

Hardy Geranium and Perennial Propagation

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INTRODUCTION

In the 1980s the gardening public's demand for greater variety combined with nostalgia for long established favorites helped fuel the resurgence of some old time perennials. These perennials were made new to the public by the introduction of many improved cultivars.

In response to this demand our nursery, like many others, found itself not only growing perennial in ever increasing numbers, but soon establishing a perennial program as an extension of our regular operations. At present we propagate mostly by cuttings and divisions and grow 490 cultivars in containers ranging in size from liners to a 1-gal container

HARDY GERANIUM PROPAGATION

Cutting Propagation: Time of Year and Cutting Stock. Material for propagation comes from field and containerized plants, the latter being overwintered in unheated polyhouses. Our work with root cuttings has not given consistent results and we rely primarily on herbaceous cuttings and division. Species and cultivars that respond more readily to divisions are *Geranium endressii* 'Wargrave Pink', *G. himalayense* 'Gravetye' [syn., *G. grandiflorum* 'Alpinum'], *G. macrorrhizum*, *G. macrorrhizum*, 'Bevan's Variety', *G. × oxonianum* 'Johnson', *G. himalayense* 'Plenum', and *G. × oxonianum* 'Claridge Druce'. The types that respond to herbaceous cutting propagation are *G. sanguinum*, *G. sanguinum* var *striatum* [syn 'Lancastriense'], *G. sanguinum* 'Sheperds Warning', *G. × oxonianum* 'Claridge Druce', and *G. macrorrhizum*.

Cutting propagation occurs in both March and June. March cuttings are taken from containerized plants brought into a heated (65°F) polyhouse the previous month. June cuttings generally come from field plants, although containerized plants have been used as well. All stock plants are drenched with the fungicide Banrot every 4 to 6 weeks, and no herbicides are used.

Readiness for Propagation and Processing. Actual cutting harvest begins when approximately 1/4 of the plants are in flower. Material is cut early in the morning, misted to keep moist, and stored if necessary for one day in a cooler set at 36 to 40°F. Trimmed cuttings consist of 2-3 nodes, with 1/4 in. of stem present under the basal node. The latter makes it possible to place the cutting deeply enough in the soil to ensure good anchorage. *Geranium macrorrhizum* and *G. × oxonianum* differ slightly from the above in that the cutting material is pulled, not cut, from the stock clump, thus leaving the basal sheath intact.

Rooting Medium, Shading, Mist Cycles, Sanitation. All cuttings are treated with #8 Hormex rooting hormone powder and rooted in a 73 Growing Systems cell pack using a high porosity soilless mix containing pine bark, perlite, vermiculite, and peat. A 50% shade cloth covers the polyhouse in the summer, but shading in

our area is not required in spring. Mist cycles run for an average of 10 seconds with the frequency being decreased as rooting progresses. For example, in March in an enclosed polyhouse the following frequency has been common:

- 20 min between cycles prior to rooting.
- 30 min just after root initiation (10-14 days).
- 40 min to hardening off.

By contrast the interval between cycles in June in a ventilated polyhouse is much less.

- 5-10 min between cycles prior to rooting
- 20 min at root initiation.
- 30 min to hardening off

Plants are removed from mist when roots are at the edge of the plug; in spring, this ranges from 20-30 days; in summer, about half that time is required. Propagation benches are treated with a disinfectant (Greenshield, a Whitmire Product) and as a preventative treatment, a fungicide drench with Banrot is given right after sticking.

Propagation by Divisions. All taxa of geraniums are propagated by field divisions. Digging occurs in June or July if the weather is cool for February sales and November to January (weather permitting) for spring sales.

After digging, the foliage is trimmed to 2-4 in. and the plants are processed to yield divisions of one to three eyes

If storage prior to potting is necessary, the cooler is set at 36-40°F in summer. In winter, the plants are covered with plastic and kept on trailers or stored on the ground in a minimally heated polyhouse.

Divisions are potted in the same mix used for cuttings. A preventative fungicide drench of Banrot is applied as soon as possible.

OTHER PERENNLALS

Aside from the hardy geranium, our line of perennials ranges from achillea to veronica. With such a wide variety it is difficult to generalize regarding propagation and growing. However, the following can be said with some degree of confidence.

We propagate mainly by cuttings and divisions, with most cuttings being taken in June, July and August prior to flowering. If cuttings are done early enough in the season, often a second set can be taken without harm to the stock plants. The 1-gal plants are saleable within 8 weeks. Cuttings 2 to 4 in. in length are stuck directly into a 2 1/4 in liner pot. Rooting powder is used when necessary, with careful records being kept from year to year.

Other propagation details are identical to those for the summer time geranium program discussed earlier. For example, all the following are common to the propagation of both crops: the soil mix, the timing in the mist cycles, the amount of shading covering the polyhouses and sanitation practices.

In contrast to cuttings which can be taken anytime, timing is critical when perennials are propagated by division. Often the timing is specific even for individual cultivars of a perennial. A helpful reference is the "Manual of Herbaceous Ornamental Plants" by Steven M. Still.

FERTILIZATION

Fertilization of all our stock, once it is rooted is identical. Liquid fertilizer composed of calcium, ammonium, and potassium nitrate is mixed on site and is applied at every watering. This is supplemented with trace elements and sulfuric acid, the latter added to reduce the alkalinity of our water supply. Depending on the season, the concentration ranges between 2.0 and 3.0 mmhos, with the higher concentration being applied in the spring. No fertilization occurs between October and March.