

NEW TECHNIQUES IN BUDDING DIFFICULT TREES

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Our first step in budding *Quercus* varieties is to line out our 2 year *Quercus palustris* seedlings in the early spring. This seedling is grown for one year.

Early in the spring of the following year, we go in and cut the seedlings back to ground level. After secondary shoots start to appear and have made a growth of 5 or 6 inches, we take off all shoots except one. In early July or August depending on growing conditions, while the shoots are vigorously growing, we start to bud. The following year when new growth appears, we cut back to the eye and the budded tree takes over. It is extremely important to have good budwood with big eyes. In the spring we severely trim our stock trees from which we cut our buds so that they produce lush, plump buds. I cannot overemphasize the importance of good plump budwood.

Another successful method we use for budding *Quercus* is to go into a block of young *Quercus palustris* with a caliper of from 1 to 1½ inches and insert a top bud about 5 to 6 feet above the ground. Always insert the eye on the back side of a crook; it is amazing how straight the tree will become. However, this procedure must be done very early. We do this in early June in the Cincinnati area. After approximately 3 weeks, we cut back the entire top of the tree. The new bud will make 12 to 18 inches of growth during the year. This method will make a larger caliper, salable tree much sooner. This procedure of top budding is also used for *Ginkgo*, *Aesculus brioti* and *Aesculus parviflora* that is budded onto *Aesculus glabra*.

The only really successful method that we have found to bud *Cercis canadensis* varieties is to line out our 18 to 24 inch seedling stock in very early spring. We side dress with nitrogen as soon as the seedlings start to grow. We then cut them back to ground level. After new shoots appear and start to grow, all but one shoot is removed and we bud onto this remaining shoot as soon as our budwood is ready. Approximately 3 weeks after budding, we cut back to the eye and get anywhere from 12 to 15 inches of new growth that same year. If we do not cut back the same year, the eyes are all dead the following spring. But once again I wish to emphasize that the budwood should be full and plump to get the best results. This is the only sure way that we have been able to bud *Cercis*. We achieve a 90% stand with this procedure.

In summary, I believe the key to successful budding lies in a vigorous growing understock, good, plump budwood, and a tight patch budband to cover the eyes. With a little bit of moisture and a lot of luck, you should have excellent results.

ED DAVIS: You said you bud these oaks as soon as the buds will slip in the spring, so I assume you are using past season's growth. Is this correct?

HARRY HOPPERTON: No, I use current season's growth. If you have a stock tree of say a 2" caliper, cut it way back and you will soon get 2-foot branches which are nice and lush; use that wood as soon as it will slip.

VOICE: How is the fall maturity of those spring-budded trees?

HARRY HOPPERTON: Fine, they'll go to maturity just like the other seedlings

VOICE: Have you noticed any incompatibility with the oaks thus far?

HARRY HOPPERTON: None whatsoever.

VOICE: How long have you had them grafted?

HARRY HOPPERTON: I have trees with 2½" caliper.

HANS BERGER: Do you take the wood out of these buds?

HARRY HOPPERTON: There is no wood attached. The timing is wrong if wood comes with the bud. They must slip freely.

CASE HOOGENDOORN: I budded some 'Kwanzan' cherries in August and about a week later all of the buds were being pushed out. How do you account for that?

HARRY HOPPERTON: In many instances I have observed that the wrapping band does not hold the eye sufficiently tight; when this happens things such as you describe will occur. The wrapper is just as important as the bud. He must get that tie tight.

ED DAVIS: Since the band you use covers the bud up entirely, do you watch this and take it down later to prevent heating?

HARRY HOPPERTON: Yes, I do when I use this patch band.

ED DAVIS: When patch budding pecans we are now using polyvinyl tape about ½" wide and we cover everything but the eye.

MODERATOR FLEMER: When do you bud *Cercis*?

HARRY HOPPERTON: That will, of course, vary with the season and the area, but mainly as soon as you can get the budwood; cut the stock plants back and when the budwood is ready start budding.

MODERATOR FLEMER: Thank you very much, Harry. For those of you who have other questions you can drop them into the Question Box. Our next speaker is the President of the American Horticultural Society and is also a long time member of the International Plant Propagators' Society, Mr. David Leach. He is going to talk to us this afternoon about objectives and parent plant selection in azalea and rhododendron breeding.