

results using a 50:50 perlite-sand mixture.

The cuttings usually start to shoot in April and as the temperatures rise more frequent watering will be required; during May and June the trays can be removed from the polythene tunnel and placed outside for hardening off before planting or potting. This should be done before the roots have started to produce their own fibrous root system. As this is very easily damaged a better plant is produced if the new roots can grow straight into the container compost or the soil. The plants are then left to grow until they have reached a saleable size in containers, this is usually July and August; the field-grown plants are sold from September onwards and the cycle can begin again.

PLANT FAMILIES IN NEED OF TENDER LOVING CARE¹

R. A. W. LOWE AND G. A. PATTISON

*"The Pines", Royal Horticultural Society Gardens
Wisley, Woking, Surrey. GU23 6QB*

The National Council for the Conservation of Plants and Gardens was formed some 10 years ago, following a conference organised by the then Director of Wisley, Mr. C. D. Brickell, now Director General of the Royal Horticultural Society, because of his concern at the rapidly decreasing number of garden plants available to the gardener and horticulturist. The NCCPG, by which initials I shall now refer to us, is as much of a mouth-full as the full name. We are, in fact, an independent charity with offices within the Royal Horticultural Society Gardens at Wisley.

Work on the wild endangered flora of many countries is well underway, co-ordinated by the International Union for the Conservation of Nature and Natural Resources (IUCN), but little or no work has been done on the garden plants of British Gardens. Some work has been done by Dr. E. C. Nelson on Irish garden plants and, in particular, cultivated plants.

The main aims of our organization are:

- a. to encourage the conservation of uncommon plants that are valuable because of their historic, aesthetic, scientific, or educational value by propagating and distributing them as widely as possible,
- b. to list plants held in important collections and gardens,
- c. to encourage the widest possible cultivation of uncommon and endangered plants by arranging conferences, exhibi-

¹ Work of the National Council for the Conservation of Plants and Gardens

tions, discussions and visits to gardens, specialist plant collections and nurseries,

- d. to encourage the re-introduction and distribution of uncommon and endangered plants, and
- e. to establish and support National Collections of specific genera, part genera, and other defined collections of plants, for the enjoyment and information of the public and the benefit of science.

NCCPG is basically split into two closely inter-related parts, the Membership and the National Collections Scheme. The former consists of 34 autonomous county-based local groups with a total membership of some 5 to 6,000, who organise their own events and activities. These include lectures, propagation, plant sales, garden and nursery surveys, etc. Secondly, there is the National Collections Scheme with which I shall deal in more detail. These collections have been built up over the last six years from a total of 33 in 1982 until today when we have over 400. The existence of these collections should make it possible for a unique resource to be established in these islands which can be conserved, assessed, improved, and exploited as follows;

- a. Horticulturists will be able to view the wide variety of plants within a genus that can be grown, to assess their qualities, and to encourage their propagation, hybridisation, and distribution.
- b. Efficient scientific and horticultural research can be carried out because a large representation of any target group of plants is available in one location.
- c. Taxonomic research can be carried out to the benefit of horticulture in general. This essential work is at present hampered by dispersion and lack of coherent inventories of our plant resources. As collections grow, they become authoritative sources for the correct identification of hybrids and cultivars and to some extent species.
- d. Authentically named stock plants can in some cases be provided for the horticultural industry.
- e. These collections concentrate on cultivars and will therefore supplement the major collections in botanic gardens, which are predominantly of species.

Of the 400 collections that are in existence today some 60 are duplicated. In two cases the collections represent plants introduced by eminent nurseries, *i.e.* Jackman's and Slieve Donard.

The custodians of the collections are divided as follows: 28 per cent in private hands; 24 per cent with trusts and societies, including some held by NCCPG local groups; colleges of horticulture and

other schools have 18 per cent; government bodies 14 per cent, and nurseries 16 per cent.

Today one or two of the collections are nearing definitive status such as *Azara*, *Crocus* and bamboos. The next stage here, if not already started, is to take herbarium specimens of each with a photographic record and descriptions using RHS colour codes.

