



Satinflower
NURSERIES

Propagation from Cuttings

Propagation by cuttings produces plants that are clones of the parents. Trees, perennials, deciduous and evergreen shrubs can all be propagated by this technique!



Softwood



Semi-hardwood



Hardwood



This handout covers the basics you need to know in order to grow your own plants from stem cuttings!

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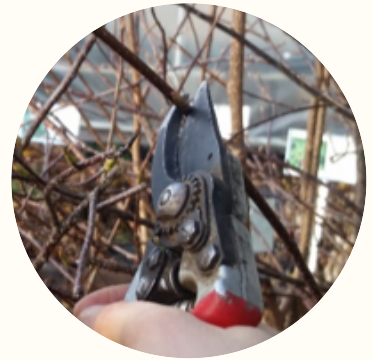
Stem Cuttings

Cuttings involve collecting stem sections from a mother plant. Once you take the cuttings, the lower nodes of the whip sometimes need to be treated with rooting hormones and then either inserting (striking) them into trays filled with growing medium or directly striking them into the growth container. The plant will begin to grow roots (pre-rooting) and develop into a new plant (genetically identical to the source plant). It's important to research each species to know which type of cutting and the timing is the most effective. Cutting type can be classified by the timing in which cuttings are taken: softwood, semi-hardwood, or hardwood.

Materials:

All tools for cuttings should be clean, sterilized and then disinfected with rubbing alcohol. Items you may need:

- Pruners (secateurs).
- Sharp knife.
- Bucket.
- Flats, plug trays or pots.
- Plastic domes.



Wood types

Softwood

Softwood cuttings are taken from late spring to early summer. Cut from actively growing tissue at the stem-tips of soft, fast-growing, non-flowering shoots.

Semi-hardwood (or greenwood)

Semi-hardwood cuttings are taken from late summer to early fall from shoots of the current year's growth. Wood is pliable, greenish and slightly woody. Cuttings are at the stage of development between active growth and dormancy. This is after growth has ceased and the tissue has hardened (lignified) for the summer.

Hardwood

Hardwood cuttings are from the current year's wood that is dormant, leafless and has buds that are not yet swollen; hardwood cuttings are taken from late fall through to early winter (after leaf fall and before buds swell on deciduous broad-leaf shrubs). Current-year (1-year-old) shoots are most commonly used, but older wood can be used for some species. Usually, at least two stem **nodes*** are included.

*Node= point along a stem or shoot where leaf and/or flower buds occur. Branch joints can also be considered nodes



Preparation and cutting process

Recommended practices include:

- Cut in cool, calm, ideally cloudy weather (sun and wind can dry cuttings out).
- Carry a bucket or container with some water to hold the cuttings while you are collecting to keep them moist.
- Label your cuttings as you go if you are cutting multiple species.
- To avoid spreading disease, clean your secateurs with rubbing alcohol before using them in a new area.
- Use sharp tools.

To begin cutting:

- Take long whips and cut to length; ~6 inches long.
- Have ~ 5 leaf nodes (depends on the plant how long that will be).
- Bottom cut just below a leaf node, and the top cut is just above.
- Use sharp and clean secateurs.

Preparing individual cuttings:

- Remove leaves from lower the 1/3 of the cutting.
- Pinch off the growing tip if it's there.
- Insert about one-third the cutting length (usually 1-2 nodes, but it depends on plant, about 6 inches).
- The end of the cutting closest to the roots (the "bottom") should be cut at a 45° angle.
- Treat the bottom inch of each cutting with rooting hormone or willow tea (see recipe below) for up to 12 hours.
- Keep moist, humid, and somewhat cool.



Willow rooting tea

Salix species produce two plant hormones that enhance root growth, Salicylic acid (SA) and Indolebutyric acid (IBA). When you make willow tea, both these hormones leach into the water and provide beneficial effects for your cuttings. SA helps your cuttings fight off bacteria, fungi and infections, giving them a better chance to survive. IBA helps stimulate root growth.

Collect young first-year twigs and stems of any of willow (*Salix*spp.) species, these have green or yellow bark. Don't use the older growth that has brown or grey bark.

- Remove all the leaves, these are not used.
- Take the twigs and cut them up into short pieces around 1" -2" long.
- Place the chopped willow twigs in a container and cover with boiling water, just like making tea, and allow the "tea" to stand overnight.
- Pour willow water into a mason jar, and place the cuttings in there like flowers in a vase. Soak overnight for several hours so that they take up the plant rooting hormone. Then prepare them as you would when propagating any other cuttings.

The second way to use willow water is to use it to water the propagating medium in which you have placed cuttings. Water your cuttings at least twice with willow water.



New cuttings can be kept over winter but should be protected from freezing, wind, and full sunlight. They can be exposed to the rain, but need to be in containers that drain well. By the end of the first growing season, most cuttings should be well-established and ready to plant!