or sometimes three seasons, top working them by one or another of the grafting methods.

All of these methods have been found to produce some very good trees, so apparently it cannot be said that there is one best method.

H. A. Weinland is Assistant Professor of Agricultural Extension, and Farm Advisor, Sonoma County.



(Above) Cuttings are tied in bundles and put in callousing bed. (Below) When planted cuttings are placed six to eight inches apart in nursery rows.



(Above) This rootstock is two years from a cutting. Arrow indicates point of whip grafting. (Below) A three-year-old top on a four-year-old rootstock. String indicates point of whip graft.

