

## Propagation and Cultivation of *Pittosporum* for the National Collection®

**Benedict Murrell**

Bicton College of Agriculture, East Budleigh, Budleigh Salterton, Devon EX9 7BY

### INTRODUCTION

The U.K. National Collections are administered by the National Council for the Conservation of Plants and Gardens (NCCPG). The gardens at Bicton College, Devon, hold two National Collections, *Agapanthus* and *Pittosporum*, both of which are favoured by the local climate with a January mean temperature of 7°C and annual rainfall of 1000 mm. The soil is slightly acidic, free draining sand and silt.

Currently the National *Pittosporum* Collection is maintained by the college's gardens staff (manager Paul Champion and curator Ghislane Silvers). The college nursery is run by two propagators with most of the *Pittosporum* work being carried out by Chris Nevitt.

### CULTIVATION

The *Pittosporum* Collection is mainly within the College Arboretum where they enjoy partial shade and a soil well enriched with leaf mould. Some species are grown in more open areas but they do need more attention — for example grass competition around the base reduces the vigour of younger plants. Some taxa are sufficiently tender that they are kept in containers although there are plans to house these plants in an unheated lean-to greenhouse where they can be planted into the border soil. The most tender plants (such as *P. tobira*) in the collection have been planted in very sheltered sites in the arboretum or the walled gardens.

Very little pruning is carried out on plants in the collection apart from the removal of material for cuttings in summer and autumn. Typically, plants show little sign of wind or cold damage.

There are few significant pest or disease problems. Blackfly and scale insects can occur, causing cosmetic damage from the honeydew, while slugs and snails can damage young plants. However there is one pest that has started to cause some damage in recent years, a pittosporum-specific psyllid bug which causes leaf distortion. It has not yet been necessary to treat for this although it does appear to be spreading slowly.

### PROPAGATION

Semi-ripe, 10-cm cuttings are taken in summer, though good results have been obtained throughout the year. If juvenile material is available, e.g., from regularly pruned stock plants, this gives best results.

The leaves are removed from the lower half of the cuttings. A rooting hormone dip is used, then the cuttings are inserted into pre-watered Fertis plugs. Stuck trays of plugs are placed in mist or into sun-tunnels (low polythene tunnels) with bottom heat of 20°C and minimum air temperature of 16°C. Shade is also helpful during the summer, using 50% to 60% shade cloth. Fertis plugs are pre-prepared plugs of free-draining nonfertilised cutting compost in a highly porous nylon wrapper around the sides and open at the bottom. As they can be stored dry and wetted for use as

needed they are particularly useful when working with small batches of cuttings of a diverse collection of taxa.

The cuttings take up to 12 weeks to root, during this period they are checked regularly for *Botrytis* and picked over to remove dead leaves and failed cuttings. The mist is switched off and the polythene removed for 30 to 60 min each day. Following this regime means no fungicides are needed. Hardening-off is followed by potting into half-litre/9-cm liners containing standard nursery stock compost with controlled-release fertiliser.

Typical success rates are 90% to 100% (*P.* 'Garnettii'); 60% to 70% (*P. tenuifolium* 'Irene Patterson'), and 40% (*P. dallii*, which only roots at all from juvenile material).

Seed propagation is also undertaken on a very small scale for the species in the collection and good crops of *P. tenuifolium* — the most popular species in cultivation in the U.K. — are obtained. The seed is covered in a black, sticky substance (pitch is the origin of the genus name). This is best removed before sowing and a good method is to soak the seeds in a mixture of water and detergent and then rub with fine sand (Graham Hutchins, County Park Nurseries, pers. comm.). Sow in late winter/early spring and cover lightly.

### DEVELOPING THE COLLECTION

To meet NCCPG requirements all taxa are propagated regularly and material made available to purchase. Records are kept on a database and all plants are labelled. In recent years there have been few additions to the collection, but these have included *P. cornifolium*, a rare species from New Zealand. This was collected by the Royal Botanic Gardens, Kew and is covered by a "supply of biological material" agreement to meet the requirements of the Convention on Biological Diversity. Material cannot be made available for commercial use without agreement with the country of origin.

More proactive management of the Collection occurred under Richard Fulcher in the 1980s. He carried out a survey of pittosporums kept at different gardens, mainly those in the Devon area. Surveys such as this have helped the NCCPG establish what is in cultivation, what taxa are rare in cultivation and may need to be propagated, and can facilitate clonal comparison and selection.

In the past 2 years, digital pictures of plants in the *Pittosporum* Collection have been taken to add to the collection database. The gardens are open to the public and the college is developing interpretation boards and information sheets.

The college has also begun to experiment with producing more seed from certain taxa and as these are grown on it may be possible to make some new named selections.

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