

## Post-meeting reflections on grafting, scion wood, and other stuff

by Joseph W. Hickman

I enjoy seeing old friends at our meetings, but also the new young people and relative newcomers to the risky sport of growing Magnolias. Some have much, some little experience in propagation; but invariably, keen interest.

The literature is easy to follow re: growing seedlings, rooting cuttings, and so on, but I have had difficulty converting some of the written information about grafting and budding into a "finished" tree. It usually took an example, done in front of my eyeballs. It may be that some of you have had that problem.

So there's nothing new in these notes for the professional; it has been done and reported before. I hope that here are answers to some questions asked at Mobile and elsewhere.

I prefer most Magnolias on their own roots; a few do better on roots that rightfully belong to another. "Own roots," however, are not

*Editor's note: In correspondence with the author over several years I've enjoyed his essays in which he turns his courtroom wit upon the homely art of rearing Magnolias. Long ago, hoping to share some of his thoughts with you, I asked Joe to do a piece for us on grafting, but he wasn't ready, and I just bided my time. Then in the recent mails there arrived some Hickman thoughts on several matters, mostly Magnolias, and a request that they be edited severely till down to size. Maybe I would've done so—if I hadn't been afraid you'd miss some of them.*

always convenient, possible, or practical, and there is the element of expense.

People frequently tell me that they cannot bud but can graft. Others aver that they chip bud successfully but cannot graft. Some think that they cannot do either one. This is negative thinking, and just not correct. I suggest that the beginner learn to do both. The equipment required is minimal. A visit with an experienced propagator will be richly rewarding, and if you cannot find that ear to bend, try a visit to an experienced orchard man who makes his own trees. I grant that apples are easier than Magnolias, but basic techniques are similar if not identical. If the teacher-grafter wants to start you on "T" buds, ask him to leave that for last; the bark of Magnolias is on the thin side, and chip-budding is for us.

If I want to make a tree that will endure, I need good understock. My facilities are limited, so I grow seedlings in an out-of-the-way place and do most of my grafting and budding in the open. It is no big trouble to grow a seedling right where you want the future tree, and graft or bud in situ. Fortunately, seed is available from the seed counter, or generally wherever Magnolias are grown. It takes just a little patience to grow some each year.

Like to like, as to size and type, is a fair rule. *M. kobus* is choice understock for a number of Magnolias. *M. acuminata* is the stock of choice for many. I have used *M. x soulangiana* seedlings and rooted cuttings on which to graft some of the larger, hardy Magnolias (and some not so hardy!). Many

times *M. x soulangiana* will sucker, a drawback, and some, such as *M. sprengeri* 'Diva,' will overgrow *M. x soulangiana*.

New seedlings, well grown in rich soil, can be used for budding understocks in late summer of the same year or very early fall. In the second year they may be easier to work with, but they must be worked soon or they get too large to move easily.

At any event, I will assume that you have grown or acquired some seedlings.

Now, I have some suggestions for cutting and storing scion wood until you are ready for it. I like to take dormant scions in February, when temperatures are above freezing but before any growth begins. If I store them for my own use or if I mail, the treatment is the same. Wood of the last season's growth is best for most purposes, but this is not vital. I prefer small wood, smaller than a pencil, but this depends on the variety. Water sprouts can be used, at least for chip buds, but this is the last choice.

I really like to work with those little spurs or twigs that grow on the branches of many varieties. These have an end or terminal bud and are amenable to several types of grafts, as well as budding. (Sometimes there is no choice as to wood, so it's take whatever's available.) I cut out the section of the stem before and beyond the spur so that the cut piece forms a kind of mallet. Where scion wood is plentiful, I cut an inch above the spur and an inch below it. These little spurs or stubs have the advantage of a growing point, and they are firm enough to work with.

They also provide options. The stubs, when cut off of the mallet, make fine cleft grafts, or equally good side-veneer grafts. Or the mallet section can be sliced to remove the entire twig or spur, which is then used the same as a chip bud. This last operation will

leave a dog-leg and will require some aftercare to straighten, but very few of these fail. When any graft or bud fails, and I have had my share, I know that I have done something wrong. Properly done, every one should take.

Some time in the past I acquired a child's aluminum sauce-pan, slightly larger than a coffee cup. I keep about a half-inch of paraffin in it. I have a vase about 12 inches long and about four inches deep and wide. There are some one-ounce "shot" glasses left over from other days. I use the glass to measure an ounce of Chlorox and mix it in the vase with nine or ten ounces of cold water, dip dormant scion wood in this solution for one minute, then wash the scions thoroughly under a cold tap.

After the scions have dried a few minutes, I dip the bases and other cut or exposed surfaces in warmed, melted paraffin, and tap off the excess quickly before it hardens. If there is plenty of small wood, only the ends of the mallets, where the cuts were made, need to be dipped in the paraffin. I hold under the tap again, put into a ziploc plastic food bag and seal, carefully roll up the bag from the bottom, press out all the air possible, seal again and tie with tape, etc. A weak fungicide

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solution is an alternative to the Chlorox solution.

