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Analytics

Plant Propagation by Cuttings

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A rooted cutting made from a portion of stem or leaf produces a plant identical to the parent. Cuttings are rooted extensively by both commercial propagators and home gardeners. This can be done by anyone with fairly simple equipment if directions are followed on such things as drainage, temperature, humidity, ventilation, light, and rooting mediums.

Propagation mediums

A propagating bed or bench (Figure 1) is best to use in rooting a large number of cuttings. Units of 3- to 4-foot sections can be added, depending on the number of plants to be rooted. A layer of brick should be laid on the bottom of such beds to provide drainage and hold necessary heat.

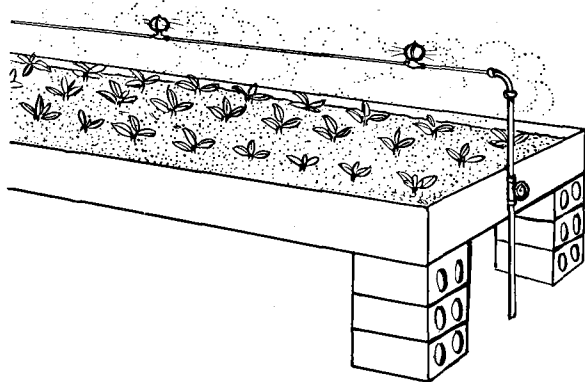


Figure 1. Bed or bench propagation.

A flower pot (Figure 2) can be used to root only a few cuttings. To help maintain humidity, the pot should be covered with a polyethylene bag secured with a rubber band. To insure sufficient ventilation, several small holes should be made in the bag.

A small aquarium (Figure 3) also can be used as a propagator. The bottom should be covered with at least an inch of gravel for drainage, and the top should be covered with glass or polyethylene to help maintain humidity.

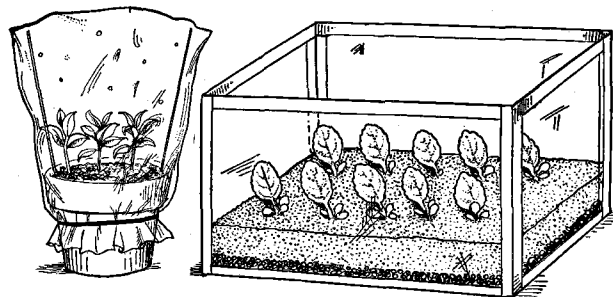


Figure 2. Flower pot propagator. Figure 3. Aquarium propagator.

A larger propagator can be made out of a bushel box (Figure 4). The front and ends should be cut down for convenience and to let in more light. Gravel should be used in the bottom and a cover used on top, as with the aquarium.

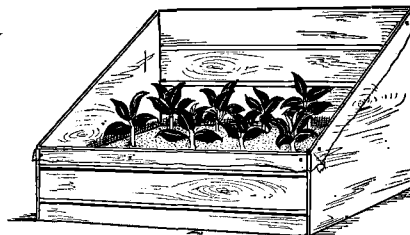


Figure 4. Bushel box propagator.

Cuttings of all but shade-loving plants should receive strong light but not direct sunlight; the latter can cause overheating and loss of cuttings.

Rooting medium

Clean, sharp builder's sand is the best rooting medium for most plants. It drains well, holds heat, is easy to use, and is easy to obtain from building supply dealers.



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A mixture of equal parts of sand and peat helps rhododendrons, azaleas, laurel, blueberries, and other ericaceous plants to root well, but because the mixture holds moisture easily, watering must be carefully controlled.

Temperature

Cuttings need uniform bottom heat of about 68° to 75° F. for best rooting, and they need room temperature of about 10° to 15° F. cooler—or around 60° F. In beds or benches the bottom heat can be supplied by electric cables buried in the rooting material or by hot water pipes beneath the bench. Small units can be kept in a warm room or can be placed above a radiator or heat outlet. Because greenhouse heat is likely to vary with changing weather conditions, separate heating should be provided for propagation purposes.

