Introduction to Growing Perennials from Seed

William L Ashburner
Digger's Garden Company, 105 Latrobe Parade, Dromana. 3936

INTRODUCTION

Perennials in the last decade have enjoyed enormous success amongst the gardening public. The movement to a more free-form and care-free style of gardening, and in particular the "cottage gardening" trend has buoyed sales of perennials. They now account for a sizeable but undocumented market share. Nursery persons unfamiliar with perennials have found it necessary to grow them to maintain sales. This has resulted in some cases with inappropriate propagation techniques and has resulted in plants being produced below the growers' usual standard.

WHAT IS A PERENNIAL?

Botanically a perennial is any plant that lives from year to year. Horticulturally the definition is a little stricter and generally refers to any plant that lives for more than a year and is herbaceous. This excludes all woody plants, although some plants with secondary thickening are considered as perennials because of their horticultural use. Examples would include *Artemisia arborescens*, *Romneya coulteri*, and the native *Parahebe perfoliata*. *Echinacea purpurea*, *Thalictrum delavayi*, and *Delphinium* are examples of deciduous perennials which become completely dormant in winter. Others such as *Campanula trachelium*, *Anemone* × *hybrida*, and *Achillea* 'Moonshine' have flowering stems which are deciduous in winter but in our climate have basal growth which is maintained. Evergreen groundcovers such as *Dianthus* 'Doris', *Anthemis tinctoria*, and *Aurina saxatilis* are often categorised as perennials.

PROPAGATION METHODS

The full range of propagating techniques can be applied to perennials. Vegetative propagation is carried out to maintain named cultivars. Softwood tip cuttings are a commonly used method and are the most desirable because it is easy to produce an uniform crop. Other methods include the use of root cuttings and the division of the crown in winter. More recently some genera, *Astilbe* and *Hosta*, are being propagated in tissue culture.

Seed propagation is by far the cheapest method. There is no need to maintain large numbers of stock plants and the actual production of the plant requires fewer labour units per plant. With careful selection of seed sources, variation inherent in propagation by seed can be minimised. Some cultivars come true from seed so evenly that they have been accorded cultivar names, examples would include *Rudbeckia fulgida* var. *sullivantii* 'Goldsturm', *Aubretia* 'Novalis Blue', and *Lobelia* × *speciosa* 'Compliment'.

CHALLENGES

Production of perennials from seed offers some challenges compared to that of annual plant cultivars. Generally the germination rates vary widely between

cultivars, and careful year-to-year monitoring is necessary so that enough seed is sown to produce the required number of plants for sale. Not as much work has gone into optimising seed germination as has been carried out on the high volume annual cultivars such as petunias and marigolds.

Germination in genera such as *Campanula* and *Gunnera* can be erratic and uneven. Sometimes it can take 8 weeks from first germination to optimum emergence. This makes production scheduling difficult because the tray may need to be gone over a number of times to obtain the required number of plants. These difficult types should be noted and in subsequent years they should be oversown so that pricking out need only be carried out once.

As a generalisation, the seedlings of perennials tend to be smaller and they are certainly softer than those of woody plants. Techniques need to be modified so as not to damage or check the growth of the resulting plants. Seedlings should be handled only by the cotyledons. This minimises damage to soft stem tissues. It is best to transplant seedlings as soon as practical so growth is not checked, and because transplanting then is fastest. This creates challenges when working with genera such as *Digitalis* and *Trachelium* which have very fine seed. The most skilled transplanter should be used and the seedlings should be inserted into media sieved finer than normal.

TIPS AND TECHNIQUES

Some perennial plants require specialised treatment to ensure germination. The commonest treatment is stratification, designed to replicate the cold or freezing winters of the areas of origin of genera such as *Dicentra* or *Paeonia*. The seed trays are be placed in the refrigerator for usually 8 weeks. There are very few places in Australia where plants that require this treatment will thrive. If seed doesn't germinate when sown in autumn and subjected to your normal winters then it isn't an appropriate species to grow in your area. A good example would be *Helleborus* which germinates readily in spring after an autumn sowing in southern climates, but is progressively more difficult the further north you go.

The exact management techniques are not particularly important as long as they work for you, encompass the basics of propagation and have been modified for the peculiarities of the plants grown. I aim to obtain 1000 seedlings per standard nursery flat. The medium is composed of approximately 4 pounded pine bark : 1 fine sand (v/v), has an air-filled porosity of about 15% and no fertiliser added. This sowing density and low nutrient content is acceptable if the seedlings are transplanted young and pushed on quickly.

Attention to hygiene is important because many perennials are susceptible to damping off diseases. Standard nursery practice of clean media and containers should be sufficient to prevent most infections. I prefer not to incorporate a dry fungicide with the soil medium, or to drench trays after sowing. I now only drench when an infection is apparent. Germination results seem to be improved, which may be due to other reasons, but certainly results are no worse.

Producing a saleable perennial in a pot can take a great deal of skill. Timing of sowing, potting, and stopping are critical in producing a compact flowering plant. An understanding of a plant's life cycle and flowering times is essential. Careful recording of your observations and experimentation will give you the information needed to add new perennials to your nursery plan.

SEED SOURCES

Perennial seed can be obtained from the major Australian and New Zealand seed suppliers. They don't list in their catalogues all the perennials that they can obtain so an enquiry is worthwhile for particular requirements. Some seed merchants in Holland and Germany will handle small orders from nurseries and are reliable suppliers of a wide range of fresh seed.

Specialist overseas garden societies can be rewarding sources of new and unusual perennial plants to those who join them. Many of them have a free seed exchange to which members can subscribe and obtain small packets of seeds. The larger societies can have up to 6000 taxa listed.

One source of seed that should not be ignored is collecting your own. A few plants can provide enough seed for your sowing requirements. Taxa in similar genera should be isolated to prevent any hybridisation. For example, *Digitalis* is very promiscuous. Plant seed stock plants in a place where they are regularly visited because some seed ripens suddenly and then is shed, for example *Euphorbia* and *Geranium*, and protect them from tidy gardeners with secateurs.

CONCLUSION

Attention to detail will result in the successful production of perennials from seed.