Layering Cuttings as an Alternate to Sticking Them©

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Historically cuttings are stuck into the rooting media which is composed of some friable substance with high air porosity, up to 35%, and good drainage. The media ranges from pure sand or pure perlite to the Cornell peat-lite mixes, composted bark-peat mixes, and now, rice hull, coir, and composted peanut hull mixes. The prerequisites for sticking a cutting are either to have a stiff woody-stemmed cutting, such as any shrub, ivy, or euonymus, or to dibble a pre-moistened media to make an insertion hole.

This paper presents an alternate method that first places the cutting into the rooting bed, tray, or pot, and then places the rooting medium around it. Actually multiple cuttings are placed in the tray up to a handful of 30 cuttings at a time. As usual, this is much easier to explain and to understand with photos than it is with words.

We have successfully used this method for rooting *Vinca minor* (myrtle, periwinkle) and *Galium odoratum* (sweet woodruff, bedstraw). These plants have in common the fact that they are weak stemmed and thus difficult to stick and that they are nodal rooters. They differ in that sweet woodruff needs a rooting hormone and its leaves are difficult to strip as they form a whorl around the stem and sometimes the stem breaks off at the node during the stripping process. Both plants will root from a leafed node as long as the node touches the soil surface. This method solves both problems as a relatively long stem is placed into the rooting media thus exposing from 2 to 8 nodes to the media and the stripping of the leaves is not required as the buried leaves rot away in a couple of weeks.

We have two jigs to assist in this process. The first holds a bulb crate at an angle of 45° and has 1½-inch spacer notches into which a moveable piece of plywood about 8 inches wide is placed to lay the cuttings on and to space the media thickness between the layers. The process begins with scooping several inches of media into the side of the bulb crate. The *V. minor* cuttings are prepared by taking cuttings from 2-year field stock of *V. minor* 'Bowles' or 'Dart's Blue'. The cuttings are taken in August, September, and October when they have swollen nodes that are beginning to show root initials and are taken early in the morning when the dew is on them. They are then cut to 6 to 8 inch lengths and oriented in a carrier tray. The workers then pick up ahandful of cuttings and fan them out, thus placing about 30 cuttings per row or a little over ½ inches apart. This is casually done as speed of work is more important than uniformity of spacing and then a scoop is used to put 1½ inches of medium over the cuttings. The plywood jig is then moved up to the next notch, the media smoothed by hand, and it is ready for the next handful of cuttings. One half to two-thirds of the cutting is under the medium. If the cuttings are placed thicker than this the rooting percentages decrease and we suspect that this is because the leaves are too thick creating air voids around the stems that prevent the medium from touching the stems.

There are a couple of implications of this procedure. For one, the cuttings are not vertical but at an angle so that the tops overlap and this shades and holds in the humidity of the cuttings underneath thus creating a microclimate conducive to rooting. Secondly, there are a lot of leaves on the buried part of the stems that are

exposed to the damp media where they can absorb moisture during the critical first 2 weeks of the rooting process. And thirdly a lot of nodes are buried in the media instead of the traditional one or two. It is not clear to what extent these factors help the rooting process but it seems easier to root this way compared to the traditional three-node cutting with one set of leaves stripped.

The other jig is a custom made and designed rotating potting table that holds the 2½ inch plastic pots in a socket thus leaving the top of the pot flush with the table making it easy to hold the cuttings in one hand and to scoop in the medium with the other hand. When we placed five or six vinca cuttings with leaves into the plastic pot and packed the media around the stems we did not have good rooting and we think that this was because the leaves prevented the media from touching the stems. To solve this we have stripped the bottom 3 inches of leaves when doing it this way but we do not have the results yet.

When *G. odoratum* is rooted using the table the benefits are even more significant because this plant is both weak stemmed and the leaves are difficult to strip. The technique is to harvest the cuttings by the handful from the stock plants and to lay them in a carrier tray all oriented the same way. The cuttings are made close to the soil line and are about 3 to 8 inches long. Rooting powder is applied while stacked in the tray by sprinkling or sifting it on to the basel ends. Three or four cuttings are then taken and placed in an empty 2½-inch plastic pot and the potting media is placed around them.

Rooting is nearly 100% and much labor is saved. This technique is effective because the lower part of the stem has smaller leaves and closer internodes than the top of the cuttings. As sweet woodruff is a cool weather plant propagation is done from mid-September until the first hard frost and they are placed on bottom heat with light mist, or stock plants are forced in late February for March propagation. This technique results in a good saleable 2½-inch pot without need for any transplanting.

The above described method should be useful in any weak-stemmed plant and particularly one where the cuttings can be harvested by the handful and require no further treatment, trimming, or orientation. We like it because it is twice as fast as conventional sticking, the rooting percentage is higher, and the larger cuttings produce larger plants.