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## Mist Propagation of Perennials Using Side or Lateral Shoots

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The perennials discussed in this paper are those that typically do not develop a stem or branch with leaves and internodes. Instead, they grow from a crown at the soil surface with leaves grouping themselves around a thickened fleshy base in what are variously called: offsets, suckers, side shoots, lateral shoots, or heeled cuttings. They will be called shoots in this paper. When the stock plants are growing in the ground the preferred method of making cuttings is to cut the shoots by inserting the snippers into the ground at the base of the plant. Some of the plants have shoots that are tender and will be bruised or crushed if they are pulled off by hand.

The general rule is that these perennials root better in the spring or fall when it is cooler than in the summer. Hormondin #3 is normally used. A light mist is preferable, beginning with a short burst at 10-min intervals and after 5 days increasing the interval to 20 min. Just enough mist is needed to prevent visible wilting of the leaves.

The *Achillea* taxa are easy to root. We prefer to force field clumps or 1-gal containers in the late winter and then to pull off the shoots when they are 2 to 4 in. long. Side shoots can also be taken in the fall and stuck in a heated house.

*Allium senescens* var. *glaucum* roots under light mist in well drained soil.

*Armeria maritima* will root anytime, even in the heat of summer, if there is a brown sheath at the base of the shoot.

*Heuchera*, *Tiarella*, and *Heucherella* will root from cuttings taken from outside stock up until frost in the fall. Plants can be forced in the winter also. The larger top leaves are trimmed prior to sticking leaving either bare stems or some of the smaller lower leaves.

*Echinacea* and *Rudbeckia* need to be propagated prior to flower bud formation. This is a good method to use to catch up on production when one has forgotten to seed enough of them.

*Scabiosa* roots easily except that the better cultivars bloom so profusely that they

forget to make shoots. We did a small-scale test using Florel (Ethephon). A heavy spray was applied to container plants in full flower at the rate of 3 oz to 1 qt. For 1 month there was flower inhibition and the lateral shoot development was three times that of the control. We will test further to see if this affected the rooting rate.

*Stachys byzantina* 'Silver Carpet' is much preferred over the species because of the lack of flower stalks. It is difficult to produce because it rots quickly in the heat of summer under mist. It needs to be moved out from the mist after 3 days to a shady area with light hand misting or produced in the cool months.

*Penstemon* 'Husker's Red' roots readily from shoots cut from below ground level. Stem cuttings root slowly and then it takes 2 months for side shoots to develop to make a full plant.

*Campanula* 'Joe Elliott' (syn. *C.* 'Joan Eliot') can be done in the fall or after blooming and the side shoots have begun to develop.

*Sanguisorba obtusa* cuttings did well when taken in early June.

*Potentilla xtonguei* and *P. neumanniana* 'Nana' (syn. *P. verna nana*) are cool-month growers. They can be taken up until frost in the fall but we prefer to force them in the winter. The shoots are easily pulled off by hand and they need the brown sheath at the base of the cutting to root.

*Potentilla* 'Gibson's Scarlet' is difficult as it easily rots. They do best if forced in the late winter and the shoots are taken when small and tender and the mist is very light.

## Question Box

### Moderated by Ralph Shugert and Steve McCulloch

**Question:** For Joerg Leiss. Could you explain once again how to produce *Corylus avellana* 'Contorta' using root pieces to graft onto?

**Tim Brotzmann:** *Corylus avellana* is not a good understock because it throws root suckers. Use another species such as *C. colurna*.

**Question:** Will variegated forms of *Aralia elata* and *A. spinosa* if put on their own roots (as by layering) produce variegated suckers or the normal green form?

**Tim Brotzmann:** I asked Joerg that question but he did not know the answer. My feeling is that it would throw the green form.

**Question:** Does *Thuja occidentalis* 'Smaragd' ever set seed or ever bloom?

**Ken Twombly:** We have grown it for about 15 years and have never seen it set seed.

**Question:** Has anyone had experience using growth retardants on perennials?

**Harlan Hamernik:** Yes, there are a number that will work, however, the procedures have not been worked out for the broad range of herbaceous perennials. A grower needs to experiment. One of the most effective is Florel that is used in the florist industry. We are doing work at our nursery but mainly to make better plants for propagation.

**Question:** Are there other economical ways to sterilize cuttings other than bleach before they are stuck?