

# Starting Plants From Cuttings Is Slice-Of-Life Gardening

UNIVERSITY PARK (Centre Co.) — For most backyard gardeners, the best way to start a plant is to drive to the nearest greenhouse and buy one. However, a scientist in Penn State's College of Agricultural Sciences says savvy plant lovers can save money and have fun by starting their own plants from cuttings.

"The reason plants can take root from cuttings is that each cell in the plant has all the genetic information necessary to produce a complement plant," explains Robert Berghage, assistant professor of horticulture. "When a cutting is taken by snipping a portion of the plant stem, we are removing the connection between the stem and the roots."

As a result, the snipped plant has had its growth patterns are governed by plant hormones produced in the leaves, stems and

roots of the plant. Berghage explains that once a cutting is taken, the plant hormones can no longer travel back and forth between the roots and the stem.

"That means there is a change in the balance of hormones within the cutting," Berghage says. "The hormonal change signals the plant to first heal the wound, and then replace the missing roots."

Berghage points out that the healing and rooting process takes time, and gardeners must be vigilant in caring for plant cuttings.

"In its simplest form, cutting production means taking a snip of a plant stem, sticking it in some water, and letting it develop new roots," Berghage says.

Although some plants, such as geranium, coleus, oleander and mint can be propagated using this method, Berghage explains that many other plants require a few

more steps to get them to root.

- Do not let the cutting dry out. The plant has lost its roots, the normal source for water, so gardeners must provide water or reduce the rate of water loss.

- Use a rooting hormone. Applying rooting hormone will speed up the process by reducing the time required to generate the hormonal changes the plant needs to change its growth patterns. "In some plants, a rooting hormone is

an absolute requirement for propagation," Berghage says.

- Use a sterile, well-aerated and moist rooting medium. "Sticking a cutting in water prevents it from drying out, but this also restricts the availability of oxygen to the snipped end, which makes it hard for healing and new growth to occur," Berghage says. He recommends using growth media such as vermiculite, perlite, floral foam or a good potting soil to provide water without depleting the cut-

ting's oxygen. Using a sterile medium also prevents disease.

- Provide high humidity and reduced light. Water loss through the leaves can be reduced by raising the humidity around them. Water loss also can be reduced by reducing light levels. "Cover the cuttings with a plastic bag to provide high humidity," advises Berghage. "If you reduce light levels, just remember you must have enough light for the plant to grow."

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