I have a refrigerator that is not used for fruit (especially apples). If I am going to mail scion wood, I try to cut it, dip it, seal it into the envelope, and mail out on Monday. Mailing in midweek may mean the wood gets left over a long weekend in the warm room of a post office somewhere.

Soggy paper towels, no Chlorox or fungicide dip, a few days at room temperature will, when combined, almost always initiate a Magnolia blight commonly known as "tertiary rigor mortis." Some folks wrap only the bases with damp paper towels, or put a little wad of wet paper towel into the plastic bag with the wood, but this seems to permit the paper towel to collect the available moisture to itself. If the regimen I have described is too much bother, put the scion wood into a plastic bag with three drops of water, and mail.

For summer scion wood, I cut and leave on each petiole a small part of each leaf, just smaller than a thumbnail. Summer wood, too, needs little water to travel or store. Upon receiving these, or bringing them home, I stand them in a glass of cold water in a refrigerator for a couple of hours at least before storing or using. Summer wood bases are paraffined before storing, but dipped in a weak (very weak) fungicide solution, not a Chlorox solution.

To keep wood in good shape for several days in a cheap cooler, fill a couple of one-gallon plastic milk jugs not quite to the top with water, freeze and cap, place a few layers of newspaper on top of the jugs, lay the plastic-bagged scion wood on top, then cover with another layer of newspaper.

You begin looking at the work of others for techniques you can adapt to your own use. On our return trip to Illinois from the Mobile meeting,

Robert Adams and I stopped off for a visit with that "master grafter," T.O. Warren, at Hattiesburg, Mississippi. He took us through a bark graft in which the top of the understock is sawed off and a short vertical cut made just through the understock bark, producing a small opening. The base of the scion is then shaped with a sloping downward cut on one side and a shorter sloping downward cut on the opposite side. The longer cut is then turned toward the wood of the understock and the base of the scion forced downward beneath the slightly loosened bark so that it fits snugly against the understock wood. This graft is done, of course, in the part of the growing season when the understock's bark will slip, a time not yet arrived as I write. But I have some truly dormant wood of several Magnolias stored, and when the time is right I am going to try this graft on some oversized understock I have.

T.O. is probably the country's leading authority on cultivars of "mayhaw" (*Crataegus aestivalis*, whose fruit yields jams and jellies). He applies masking tape, not thickly wrapped, directly to the bark on cleft, splice, and bark grafts, and uses no budding strip. He applies a

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coating of silicone caulk over the tape, then lets growth push the material apart. Chuck Tubesing wraps chip buds with polyethylene tape alone, and can see callus forming without the interference of a rubber budding strip. Chuck does most of his work under greenhouse conditions, I believe, and T.O., in south Mississippi, is in a good climate for early grafting.

I have been using a yellow grafting seal called Tree Doc, from Farwell's, P.O. Box 3347, Wenatchee, Washington, 98801, with success. A three-ounce jar is not expensive and lasts quite a while. It is not recommended for cleft grafts, which I suppose means if applied directly to the cleft and allowed to run into it. I don't use it in this way, but do daub it on exposed surfaces and over the tape where the scion is inserted to assure an air-tight seal. The surface hardens in just a few minutes exposure time, but it remains tacky underneath.

I carry masking tape in my little grafting and budding kit, and very sharp grafting and budding knives, but seldom use any of them in actual grafting. I have found 3M freezer tape (use no substitutes) far preferable to masking tape for any actual grafting or budding. I still

usually use a bud strip next to the wood, then cover this with the freezer tape. This means that I must slit through the tape and strip after I am assured of actual good growth. This is no trouble, for I watch them almost daily. I do like to make a partial slit, then let growth push off these wrappings (the polyethylene cover having been removed earlier).

For my grafting and budding, I am committed to Schick Injector Plus Platinum single edge razor blades. I can sharpen a knife until I can shave with it, but I don't do a great number of buds or grafts any given year, and no knife is quite so sharp as a razor blade. I can make 10 or 12 cuts, maybe more, before discarding the blade.

A Schick blade's total length is about 1 1/2 inches; it's also about 1 inch from one end of the blade to the start of the second of two perforations in the blade. I use these two lengths to measure the length of chip budding cuts. The longer length is preferable but when wood is thin in diameter, I use the shorter measure.

In side veneer grafting or chip budding, I like to make the cut on the stock, leaving the entire flap to prevent drying in the air. I then cut the chip (or scion), and sock it right on, hoping that I won't need to trim, etc.

A Schick blade is used like a draw knife for all cuts. I hold the scion wood against my chest to make the cuts. After some practice with the measurements above, anyone can make a chip bud that will "might nigh" fit.

It's even easy to make the cut for a cleft graft with a Schick blade (using both hands, of course) if the stock is not much more than one half inch across. A fingernail holds the cut open for insertion of the scion. These cuts seldom split below the desired depth. A knife seems to do much more damage, especially to small stock. Try it. You will like it.

