

# FACT SHEET

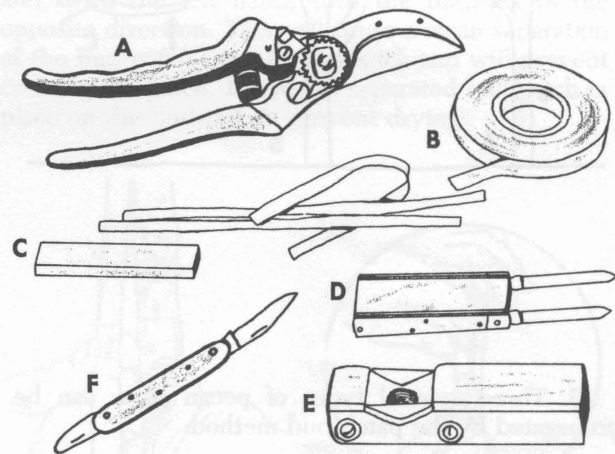
## PATCH BUDDING PECANS

B. G. Hancock and George Ray McEachern\*

The patch bud method of propagating pecans is used widely in working nursery stock, small trees and as a follow-up in completing the tops of trees that have been inlay grafted. This method originated before the turn of the century. The individual responsible is not definitely known, but E. E. Risien of San Saba, Texas, is credited with being the first to propagate pecans by the ring-bud method, forerunner of the patch bud. For decades, the patch bud was the principal method of top-working native and seedling pecan trees to named varieties.

### 1. Equipment needed:

- A. Hand pruning shears
- B. Tying materials, polyethylene plastic tape, rubber budding strips
- C. Sharpening stone
- D. Two-bladed patch-budding knife (blades about 1 inch apart)  
or  
"Texas Aggie" patch-budding tool (made with two razor blades)
- E. Single-bladed budding knife

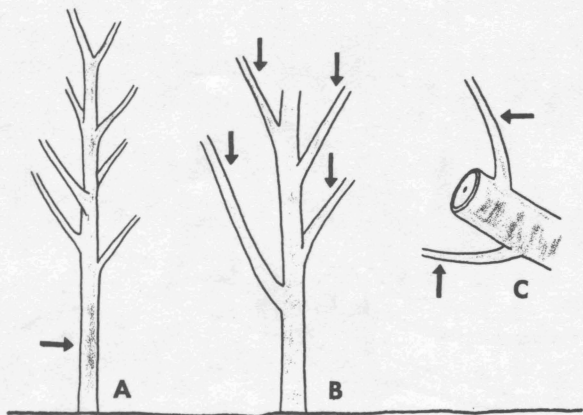


2. A. *Spring Patch Budding*. Pecans can be patch budded in the spring, using mature buds that are not growing and are on wood that grew last year. Select 1-year-old shoots of a variety you wish to propagate that is approximately  $\frac{3}{8}$  to  $\frac{1}{2}$  inch in diameter. These shoots have growing buds and dormant buds in April and early May. Use these dormant buds in patch budding at this time. Do not use buds that are growing or indicate that they have begun to swell. This budwood can be used for approximately 3 hours without any loss of viability; however, it should not be held over under refrigeration.

\*Extension horticulturists, The Texas A&M University System.

Occasionally, pecan growers patch bud in the spring with refrigerated graftwood. Let the wood lay out in a moist paper towel and polyethylene bag for 24 to 72 hours, allowing the buds to season enough to slip from the graft stick. When this type of graftwood is used, the bark must be slipping and the buds should not be swelling.

2. B. *Summer and Early Fall Patch Budding.* Use current season's wood for patch budding in the summer or early fall. Select the more mature, round, current season wood that is  $\frac{3}{8}$  inch or larger in diameter. Cut this wood from a desired variety on the same day it is to be used. Place in polyethylene bag or wrap in moistened cloth.

