

# ARNOLD ARBORETUM

## HARVARD UNIVERSITY

### BULLETIN

OF

### POPULAR INFORMATION

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SERIES 3. VOL. V      AUGUST 21, 1931

NO. 13

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**The Art of Budding.** Although the name may suggest springtime, budding, as a horticultural practice, is carried on during the late summer. At that time of year the bark of young branches is fairly loose and can be made to slip away from the wood. This makes it possible, for instance, to take buds from a rare hybrid lilac and tuck them under the bark of an ordinary lilac bush, where, if properly cared for, they will grow out the next spring. A few years later the bud will have developed into a branch bearing flowers of the same type as the bush from which it came.

Budding is the easiest method by which many of our woody plants can be propagated and is used in nearly all large nurseries. Every July and August millions of peach and apple buds are removed from their parent twigs with deft strokes of the knife and set onto seedling stocks. Workmen in the big fruit nurseries become so skilled that they can transfer over a thousand buds in one working day.

Though budding is such a common and simple operation, few amateurs ever master it, for it is an art, and like any other art is best learned under the personal direction of a master craftsman. There are, however, a number of precautions which can be set down in black and white. They will not by themselves make anyone an experienced "budder" but they should enable the interested amateur to eliminate a large percentage of failures and, with a little practice, to become competent.

The necessary equipment is very simple; 1, a sharp knife for removing the buds and cutting the bark; 2, a dull wedged-shaped instrument for forcing open the bark; 3, raffia or tape for rapping around the bud. Almost any sharp knife will answer the first requirement, though nurserymen use special budding knives. These vary in design but all have a dull blade or edge for prying out the bark, in addition to a cutting blade. The one in the illustration has its ivory handle tapered at the end to a broad flat edge, which is used as shown in figure 2.



As has been said, the work is done almost entirely at this time of year, from the last of July through most of August. A few trial cuts in the bark of a young twig will show whether it is ready for budding. If the bark comes away from the wood easily when the wedge is inserted, the twig is in the right condition. If possible, do the work on a cloudy day, for then there will be less chance of drying out the exposed tissues.

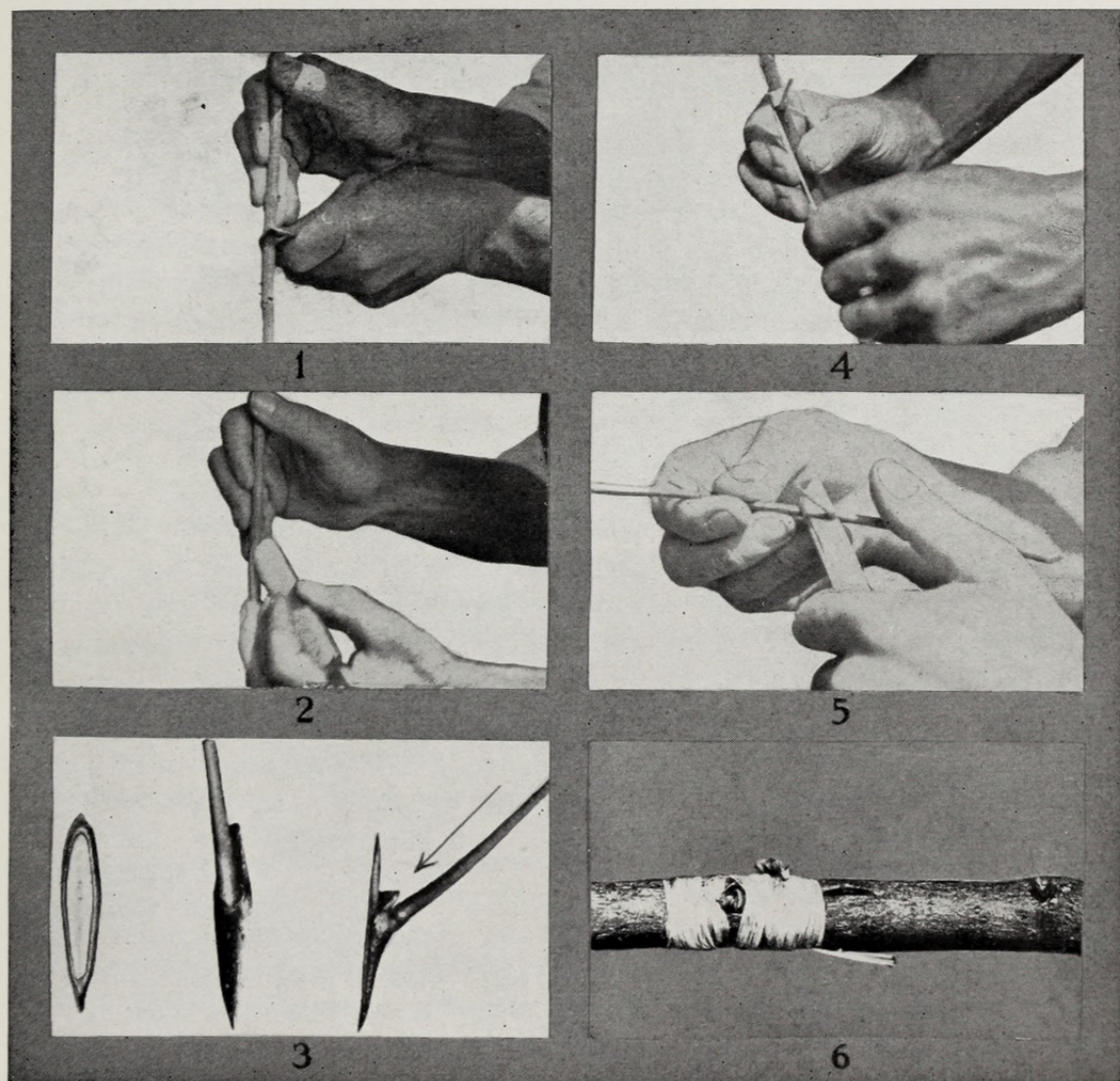
In choosing buds one should select healthy twigs of the current year's growth, avoiding those long whip-like growths which spring out far down on the branches and trunks of old trees and grow with great vigor. They are as a rule too full of sap for the best results. The length of bud stem cut will depend upon the kind of tree which is being budded, but as a rule it will be one or two feet long. As the bud stems are cut stand them in a pail of water until ready for the actual operation itself. The bud stem is prepared for use by cutting off the leaves, allowing a piece of each leaf stalk to remain for use as a handle. The actual buds are in the joint between the base of the leaf stalk and the main stem.