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I really believe that waving a chip or other scion around and attempting perfection in carpentry results in enough drying to affect results adversely. I cut the flap off the stock to suit me just prior to sticking the bud on and wrap quickly.

Learning at least a little about the art of grafting and budding has been great fun over the years, and there are constant improvements, new materials to try. A lot of the trees in my yard have been grafted or budded.

Photo 1 (below, left) shows a side veneer graft on a big water sprout. I had cut down a *M. x soulangiana*, which I should have done before; but I could not resist the sprout, and put on this scion, complete with flower bud. I write on March 15, and my early Magnolias will be in bloom shortly, barring the customary southern Illinois late freeze. Photo 2 (below, right), taken later, shows the bloom when it opened.

Incidentally, this graft is what remains of the donor tree; it gave up the ghost after the winter of 1984-85. I took this wood while it was on its deathbed. It has not been hardy with me. A chip bud of the same, put higher, may also show in the two photos. If these scions don't stand up and act like a man through a cold winter, I know what to do. This is their last chance, and I have

warned them.

Photo 3 (page 40) might be of interest. This is presumably a *M. x soulangiana* given to me by my friend, George Slankard, some years ago and called by him *M. x soulangiana* 'Sanders Pink.' George had it from the nursery of Lawrence Sanders at Paducah, Kentucky. George rogued a sizable limb from his tree, which I suppose is long gone (George moved to a new home). I stuck some cuttings, and had a *M. acuminata* about 1 1/2 inches in diameter that I had intended to allow to grow unmolested. I changed my mind, and took a "patch" bud (inactive-summer) from the big part of the limb before I discarded it.

This little bud did not grow until the following year. The result after the passage of some time is interesting. The union is strong: note in the photo that the sapsuckers prefer the Oriental, although they occasionally give the American stock a whack or two. This tree is nine inches in diameter; my two adopted cats use the stock and invite their friends for claw sharpening. The flowers are on the small side, a fair pink, very numerous. It literally covers itself with bloom, although I have thinned it out this past year. I want to register this clone. It blooms late and is seldom touched by frost.

I have friends who insist that it is the best Magnolia in Benton, Illinois, because it seldom fails to

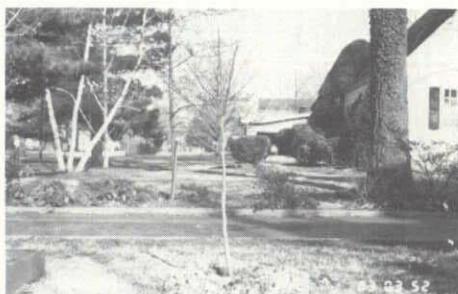


put on a show when most or all of the others are knocked silly. I'm glad to have this tree; in the ugly years when the "tulip" trees all around here get frozen and most or all of the semi-exotics meet the same fate, this beautiful tree just comes out and does its thing in a big way. People driving by slow down, stop, and sometimes get out and come into the yard to look. I like the idea of having something bloom (almost) every year.

The standard side graft does not go well with me, but a side veneer graft is almost as sure as chip budding. I really don't know what I'm doing wrong in the standard side graft, for it should work on Magnolias nearly as well as it does on other plants. I like the idea, for we all have stock that has reached pretty good size because earlier grafts or buddings on it failed to take.

In a full sun situation, I like to shade buds or grafts and I use old *M. grandiflora* leaves, taped to shade the plastic bag, on a graft where the top is removed, as with a cleft graft. A forked twig taped under the plastic bag holds it up and off of the graft.

T.O. Warren uses paper bags, cut out on one side in an inverse "U," with the back to the north, on his bark grafts. The bonnet effect prevents overhead sun from reaching the graft. He doesn't work with Magnolias, but this has to be a good



*M. x 'Galaxy'* on *M. kobus*. Photo Joe Hickman.

system, for the heat under plastic can get severe. I am now trying this on some cleft grafts.

For spring budding or side veneer grafts, I like to break over the top of the stock plant some few inches above the bud, or cut the stock off piecemeal according to the growth of the bud or scion.

Photo 4 (above,) shows *M. x 'Galaxy'* cleft-grafted on *M. kobus*, and Photo 5 (opposite page, top) shows a closeup. This was planted out on March 1, 1986 (the tree in the background is part of a *M. salicifolia* starting to bloom). If I made trees for sale, this graft would be close to the ground.

Cleft grafts, done properly, seem to make fine union (although I have never had any Magnolia break off at the graft). They require practically no after care. This is not so with chip buds and side veneer grafts, which require some looking after that they may not always get here. Splice grafts are easy to establish but not too easy for me to do. This after care is really another story, not for here in any detail.

The meeting in Mobile was really something to remember. The brothers Dodd are proof that you cannot exceed the gracious hospitality of the deep South.

Epilogue: April 7, 1986, 80 degrees F. The Big Blue Northern rolled in, on time for the early and the brave. *M. salicifolia* came out, beguiled by many days in the sixties and



*M. x soulangiana 'Sanders Pink.'*  
Photo Joe Hickman.