Humidity

Softwood cuttings need 75 to 80% humidity, or even 90% in summer. Greenhouses, although usually quite humid, must have added moisture in propagation areas for successful rooting. Enclosures of some kind help prevent drafts and desiccation of the cuttings.

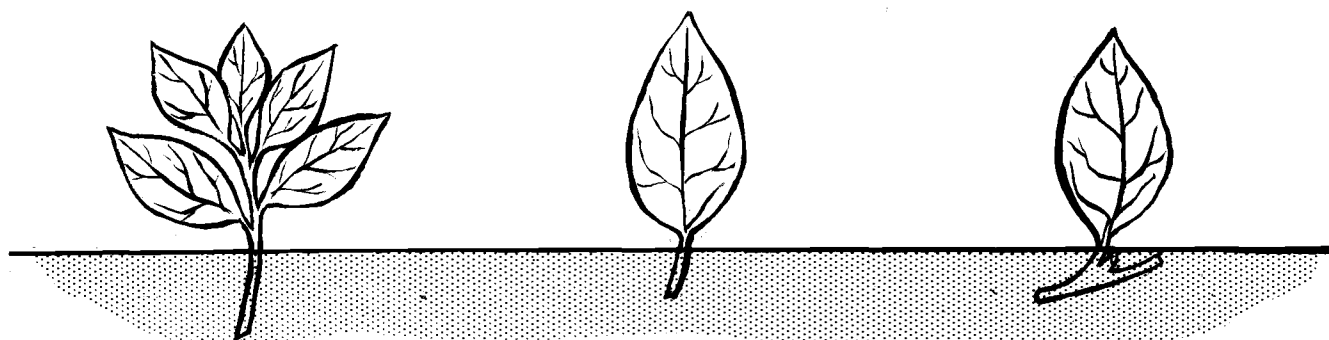
Caution should be used, however, in over-watering with automatic mist application when the rooting medium contains moisture-holding peat.

As the cuttings become rooted, humidity should be lowered to harden off the cuttings so they will withstand transplanting successfully.

Cutting material

Stem cuttings 3 to 6 inches long (and occasionally longer) are used extensively, especially with broad-leaved evergreens. These cuttings should be taken in the summer 3 to 4 weeks after the terminal buds are formed. Each cutting should have 3 or 4 leaves left on it. The more leaf surface present, the faster and better the cutting will root, as leaves supply natural hormones and food elements that stimulate rooting. The lower leaves should be removed and the cutting placed in the rooting medium to a depth of one inch, or deep enough to hold it upright. The deeper the cutting is set, the slower it roots, although rooting time varies with different materials.

Leaf cuttings are used with such herbaceous plants as African violets, gloxinias, and some begonias. A leaf and petiole (stem) from the parent plant is in-



Stem cutting.

Leaf cutting.

Leaf bud cutting.

Frequent additions of moisture over the cuttings are helpful and can be applied through a hose nozzle or an atomizer. Mist applicators are available in garden and nursery supply stores. Nozzles, each covering a 3- to 4-square foot area, can be installed singly or in a series, and time clocks can be added so that mist can be turned on and off automatically at specified intervals. A few seconds of mist out of each minute keeps foliage damp and helps maintain proper humidity, speeds up rooting, causes more uniform rooting, and cuts down the chance of disease in the bed. Automatic equipment saves much time when a large number of cuttings are being rooted, and sometimes larger cuttings can be rooted, saving time in the growth of plants. All but shade-loving plants can be rooted in full light. Hard-to-root plants often are rooted under mist as softwood cuttings.

serted in moist rooting medium to a depth of about three-fourths of an inch. These cuttings root rapidly.

Leaf bud cuttings often are used with such plants as hydrangeas and philodendrons. Such cuttings are good propagating material because they have a plentiful supply of food and hormones. A section of a twig about one inch long with a leaf attached at midpoint should be inserted into a moist medium deep enough to cover the bud. Rooting is rapid.

The best cuttings are taken while fresh during early morning. Some hard-to-root materials will require experimentation to find the best time for rooting. Some of these will root faster and better if a root-inducing hormone is used on the cut surface. Seed and plant stores sell such materials. Directions for their use are given on the packages.