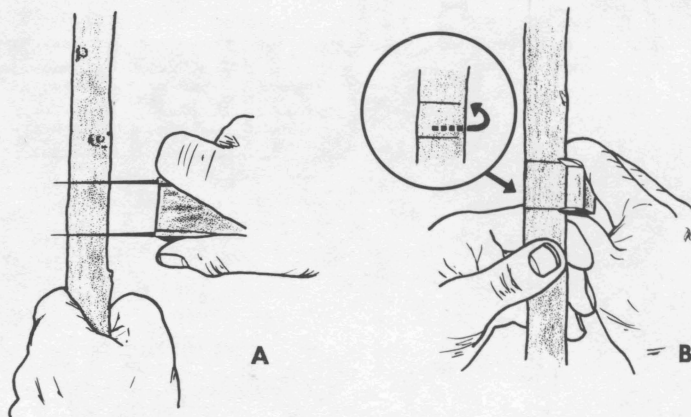


3. Three general types of pecan stock can be propagated by the patch-bud method:

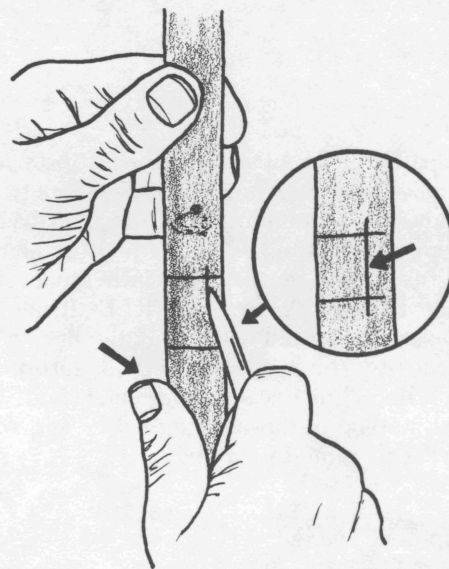
A. Young seedlings trees with a main trunk diameter ranging from  $\frac{1}{2}$  inch to  $1\frac{1}{2}$  inches. One bud usually is placed on the trunk some 6 to 12 inches above the ground line.

B. Young seedling trees with a trunk diameter of  $1\frac{1}{2}$  to  $3\frac{1}{2}$  inches, that have side scaffold limbs, smooth and of a satisfactory size to bud.

C. Larger trees that have been dehorned (cut back) so that the side scaffold limbs are  $3\frac{1}{2}$  inches or less. The patch buds are placed on young, vigorous sprouts that force into growth near the cut end of the limb.

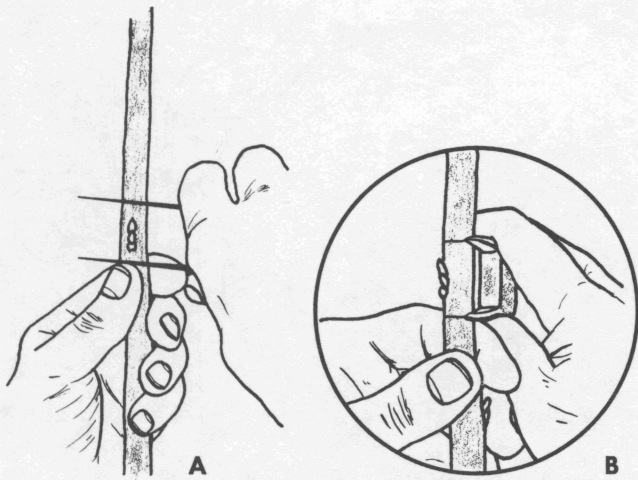


4. Select a smooth clean place on the stock between the two-bladed budding knife at a right angle to the stock, insert the tip end of blades through the bark down to the wood. Apply only enough pressure to cut through the bark and rotate the knife to the right as shown in B, until two parallel cuts approximately  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches have been made.

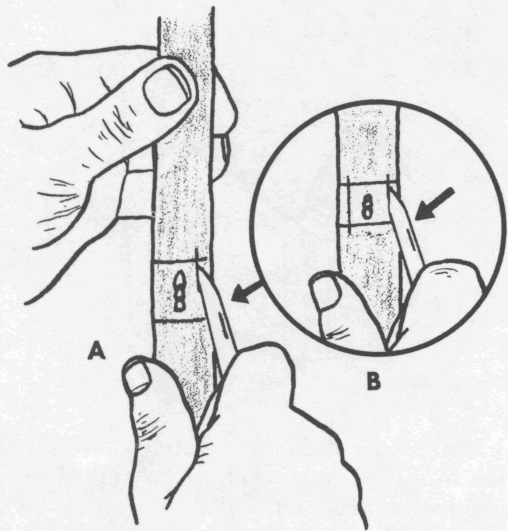


5. Connect the two parallel cuts with one perpendicular cut. Make this cut with a single-bladed knife. Begin slightly above the top parallel cut on the right side and slightly back from the end of the cut to insure a free corner. Place right thumb on the stock just below the two parallel cuts to serve as a guide in securing a straight line. With the knife held at a flat (acute) angle to the stock, apply enough pressure to cut through bark and draw a straight line from the top cut to the bottom cut. Continue the single connecting cut until it comes slightly below the bottom cut and slightly back from the end of this cut.