The correct naming of the plants within the collections is one of our biggest nightmares and I am sure you, the nursery industry, could be of assistance when we come to trying to sort these out. I know that at a recent meeting with some Surrey nurserymen they showed interest in assisting us, but it must be remembered that this will be a slow exercise, although hopefully the botanist and the nurserymen can come to a consensus.

Material is now used for Ph.D. work as well as medical research, as with Nottingham University that has used the *Linum* collection in their research into anti-cancer drugs.

It will be noted that several colleges have collections that are being built up for use as educational tools hopefully to widen the field for future students so they are aware of the variation within a genus and therefore will use a wider selection of plants. This may avoid future comments like those in the horticultural press warning us of the dangers of "monocultures" within certain genera when used for landscaping, with all the dangers associated with this.

Notcutts hold some 24 different taxa of *Hibiscus syriacus*, and Webbs some 30 taxa of *Forsythia* and *Potentilla*. Norfolk Lavender is the centre of the lavender growing industry, it is only fitting that it should hold the *Lavendula* collection. At the other side of the country, Paul Picton, son of the famous Percy Picton, holds one of the duplicate collections of Michaelmas daisies, including some of the early cultivars raised by Barnard.

North of the border we have, at Glendoick Gardens, *Kalmia* and *Enkianthus*, with a duplicate collection of *Kalmia latifolia* cvs. and *Cornus florida* cvs. at Secretts down in Surrey.

National collections can be used as a bank. Nurseries, which for various reasons, stop selling a particular cultivar can give stock plants to collection holders. Conversely stock held by the collection holders may be of use to the trade and I am sure arrangements for exploitation can be made. It must be remembered that we are a charity and always trying to save ourselves from becoming extinct.

Local authorities also play an important role as holders of collections, from Brighton who holds the internationally registered *Syringa* to Leeds, holding some 10 collections including *Philadelphus*, *Phlox*, *Delphinium*, and *Dahlia*, to name but a few. It must, of course, be remembered that holding a National Collection is not an easy way out of the government's privatisation bill because these are scientific collections which have to be researched and

recorded, and to contain as comprehensive a collection of a genus as is possible.

Now we come to the question which is the title of the talk— which genera need adoption?

If we look at the list of those collections in existence we will find there is a predominance of herbaceous groups which, in fact, in most cases, occupy the least amount of space and are therefore obviously the first to be taken up.

We are mainly in need of sites for the shrubs and trees but also some more herbaceous groups. It is always difficult to say exactly which genera because of variation in particular sites or the interests of individuals or nurseries, but we are always open to suggestions from interested parties. It must also be remembered that collections, like plants, may lay dormant while ground work is being done and therefore take time to mature. Lists of National Collections are available at the minimal cost of £1.00.

The National Collection scheme is actively supported by the Royal Horticultural Society, Royal Botanic Gardens at Kew, International Union for the Conservation of Nature and Natural Resources, and several overseas countries that are liaising or thinking of setting up similar schemes, e.g. New Zealand, Australia, Holland, and the United States.

CAREERS: ACADEMIC TO HORTICULTURIST

NEAL WRIGHT

*Micropropagation Services Ltd,
East Leake, Leicestershire*

Abstract. A personal view of various aspects of micropropagation. The costs of developing a commercial production process for a new subject. How can these costs be financed? The Heath Robinson approach. The need for follow-up development beyond the laboratory.

My first view of micropropagation was as an academic, when I was studying at the Nottingham University School of Agriculture for my Ph.D. During this time I began to realise the potential of microprop. and that it was not then being exploited commercially, or not in what I consider as the right way from a horticultural viewpoint.

The average "tissue culturist" is a scientist who considers that, in theory, anything and everything can be propagated using tissue culture. He can point to published research papers that list procedures for the micropropagation of plants X, Y, and Z, and which often describe how plants were transferred to compost, even if it was only 10 plants!

In our laboratories we, too, started trying to propagate every-