

## Calluna Propagation

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Propagation is a lot like cooking. My father's Aunt Margaret was a very good cook, but when my mother tried to duplicate one of her recipes, it never worked. Mother privately accused her of omitting some necessary ingredient on purpose, but in my kinder moments I want to think that it was just a matter of individual differences that regulated the outcome.

Individual differences play a big part in propagation. One person's technique in making cuttings is different from another's. Everyone varies somewhat from the norm, no matter how hard we strive for uniformity in our procedures. We each bring our own set of habits and experiences to the propagating table. At Sylvan Nursery we propagate thousands of heathers annually. Our procedures are simple and straightforward, but even these are sometimes difficult for others to duplicate.

We take semihardwood cuttings from our stock plants in January. We do this at that time of year because it fits our schedule. I don't need to tell you why this is sometimes difficult. Snow can be a factor. This past spring we put up two new greenhouses to aid in the situation. We have planted stock plants in the floor of the houses. The houses will be covered with poly in the late fall so that the plants will be accessible, yet still dormant, when the time comes to take cuttings.

Winter is the ideal time to take cuttings for the summer-flowering heathers and heath, such as *Bruckenthalia*, but probably not the best time for the winter-flowering heaths. To somewhat compensate for the plants being in flower, we remove the blossoms on the winter heath before sticking to lessen the stress on the plants caused by transpiration.

Juvenile tissue is best to use, but really the general health and vigor of the cutting is of greater importance. The wood must be such that the ratio of stored sugars to nitrogen in the tissue approaches one to insure good adventitious rooting. Too much nitrogen and cuttings will rot, too much sugar and cuttings will not root. Fresh material is taken each day for the next day's work. Rarely, do we use anything older than 24 h.

Cuttings are made with sharp knives or shears which are periodically dipped in fungicide. Crews work together doing one cultivar at a time. Because of these "individual differences" which are inherent in the process, it is easy to identify the crew member when the cuttings do not measure up to the supervisor's standards. Corrections can then be made quickly.

Before sticking, the cuttings are first dipped into Hormodin #2, a talcum-powder-based indolebutyric acid product. They are then laid in rows in flats and covered with newspaper. Next they are taken into the greenhouse to be promptly placed into the bench. Cuttings are not allowed to dry out for any length of time.

Our propagation benches are filled with #2 washed builder's sand, watered well, and then pounded to remove any air spaces in the sand. The tools of the trade are simple: pounders, hammers, linolium knives and a 1 inch x 1 inch strip of wood, the length of which is the width of the table. Benches are as wide as two people can reach, one from either side.

After re-pounding the sand, the stick is laid across the sand and hammered into place to mark the line. The slice is made with the linoleum knife and the cuttings are lined up in the groove. Once the line is filled, the stick is placed against the line of cuttings and hammered in again for the dual purpose of securing the first line of cuttings and of marking the next. Several times during the day, the cutting blocks are watered in. At the end of the day, they are drenched with fungicide. Last year we began using bottom heat beneath the bench. The greenhouse is kept at 65F during the day and at 55F at night. However, on very sunny days, the temperature in the house can climb to 70 or 80F.

As soon as the cuttings are stuck, they are misted several times a day manually in addition to the automatic misters which are set to spray the bench every hour for 10 seconds. When the weather warms, more frequent mistings are necessary to assure that the cuttings do not dry out. It is most imperative that they are never allowed to dry out. Callunas need an acid medium to root adequately, as well as for growing. The fact that our water supply registers a pH of 5.8 is undoubtedly beneficial to their growth.

Rooting will occur in 2 months or so. Very good results are achieved with *Calluna* or heathers, but only good results are found with *Erica* or heath. The latter is an indication of the relative hardiness of heather to heath. The quality of the cutting wood on heathers is often superior to heath if our weather has had many sudden temperature plunges before the wood is taken. Heath stems will split lengthwise if temperatures vary widely. It is best to pot the cuttings as early in the spring as possible. However, with spring being as busy as it is at Sylvan, that means June.

We use an automatic flat filler to fill the pots and a board dibble to hollow out a potting circle in the soil. The cuttings are potted into Nu Pots using a sandy potting mix of peat, perlite, and sand with gypsum and micronutrients added. In the following year, if not sold, they will be shifted up to 4-inch square pots and eventually into 1-gal containers. Since this is a soilless mix, periodic feedings with a balanced fertilizer improves growth. When necessary, Cleary's or Funginex are acceptable fungicides to use.

After the first year the 3-inch plants are sometimes planted directly into the field for growing on. In 1 year's time we can field pot into 1-gal containers, or sometimes even into 2-gal containers, if the growing season has been good.

Herbicides are not recommended. We have found that herbicides are very destructive to heathers and heath. Hand weeding, although labor intensive, is necessary. In the same field with flourishing plants disastrous results occurred when we used the herbicide, Rout, on one section. The plants showed poor color, lack of vigor, and general plant decline. Similar results were found when herbicides were used in our container production.

Winter protection is a prudent practice on newly planted beds. We have used both straw and Remy cloth to shield the plants from extreme weather. Either covering can be held in place by snow fences. Once plants are established, they can withstand more exposure. In the spring they should be cut back and fertilized lightly.

Heathers offer unlimited variety to the garden. Even one or two plants mixed with dwarf conifers or other shrubs can give a garden winter color, summer bloom, and foliage interest. Foliage can be gold, green, copper, gray, orange, or red. Flowers vary from pink, lavender, fuschia, white, to purple. They all require an acid soil and good drainage. Although they will withstand some drought once established, they should

not be allowed to dry out. They are hardy to Zone 5 and sometimes to Zone 4 with good snow coverage. They do not thrive well in hot, humid conditions. The southern zone of their hardiness has not yet been established.

Occasionally new cultivars will spring up in a garden. One such happy event occurred at Sylvan Nursery about 15 years ago when we were collecting cuttings of *C.* 'Sister Anne'. The plant we found was taller and not quite as velvety gray as 'Sister Anne'. It appeared to be very vigorous, so we collected it. Later when we realized that this was a new sport, Neil Van Sloun named the cultivar after a wonderful lady who was on the crew, Mary Ferreira. We have propagated 'Mary Ferreira' for over 15 years and it is still growing well. It is grayish green in color and has a purple bloom. It has been reliable and true to its own characteristics, growing to 15 inches in size and becoming grayer in the winter. The growth habit is upright and the plant forms a dense mound.

Other less well known heathers are 'Kinlochruel', a double white variety which is similar to 'County Wicklow' in growth habit, and a beautiful new cultivar for us 'Dark Beauty'. The latter is the first red-flowered heather that we have found. We hope to introduce 'Dark Beauty' into our line soon. 'Wickwar Flame' also has a bright future. Gold to bright red foliage with a spreading growth habit makes it everyone's first choice.

Heathers deserve greater use. It is rewarding to see that this is beginning to occur. Although they have been widely used in their native areas of the British Isles and South Africa, they have not been used extensively in the United States. The fact that heathers are being featured in national magazine articles and planted in many of the large botanical gardens, such as Longwood Gardens, attest to the renewed interest gardeners are giving them. Heather societies now flourish on both the east and west coasts of the U.S.

It is indicative of the interest in heathers which we are seeing that you have asked me to speak on them this morning. Thank you for the chance to spread the word about these useful plants. White heather has always symbolized good luck. So, we wish you all good luck and may you be blessed with many heathers in your gardens.