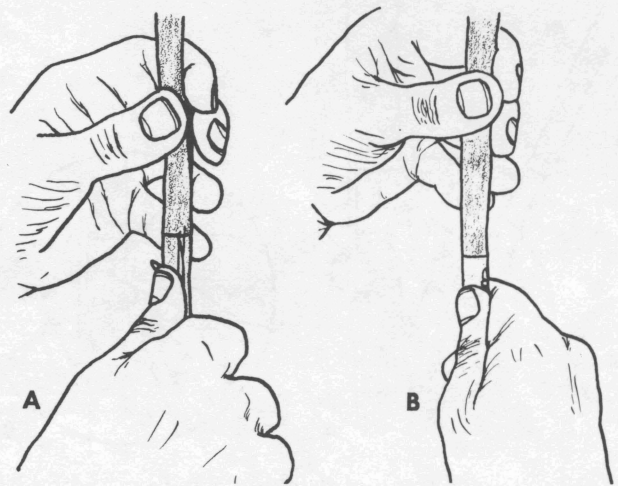




6. Center a set of buds (one node) between the two blades of the budding knife. (See A.) Hold the knife at a right angle to bud stick. Start on the left side on the bud stick and, with firm pressure, insert the tip of the blades through the bark and rotate the knife to the right, as in B. Make the two parallel cuts about 1½ inches long.

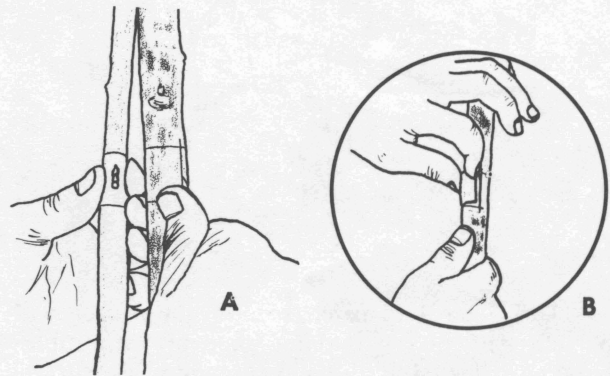


7. With a single-bladed knife, connect the two parallel cuts on the budstick with two perpendicular cuts so that the patch of bark around the set of the bud patch is slightly above and back from the end of the top parallel cut. Again, with the right thumb firmly against the budstick and with the knife at a flat angle, insert the knife through the bark and draw the knife downward to make a straight connecting cut. This cut should extend below and back of the end of the bottom parallel cut. Turn the budstick upside down (see B) and make the same type of connecting cut on the other side of the bud patch.

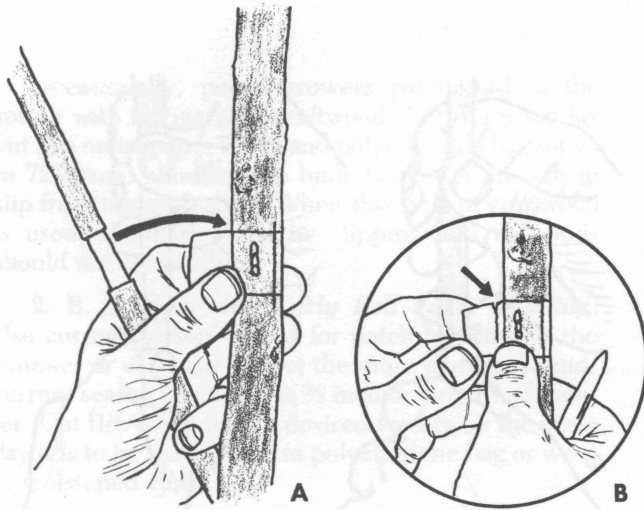


8. A. Insert the single knife blade at each of the four corners of the bud patch. Hold the right thumb on the bud patch and against the side of the knife blade. Apply pressure to the center of the patch, with the knife blade “buckling” the corner of the patch against the thumb. This insures that each corner is clearly cut and prepares the bud patch for removal.