The buds are cut off from the bud stem as shown in figure 5, pulling the knife toward one, guiding it a little deeper under the bud, and sloping it upward quickly at the end of the stroke to provide a clean triangular edge below. An expert removes the buds in a series of quick flashes of the knife and then places them between his lips where they can be kept moist until the cut is ready on the stock. Some of the wood of the twig will come away with the bud; a small oval pad of wood can be seen adhering to the under side of the bud in figure 3. Nurserymen sometimes remove this wood before using the bud and directions for cutting it off will be found in old treatises on the art of budding. Modern horticultural experiment has shown that this is not at all necessary and that the chances of success may even be greater if nothing is done to it.

The cut made to receive the bud is a simple T, done with two strokes of the knife. The up and down cut is made first and then the cross stroke at its upper end. The cut should be deep and well through the bark. It will do no harm if the cut goes down into the wood itself. It is necessary to make the cut in the inter node, as shown in figures 1, 2, well out of the way of neighboring buds and on the north side of the stock if possible. It should also be made as far down on the stock as working conditions will permit, to lessen the chances of sprouts coming out from below the bud.

With the end of the budding knife (or any other similar wedge) peel back the gray outerbark and the green innerbark, they will probably come off in one sheet. Force the bark gently away from the white wood beneath until there is room for the bud, then take the bud from between your lips, where it has been carefully kept moist all this time, and gently but firmly push it into the cut, in exactly the same way that you would push your foot into a tight shoe. Lengthen the cut if it is too small for the bud, if it is much too large make another cut. The bud is now ready to be wrapped and tied in place. Raffia in lengths





#### BUDDING A LILAC.

1, Making the first cut in the stock; 2, forcing back the bark; 3, three views of a bud, cut and ready for insertion, in the side view the arrow points to the actual bud; 4, wrapping the bud; 5, cutting the bud from the bud-stem; 6, enlarged view of the completed operation, the leaf-stem removed to show the bud more clearly.



Judd, W. H. and Anderson, Edgar. 1931. "The Art of Budding." *Bulletin of popular information - Arnold Arboretum, Harvard University* 5(13), 49–52.  
<https://doi.org/10.5962/p.250075>.

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