

and role of the Botanical Garden as a public institution. The P.I.S.B.G. program also provides for a sound business-like arrangement between a public garden and the industry with both parties benefiting from financial gain through the introduction of new plant material.

The first two introductions in the program were released in August, 1983, and consist of *Genista pilosa* 'Vancouver Gold', a new registered cultivar, and *Microbiota decussata*, registered UBC clone 12701. They are ground covers that may be used extensively in both private and public programs. The two introductions will be released to the public on March 1, 1985. We anticipate up to four new introductions for the summer of 1984. We believe the P.I.S.B.G. will fulfill its objective of "a research program to enhance our landscaped environment" with the introduction of new plants over the next several years.

## **PROPAGATION BY DIRECT STICKING OF CUTTINGS IN A NUTRIENT MEDIUM**

REGGIE HUNTER

*Whisky Hill Nursery*  
7194 S. Barnards Road  
Canby, Oregon 97013

We have been using the direct sticking method for rooting broadleaf cuttings for the last 3 years. The average success rate has been 90%. We have not been able to use this method for hardwood cuttings due to space problems. With direct sticking a cost savings is realized by eliminating the transplanting of the rooted cutting to a liner pot.

The medium, for one cu yd of mix, consists of  $\frac{1}{3}$  each of peat moss, pumice, and sawdust. To this is added 6 lb of Osmocote 18-6-12 and 1 lb of Micromax (do not use Micromax Plus). In order to keep the Osmocote inactive, we do not add water to the medium at this time. We use cell packs in 17 in. square flats rather than loose pots. The reason — time and space. The cell packs used are either 90 or 64 cells per flat. This same flat would hold only 49  $2\frac{1}{4}$  in. pots. We purchase the cell pack sheets without perforations so that they do not fall apart with only one use. Two cell sizes are used to accommodate the material to be rooted. The smaller cell is used for almost everything except magnolias. The same medium is used in regular propagating flats when only rooted cuttings are needed for special orders. This gives us the same high quality root development as the cell packs.

Cuttings are taken early in the morning to prevent wilting. They are soaked in a mixture of Diazanone and Kelthane at a rate of 2 tbs of each in 25 gal water. Cuttings are made and a rooting hormone is used in the usual manner. The flats of medium are watered lightly before the cuttings are placed into them. Flats are placed under mist immediately after sticking. The bed temperature is kept between 70° and 80°F. The greenhouse is kept between 85° and 90°F. Initially, the mist is held at a heavy rate, running this way for approximately one week so the foliage never dries. Mist is then decreased slowly as roots develop and plant growth begins. Mist is discontinued after 2 to 3 weeks when no wilting occurs.

Most material will be held over through the winter for transplanting the following spring. *Potentilla* that has been started in May may be transplanted by August or September. *Magnolias* are transplanted into 4-in pots by fall to allow for root growth. Cell packs that are held over are thoroughly drenched every 2 to 3 weeks to prevent disease, using Captan and Benlate, or Benlate and Truban. The rate is 4 oz of each to 100 gal water.

Liners are sheared often in order to have a well-branched plant. They then require less attention after transplanting. Most all of our summer cuttings have rooted and grown well in the medium described. We have experienced problems with only mock orange and heathers.

## **PROGRESS AND NEW IDEAS IN TISSUE CULTURE PROPAGATION**

RANDALL W. BURR

*B & B Laboratories, Inc.*

*1600D Dunbar Road*

*Mount Vernon, Washington 98273*

There have been no recent discoveries of new substances which affect plant material and it is now a matter of adjusting formulas of the known ones to suit the needs of different plants and of refining our techniques for handling. This paper will chiefly consider the physical aspects of a tissue culture laboratory, with a brief overview of media and plant material handling. B & B Laboratories, like most plant enterprises, is interested in producing plant material in the most efficient way. The actual physical lab and the handling processes can be very costly and I will discuss ways in which costs have been held down at our lab. We grow a wide variety of plant