

Propagating Plants for the Home Landscape



There are several reasons to propagate plants at home rather than purchasing them. An interesting plant growing in a neighbor's yard, but not available through commercial outlets, could be propagated at home. Similarly, an old family heirloom plant that is not commercially available could be propagated at home. A superior cultivar of a particular plant could be selected from the garden and then propagated; this is how many new, improved cultivars of plants are discovered and produced. Home propagation requires more time and effort, but it usually results in less expensive plants to transplant into the home landscape. Or you might want to propagate plants at home simply for the enjoyment and satisfaction of the propagation process.

Sexual Propagation

Planting seed is a method of sexual plant propagation where two parents combine their genetic materials to produce an offspring that is similar to the parent in many ways, but is genetically distinct. Annual plants are often propagated by planting seed because they grow rapidly from seed to maturity in one growing season.

Trees and shrubs can be started from seed at a lower cost compared to purchasing the plant at a nursery, but they will take a longer period of time to grow to maturity with the desirable blooms or fruit. Another disadvantage to propagating a tree or a shrub from seed is that the new plant will probably be different from the parent plant. For example, the fruit from an apple tree grown from the seed of a 'Red Delicious' apple will probably not be like a 'Red Delicious.' The fruit may be better, as good as, or not as good as the 'Red Delicious.' The original 'Red Delicious' tree was discovered as a chance seedling.

You can collect seed and save it to plant the next growing season. There are many conditions that must be satisfied for successful seed collection. In general, for annual flowers and vegetables, wait until the fruit is mature before

collecting. In the case of a zinnia, wait until the flower petals wither and fall off the plant. The zinnia seeds will be at the base of the old petals. In the case of a tomato, wait until the fruit is too ripe to eat and about to fall off the plant.

Collect seeds from annuals, remove any remaining pulp from the fruit, and dry the seed. Put the seed in an airtight container and store in a cool, dry place until time to plant the next growing season. Long-term storage of annual seed can be accomplished by storing the seed in a freezer bag in a freezer. Saving seed is a great way to ensure the continued existence of heirloom flowers and vegetables, and to preserve seed from superior plants.

Asexual Propagation

Many landscape plants are propagated by asexual methods where the offspring are genetically the same as the parent plant. Three methods of plant propagation are cutting, division, and layering. The ideal time of year to propagate depends on the method and plants you use.

Cuttings

A cutting is defined as any plant part cut from the parent plant and rooted to form a new plant. The cutting can be from the main stem, lateral branch, root, or a leaf. Cuttings vary from softwood (current season's growth), hardwood (dormant), or semihard wood (after current season's growth has hardened).

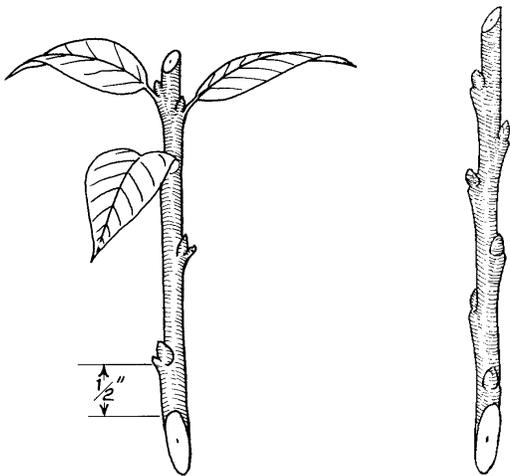
Softwood Cuttings

For softwood cuttings, the new growth should be firm, mature, and slightly brittle. Take the cuttings in June, July, and August. Cuttings taken before June usually are too soft and rot easily. Cuttings after August are usually too woody and root slowly.

Before cutting, select branches that appear in the "right" stage of growth. To determine the "right" condi-

tion, test the branch by bending it to about a 90-degree angle. If it snaps instead of bending, it is “right” for making a softwood cutting.

Make cuttings with pruning shears or a sharp knife to achieve a smooth cut that will heal rapidly. Cut about half an inch below the node on a stem; cut at a slant. Remove the lower half of foliage, but be sure to leave at least one-third of the upper foliage to make food (photosynthesis) and enhance rooting. Always remove flower buds. Place the cutting in a rooting medium as soon as possible, and be sure to keep the cutting moist and cool during the preparation process. Do not allow the cutting to dry.



Cut at a slant about a half-inch below the node on a stem.

Dip the base of the cutting in a rooting hormone (such as Rootone) to hasten rooting. Some plants root easily without a growth hormone. Place the cuttings in a pot or rooting box (see below) filled with a well-drained rooting medium. Put cuttings about 2 inches apart, and keep the rooting medium moist at all times.

Remember that cuttings have no roots at the start, so it is important to keep cuttings out of the sun in a high-humidity environment. Use a fine mist to prevent wetting the rooting medium too much.

Most softwood cuttings root in 4 to 6 weeks. When roots are about $\frac{1}{2}$ to $\frac{3}{4}$ inch long, transplant into a permanent location or place in a container for further growth.