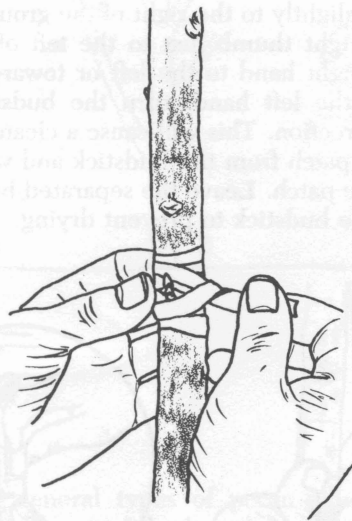
B. Place the top of the right index finger on the bud patch so that the second knuckle fits right below and slightly to the right of the groups of buds. Place the right thumb just to the left of the buds. Twist the right hand to the left or toward the body and, with the left hand, turn the budstick in the opposite direction. This will cause a clean separation of the bud patch from the budstick and will prevent creasing the patch. Leave the separated bud patch in place on the budstick to prevent drying.



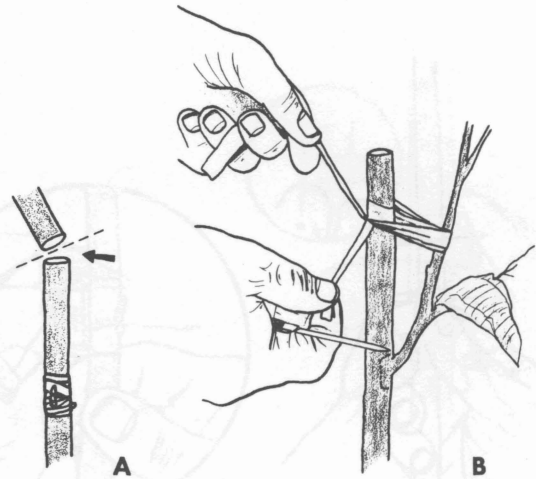
9. Insert the single knife blade at each corner of the connecting cut on the stock. Buckle the flap of bark against the right thumb to eliminate any “hang-nail” of bark, which will prevent the flap from peeling back. Note that the separated bud patch still is in place on the budstick. (See A.) The flap of bark between the two parallel cuts is peeled to the left as shown in B, exposing the location on the stock where the bud patch will be inserted.



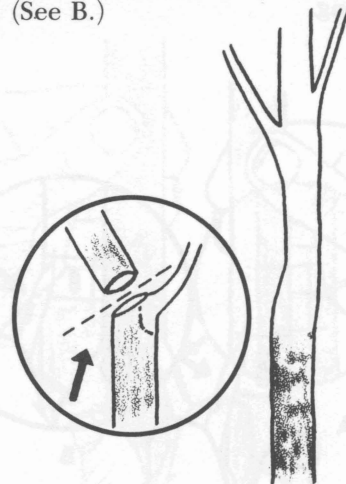
10. Remove the bud patch quickly from the bud stick and insert it in the spot where the flap of the bark on the stock is peeled back. (See A.) Place the bud patch so that the right side meshes exactly against the right side of the connecting cut on the stock. The patch will go precisely between the two parallel cuts on the stock. As in B, the flap of bark on the stock is creased and then torn to leave a slight overlap on top of the left side of the bud patch.



11. Tie the bud patch securely into place with polyethylene plastic budding tape or with rubber budding strips. Hold the bud patch in place with the left thumb until the tie has secured the patch. The tie may begin just above the top of the bud patch and the wraps should overlap slightly to seal out excessive air and water and to prevent drying. Apply firm pressure in wrapping the bud patch, but leave some "stretch" in the tying material to prevent a girdling effect on the stock.



12. Forcing the bud is the next step. Two or three weeks after insertion of the bud, check to see if the bud patch is green by nicking it slightly with the sharp point of a knife blade. If it is green, cut off the stock 6 to 8 inches above the patch bud location. (See A.) Shave off all buds on the stock above the patch bud. This section of stock above the patch prevents loss of the bud by drying out and serves as a stake to tie the young tender shoot that develops from the patch bud. (See B.)



13. Cut off the stock immediately above the shoot growing from the patch bud at the end of the first growing season. This cut will heal quickly and the new shoot will have a slight curve for a season or two, but eventually will be straight. Only a difference in texture and color of bark will distinguish the bud union in later years.

Allow native or seedling growth on the stock to grow the first season or two after budding to protect the trunk or limb from sunscald and to keep the stock in a vigorous growing condition. Keep this seedling growth in check by cutting it back. After the new budded top has gained enough size to insure a balanced tree or limb, remove all of the seedling limbs.

*Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion or national origin.*

Cooperative Extension Work in Agriculture and Home Economics, The Texas A&M University System and the United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.