

Propagating Plants Using Budding Method

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Budding, or bud grafting, is a form of vegetative or clonal plant propagation by which an exact replica of the parent plant is produced. There are two slightly different methods of budding – chip budding and T budding. The difference between the two is procedure timing and the amount of wood taken with the bud.

When is budding done?

Chip budding can be done in early spring when the trees start growing and the bark starts to separate from the cambium. It can also be done in late summer (late July through August) once the terminal bud is set and the shoots are done growing for the season.

When done in spring (April through May), the scion wood (last year's growth) is used, while in summer, the budwood, or a current season's shoot, is used as a bud donor. If the budding is done in spring, as soon as the buds heal, they will start pushing and opening and will start growing that same season. If the budding is done in late summer to early fall, buds will heal but will not start growing until the following spring.

Collecting budwood

Collect shoots from the current season and the newly formed vegetative buds for this procedure. Water sprouts are a great source as they are vigorous and have strong, well developed vegetative buds. Vegetative buds are slender, pointed and much smaller than the flower buds that are round, large and plump. Remove leaf blades and leave the petioles as handles for easier holding and positioning of the buds during the procedure (Figure 1). Keep the harvested budwood wrapped in a moist paper towel in a cooler so it does not dry out.







Remove leaf blade and leave petioles as handles

Figure 1. Choosing and preparing budwood. (Photo credit: M. Danilovich)

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Selecting understock or rootstock

Budding is most successful when using young wood as understock that is one to two years old and has a diameter from ¹/₄ inch to 1¹/₂ inches. The understock is usually a rootstock or another existing variety. Several different varieties could be budded on the same tree by implementing one of the two budding methods. The stock should be closely related to the varieties that are grafted and budded on it. They can belong to different species but have to be within the same genus. For example, grafting peaches (*Prunus persica*) on plums (*Prunus domestica, Prunus salicina, Prunus cerasifea*), almonds (*Prunus amygdalus*) or apricots (*Prunus armeniaca*); all different species, but within the same genus (*Prunus*).

How is it done?

Chip Budding:

Cut a chip carrying a bud from scion wood or budwood. depending on the season when the procedure is done, about 1/2 inch to ³/₄ inch long. Start by making a stop cut about ¹/₄ inch above the bud. and not deeper than just through the bark. That will prevent the knife from going too far and potentially damaging the budwood. Make a matching cut on the stock, extending a cut at the bottom to

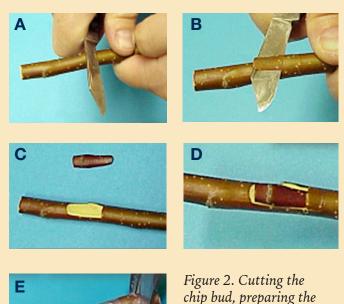




Figure 2. Cutting the chip bud, preparing the matching slot on the stock, placing the chip in the stock and fastening the chip to the stock. (Photo credit: M. Danilovich)

create a pocket that will act as a holder for the chip once placed in the stock (Figure 2).

T Budding: The stock is prepared by making a T-shaped cut and pulling the bark flaps aside. The bud is inserted in the pocket and the flaps are pulled back, covering the bark on either side of the bud.

Insert the chip into the T-shaped cut, then use grafting tape to fasten the sides to keep the bud in place. Wrap the tape firmly above and below the bud, then use less pressure to wrap over the bud. The tape will create a greenhouse-type environment and help the healing process. It takes about five weeks for the bud to heal. After the fifth week, cut the tape very carefully on the opposite side of the bud and pull it away gently. The healed bud will



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stay dormant until the next spring when it will open up and develop a new shoot (Figure 3). The following spring after the bud breaks, cut off the branch and understock to about 1/4 inch above the grafted bud in order to prevent competition. Make a slanted cut away from the bud to prevent sap runoff and choking of the bud once juices start flowing.





End of August - September

Following spring

Figure 3. Healed bud at the end of the season (healed dormant bud) and beyond – new shoot at the beginning of the following season. (Photo credit: M. Danilovich)



After two seasons

For more information

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