

# Propagation of Landscape Plants by Cuttings

## Why asexual propagation

Increase the number of plants to supplement landscape plantings. Plants made by cuttings are identical to the parent plant.

Cuttings made from mature plants/growth will bear flowers and fruit sooner on the new plants than if grown from seeds. However, cuttings from juvenile wood root easier.

## Types of Cuttings

**Hardwood:** Woody plants, shrubs and trees are most successful with cuttings when harvested after leaves fall and then any time in the winter. 2"-30"

Herbaceous plants root best in the spring.

**Semi-hardwood:** Growth that is new this year and the stems are firm. Usually in late spring and early summer. Use 4"-6" of a side branch

**Softwood cuttings** are made from new growth tips, 3"-6". For evergreen plants, the best time to take cuttings is right after a flush of growth.

## Rooting medium

The medium needs to allow drainage so the stems' cut ends and roots can breathe. It has material that will retain nutrients and keep the cuttings moist. It should be low in fertilizer, which could inhibit root formation. The medium needs to be able to hold the cuttings upright and in place. It must be clean and sterile. Heating the medium for 30 minutes at 140 degrees is sufficient. Soak trays and pots in 1:9 bleach/water solution.

## Recommended Mixes

Sifted sphagnum peat moss and vermiculite for tender stems.

Coarse perlite is used for some cuttings such as cactus-type plants

50% peat moss, 50% perlite makes a light medium that is good for aeration.

Equal parts of peat moss, vermiculite and perlite help cuttings that need moisture retention.

Plain water can work but the roots that grow are different and transplant shock is worse for the plants. Change the water at least weekly or it will become stagnant and oxygen deficient, which inhibits root development.

It is important to produce roots quickly or cuttings may die due to running out water reserves. Do not let the cutting wilt. Leaves transpire water so reducing leaf surface can help. Be sure to leave a growing tip or bud. Bigger leaves can be cut in half simply to make room in the flat for more cuttings, and to allow air flow and disease reduction.

## Making Cuttings

The medium must be moist with no dry spots. Keep the medium warm, 70-75 degrees. Bright indirect light is needed and a north facing window is better than any other direction.

Make a mini mist bed by loosely covering the tray with plastic with cuts for oxygen exchange while maintaining a moist environment. Make larger openings when starting to harden off the rooted cuttings.

Tug gently on a cutting in 2 or 3 weeks. If there is resistance, the cuttings can be potted into individual 4" pots. Dig them, don't pull them out. Not all the cuttings will be ready at the same time.

Cut a 2"-6" piece from the tips of branches. Keep some leaves to provide carbohydrates, auxin and rooting co-factors. Don't use the apical tip (dominant stem), as it will have growth inhibiting hormones. Make a straight cut just above a bud when making hardwood or semi-hardwood cuttings. Cut the bottom at an angle just below a node using a sterile sharp knife for all cuts. This can help make sure the cutting does not get stuck upside down. Buds point up too. Nip off leaves from the section that goes into the medium, one or two nodes. Take off flower buds and flowers. Don't take cuttings on wood that has fruit, the wood has different hormones and depleted reserves. Keep the blade sharp with a sharpener and keep the knife sterile with rubbing alcohol or 1:9 bleach to water.

Wound the stem to activate cambium cell division by thinly scraping the outer layer. On hardwood cuttings, you can split the basal end ½"-1".

Treat the wounded stem with powdered rooting hormone (IBA, NAA) and tap off loose powder. Keep your container of powder sterile by using some in a separate container. Rooting hormone loses its effectiveness after 8 months even when refrigerated. Make a hole in the medium with a thin dibble, stick the cutting almost to the bottom of the container and firm the medium around the base. Water gently to settle the medium.

### Division

Most perennials in the same place for 3 years will start crowding. The center may die out.

Dividing and replanting in fresh fertile soil will revive the plants to full vigor and will yield plants to share. Dig the plants in late winter and early spring. Use a sharp shovel to separate and lift the root ball. Cut into pieces big enough to make strong plants. Use of a serrated tool such as a pruning saw or Hori Hori knife can make the job easier and make clean edges to the root ball. Make sure there is a growing point – leaves, blades or bud on top and plenty of roots or a tuber on each segment. Discard the weak center of the original clump.

Patent protection: Cultivars are the legal property of plant material developed by geneticists and growers. Patented plants will come with tags that have a patent number and can only be propagated with permission from the patent holder which involves royalties and specially prepared plant tags that must accompany every plant cloned. Older cultivars and varieties may have passed the patent longevity and so can be propagated of our own use, and shared with friends and neighbors. It's best to buy your first plant from a nursery, free of disease and pests and then increase your collection through careful and hygienic propagation and growth of offsets and cuttings.

Bulbs like daffodils and lilies May benefit from separating every 3 to 5 years if crowded. Do it when the tops wilt or die back. A large bulb will flower the next year while side bulbs might take a year or two to have reserves for flowers to form.

Corms like gladiolus, crocus and crocosmia form on top of the old corm. Cormels will grow to full size in a year or two so sprinkle them in the planting area. Let the corms dry in indirect light for 2 or 3 weeks. Dust the corms and cormels with fungicide and store in a cool place until spring planting time (after hard frosts are over)

Information is from publications by Washington State University Extension, Oregon State University Extension and University of Idaho Extension and other resources

Propagating Shrubs Vines, and Trees from Stem Cuttings by Mohan GN Kumar, Dept for Horticulture, Washington State University. PNW152

Propagation by Cutting, Layering and Division by Diane Relf, Extension Specialist, and Elizabeth Ball, Environmental Horticulture, Virginia Tech [WWW.ext.vt.edu](http://WWW.ext.vt.edu) Publication 426-002

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