Gardening Basics

Plant Propagation Introduction

A trip to the nursery is one of the most pleasurable ways to spend your day if you love gardening. For many Master Gardeners our favorite nurseries feed our addiction to plants, especially in spring and fall. If your piggy bank is suffering a loss due to those numerous trips to the nursery or garden center, consider propagating your annual or perennial plants from cuttings or layering. Cuttings are stems or leaves from a parent plant that will grow roots and form a new plant. Layering is placing a stem while still attached to the parent plant into the propagation medium until it forms its own roots. Once rooted, the new plant is severed from the parent plant.

Among the easiest plants to propagate are succulents. The leaves are simply placed on top of the propagation medium that is kept moist and within a few weeks, roots and new little plants sprout. Also, easy to propagate are plants with softwood such as aster, butterfly bush, and salvia. Take a cutting from the mother plant and remove the bottom leaves to expose the nodes. These are ready for propagation as described in the "recipe" that follows.

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Propagating from Cuttings

The recipe for successful propagating from cuttings includes a good propagation medium, moisture, light, humidity, temperature, rooting hormone, and stem or leaf cutting. The **propagation medium** is usually made up of combinations of peat moss, coconut coir, perlite, vermiculite, or sand. This medium provides support and moisture to the developing plant. This propagation is quite different from commercial potting soil which is developed to maintain mature plants.

The **moisture** level of the propagation medium should be kept moist but not wet. Many organic materials like peat moss or coconut coir may look wet on the surface but can be powdery dry in the middle so it is important to ensure even moisture throughout the propagation medium. Diffused **light** (sunlight) provides tender cuttings with an optimum environment for rooting without causing injury to the cuttings. If setting your planted cuttings in a window, make sure they don't receive direct sunlight through the window. Maintaining high **humidity** around the cuttings reduces the amount of moisture loss. This condition can be achieved by placing a clear plastic bottle or bag over the propagation area. Condensation will form on the underside of the plastic to provide the necessary humidity. For best results, maintain the **temperature** of the root zone to 70-75 degrees F.

Rooting hormones are often used to promote root formation. Simply dip the cutting into the rooting hormone and tap the end to remove excess hormone before inserting it into the propagation medium. At least one node must be below

the surface of the propagation medium. **Stem cuttings** should be 4 to 6 inches long. Pinch off the leaves on the lower half of the cutting and remove any flowers. The node is where the leaves were attached.

Propagating by Layering

The Layering method of propagation has a high success rate because the stem or tip is attached to the mother plant which provides water and carbohydrates needed for growth. However, it is still necessary to keep a constant supply of moisture to the propagation medium. For **tip layering**, dig a hole 3 to 4 inches deep, insert the shoot tip and cover it with soil. For **simple layering**, gently bend the branch or stem of your existing plant to the ground. Cover part of it with soil, leaving 6 to 12 inches towards the tip exposed. Bend the tip into a vertical position and stake it in place. The sharp bend typically will induce rooting and wounding the bottom side of the branch or stem many also help promote rooting. Some examples of plants that are easy to propagate using the layering method are lantana, azalea, boxwood, honeysuckle.

For a listing of common plants that can be propagated from stem and leaf cuttings visit Propagating Foliage & Flowering Plants on the Aggie-Horticulture website.

Other common types of plant propagation include grafting and budding, mostly used on fruit and nut trees. These techniques are used to propagate cultivars that do not root well as cuttings or whose own root systems are inadequate. If you would like to learn about more methods for propagating plants visit Principles of Grafting and Budding on the Aggie-Horticulture website.