Plants that root easily from softwood cuttings include azalea, aucuba, crapemyrtle, boxwood, camellia, Chinese holly, English ivy, jasmine, Japanese holly, photinia, and privet.

Hardwood Cuttings

A hardwood cutting is made from a plant while it is dormant or after it has completed its annual growth and the wood has had time to become hardened. Normally, hardwood cuttings are made in December, January, and February. Cuttings should be from tip growth, about 4 to 8 inches long with four to six buds per cutting. Hardwood cuttings take much longer than softwood cuttings to root, but hardwood cuttings are easier to handle and are less perishable. You can put the cuttings in an outdoor propagation box or directly outdoors in a well-drained soil. Stick cuttings deep – leaving only the top 4 inches exposed.

Plants that root easily from hardwood cuttings include althaea, crapemyrtle, forsythia, hydrangea, quince, rose, spirea, and wisteria.

Semihardwood Cuttings

Semihardwood cuttings are made after the current season’s growth has hardened but before plant has become dormant (August through October). As with other types of cuttings, do not let semihardwood cuttings dry out. Plants that root easily from semihardwood cuttings include camellia, Chinese holly, Japanese holly, and juniper.

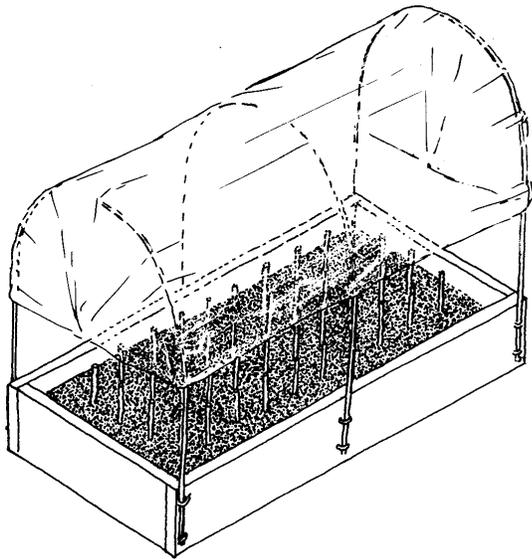
Rooting Medium

The medium you use for rooting cuttings should be free of insects, diseases, and weed pests. It should be porous to allow good air exchange and water drainage. Some excellent mixes are one part clean, sharp, sand and one part shredded peat moss; one part clean, sharp, sand and one part perlite; or one part clean, sharp, sand, one part perlite, and one part shredded peat moss. Measure by volume and not by weight. Do not apply fertilizer until the cuttings have a well-established root system.

How to Make a Propagation Box

Use lumber to make a simple rectangular frame. Lumber size for the side walls can be 1 inch by 6 inches or 1 inch by 8 inches. No bottom is necessary. (A box 3 feet by 4 feet is large enough to hold several hundred cuttings.) Use PVC pipe, reinforcement rods, conduit pipe, or lattice to make bows to hold a clear plastic cover (over top of box) to help save humidity and prevent cuttings from drying out.

Place the box in a half-sun, well-drained area. Fill the box 5 to 6 inches deep with a rooting medium.



Propagation box

Division

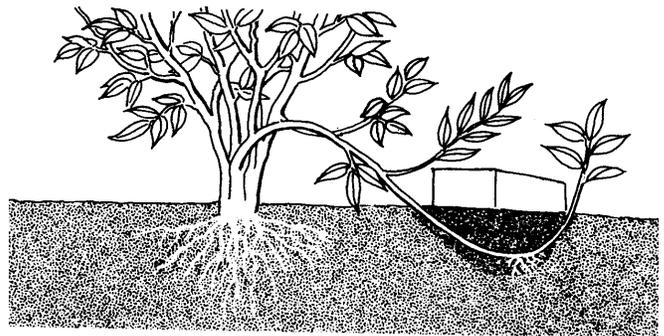
Propagation by division is accomplished by separating plant parts, such as rhizomes, bulbs, tubers, suckers, or stolons. Bulbs (daffodils and onions), tubers (Irish potatoes), and rhizomes (cannas and irises) are storage organs of the plant and are usually underground. Suckers arise from the roots of the parent plant while stolons are extended growths of the plant (turf grass and strawberries). Generally, divisions have roots on the plant part excised from the parent plant. Most divisions are best accomplished when the parent plant is dormant, but there are exceptions.

Layering

Another way to propagate is layering, a technique that lets the cutting stay with the parent plant until it has rooted. Bend a branch to the soil. Dig a shallow trench to bury part of the branch; cover with soil and a heavy object (such as a brick) to hold until rooting occurs.

Another form of layering is air-layering, and the branch does not need to be buried. A small piece of bark is cut from the branch, where rooting hormone is applied. Wrap some moist peat moss around the wound and a piece of plastic film to hold the peat moss.

You can cut the new plants from the parent plant when roots are well formed. Landscape plants that layer easily include azalea, camellia, Chinese holly, euonymus, Japanese holly, and juniper.



Layering is a propagation technique that lets the cutting stay with the parent plant until it has rooted.

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