

Pecan seedling trees seldom produce nuts identical to the mother tree. Vegetative propagation (budding and grafting<sup>2</sup>) is practiced by New Mexico growers to produce pecan trees with nuts of uniform type and quality.

Two methods of propagating pecans are used in New Mexico. Patch budding can be performed on young seedling trees (or branches) with a main trunk diameter ranging from 1/2 to 1 1/2 inches. Inlay bark grafts are done on pecan trunks or side branches 1 1/2 to 3 1/2 inches in diameter, although wider branches are sometimes grafted.

Budding and grafting can be done in the spring after the bark of the stock begins to slip, and can be continued all the way through early fall. Whenever budding or grafting is planned for early spring, budwood has to be collected in the late winter and properly stored, in the refrigerator or cooler, until spring.

Cut budwood in late winter, well before activity starts in the pecan tree for the next growing season. The wood must be collected during the dormant season. The best time is January or February before buds begin to swell. If buds have begun to swell and grow, budding will not be successful.

Parent trees of known and desired variety should be selected during the summer. They should be free of deficiencies (zinc or iron), drought stress, and insect and disease damage. Cut vigorous, one-year wood. Two-year wood can be used, but buds are harder to force on this stock. Abundant, smooth, and large-sized current season wood is usually found in the top of young trees, or in heavily pruned older trees. Select straight, smooth propagation wood.

Grafting wood can be up to 1 inch in diameter only if the trees to be topworked have large-diameter branches. Each graftwood should have three to four buds or nodes. Cut shoots for grafts into 6-, 12-, or 18-inch lengths to give one, two, or three graft sticks. Ends of propagation wood should be sealed with grafting paint, melting wax, or white glue. After the seal is

dry, tie the sticks of propagation wood in small bundles for easy handling.

All propagation wood should be labeled. One easy way is to make a long, tapered cut at one end and write the variety name on this opened wood area with lead pencil. Permanent ink on a wood or metal label can also be used. Label each bud or graft stick or, at the least, label one stick in each tied bundle. An error here will last for many years.

Tie the budwood and graft sticks together in small bundles. Ties should be made securely at each end, but not too tight. The objective is to keep all the sticks together for identification purposes, but make sure they don't move against one another, which would injure the buds.

Before storing, bundles should be packed in moist material to prevent the propagation wood from drying out. A mixture of half sphagnum moss and half sawdust or wood shavings is the best medium. The packing material should not be wet enough that water can be squeezed out of it. Moist paper towels can also be wrapped around each bundle.

Depending on the storage space available, bundles can be stored in apple crates, large cans with tight lids, or polyethylene bags. Perforated plastic bags are best if small bunches of cut wood are to be stored in a refrigerator.

Cold temperatures and moist conditions are essential for successful storage. A temperature range of 34°F to 44°F is ideal. Do not allow propagation wood to dry out during storage.

The home refrigerator will do for small quantities, but a walk-in cooler will be needed for large quantities of graftwood and budwood. A thermometer placed in several areas inside the refrigerator or cooler will help locate the ideal storage conditions.

Graftwood should be taken from cold storage and used immediately, while completely dormant. Take only the amount of material that can be grafted in one day. Keep the graftwood in a cool moist place while grafting.

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<sup>2</sup> Budding involves using buds growing on branches while grafting means using sticks of various sizes.

Keep the cuttings in the plastic bag; remove each one just before it is used.

Budwood must be seasoned for one or two days so the bark will slip and it can be used properly. Budwood should be removed from cold storage, left in its moist storage material, and left at room temperature (70°F to 80°F) for four or five days.

Budding and grafting may start in the spring when leaves appear and the bark of the stock begins to slip. Budding can also be done in late summer (August), using current season wood (budsticks).

Growers planning to topwork their trees as they change varieties may prefer patch budding to grafting. To patch bud, prune back the trees during the winter. The resulting branches can be budded the following August.

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