

BENCH GRAFTING BLACK WALNUTS

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Some forty years ago, some members of the Northern Nut Grower's Association began to test bench grafting walnuts. When I came to Center Point, in 1935, to work for Davis Snyder, proprietor of the Linn County Nurseries, which was commonly known as Snyder Bros. Inc., Mr. Snyder was bench grafting walnuts. He was using a very similar method to the one we now use.

One year seedlings are dug in the fall and graded, taking out the small or the light grade, including trees that have a radical contortion just above the root. Also, the real large grade was generally graded off as being too large to match the better scionwood.

The root stock is stored with the roots buried in packing material, peat, sawdust or sphagnum moss or a mixture of them.

Scionwood is generally collected on warm days in February or early March. Scions of about three eighths of an inch are preferred, but five sixteenths to one half of an inch are okay.

The root stock is taken out generally in March, the tops cut off about an inch above the collar or where the roots begin. The roots are also cut off to about six inches in length.

We still use an old foot operated vise to hold the root stock. With the one inch top stub facing the operator, he cuts, using a side, or sometimes called modified cleft. The knife is inserted at an angle from near the edge of the bark into approximately the center of the stub, where the top and crown meet. The knife is held with the point forward at about forty five degrees making a deeper cut at the top than at the bottom. The scion is cut with a matching wedge, each side being approximately an inch long, one tip longer than the other. Scions four inches to five inches long are generally used. Where the nodes are rather far apart, we cut so there is a bud about one half inch below the tip.

As soon as the scion has been inserted into the understock, they are firmly tied with regular grafting tape. They are sometimes dipped in hot wax, especially the tips of the scions, but occasionally the whole scion is dipped. They are stored in an upright position in a graft box, packed in peat or peat mixture, that is quite moist, but not wet.

Mr. Snyder used to use electric cable under the graft box for two or three weeks, with temperature of about seventy five degrees, until the plants were well calloused. They need to be checked occasionally to see that the packing material is not drying out. When the buds begin to swell, the graft box is set in a cold room until planting time. As they are planted in

the field, they must be desprouted as most plants will send up strong suckers beside the graft union. We like to plant deep, leaving only an inch of scion showing.

The first year in the field, they seldom make over a foot growth, but the following year often times grow from three to six feet. These plants seldom form a tap root. Most of them have a good root system. Some will have one or two lopsided roots.

As to the percentage of takes, I wish we could say we usually get a high percentage, but the fact is that it is usually quite poor, with some years near total loss. In some years, we didn't have our own seedlings, we have attempted to buy some from the trade, but have never yet been successful with these. Some years, we haven't had the best of scions and sometimes the grafts have been neglected through the callousing stage. Normally if we can get fifty percent survival, we consider we have done quite well. The late Mr. Bernath of Poughkeepsie, New York, potted all of his walnuts in clay pots in the greenhouse, grafting them after new growth started, like you would a pine or spruce.

In summary, I feel the essentials in successful bench grafting, as we do it are:

- (1.) Choice one year seedlings, moderate size, stored carefully.
- (2.) Thrifty scionwood of near three eighths of an inch in caliper.
- (3.) Good grafting technique
- (4.) Firmly wrapped.
- (5.) Calloused on a quite warm bench, with adequate moisture.
- (6.) Thorough desuckering.
- (7.) Careful planting with only the tip of the scion showing.

Often times desuckering after new growth has started will save plants that otherwise would be lost.

We aren't entirely happy with this process. Spring grafting in the field on freshly undercut one year seedlings would probably give a much higher percentage of takes, but we simply don't have time to do it in late May. We have tried summer budding, using various techniques, but with poor takes. The varieties we graft are Meyers, Sparrow, Horton and Thomas. The Persian Walnuts are not reliably hardy with us. Their wood nearly always suffers from winter injury. Fall collected scionwood carefully stored, would probably be okay.

MODERATOR TUKEY: Our next talk comes from Oklahoma. Mr. Ben Davis is going to talk about "Pecan Grafting Outdoors".