

row number, the stock and clone, and cultivar and the source tree.

In our research nursery we find it necessary to expand the information from the field pocket books into the form of a "lifting list". This is a row by row record of the nursery showing the estimated numbers and the ultimate destination of the plants. This is invaluable where one has a large number of individual batches, sometimes quite small, where the plants are grown specially to order and often treated in some special way while still in the nursery.

From this list the number available of any cultivar or rootstock is entered in a loose-leaf ledger and by entering the orders as they come in and keeping a running total the stock position on any item is instantly available.

Office accommodation is often neglected. It is surprising to see quite large nurseries with poor office facilities. You should regard your office and the records there as a tool, to be used to increase the efficiency and the productivity of your enterprise.

#### REFERENCES

Dullforce, W.M., 1963, The problem of plant labelling. *World Crops*, 15(6):233.

### **PROPAGATION USING JIFFY 7's**

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*Winster Selecta Nursery Stock  
Green Lane, Winster  
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Most crops may be propagated in Jiffy 7's, from minute tip cuttings of ericas to large 10"-12" cuttings of conifers and shrubs, also from small seeds in the vegetable sector of horticulture to specimen tree seeds in the nursery stock industry. In other words, where seeds and cuttings are, then Jiffy 7's may be used successfully.

We at Winster have used them very successfully and extensively on conifers, maples, pernettias, skimmias, and hope to use them in rooting leaf-bud cuttings of camellias this season. Where late summer and autumn propagation takes place and root disturbance prior to overwintering is undesirable then the Jiffy 7 is most useful; e.g., last season Exbury and Japanese azaleas were rooted in late July, placed under 75 w tungsten bulbs, then potted in January. These plants produced a useful batch of saleable plants this season.

## METHODS

Our technique is to soak the Jiffy 7's in large trays for 5 minutes in clean water. Approximately 1500 per hr. per person are soaked and placed into seed trays to drain off excess water. A hole is then made to  $\frac{2}{3}$  the depth of the Jiffy and filled with sharp granite (sharp  $\frac{1}{8}$ " grist washed and neutral pH). We are now trying the Jiffys without the hole or grit to see if there is any significant difference in time to root, or quality of root system.

An alternative method of soaking is to place the dry Jiffy 7's in trays and water overhead, similar to the technique used at chrysanthemum nursery we visited with I.P.P.S. in Cheshire.

The cuttings, after preparation and suitable wounding, are given the required hormone treatment; in the case of conifers — Seradix 3 — and are then pushed into the Jiffy. These are then placed on the benches, pot thick, and given a heavy watering in.

The benches are sand benches with soil warming cables maintaining a temperature of 75°F and are sprayed overhead two or three times per day with a fine hose. Latterly we have used Jiffy 7's under mist and still get good results with about  $\frac{1}{4}$ " of sand over cables — therefore direct warming of the Jiffys.

Rooting will take place normally after five to six weeks, when all Jiffys are moved over to remove the rooted ones. We find that the first pull-off is in the region of 60% rooting; the final count at the end of 12-14 weeks will produce up to 90% rooted cuttings from each batch. As rooted cuttings are removed they are replaced with new material in order to maximise the use of the bench. The benches are soaked after two batches with a strong solution of "Sanspor". (This is a potato blight spray and is good for prevention of *Phytophthora*).

The rooted plants are placed in a weaning situation for two to three weeks then potted on or sold to the trade. We find that the small amounts of nutrients in the Jiffy 7 is adequate to sustain the rooted cutting in this propagation programme. All plants are potted into a 75% peat, 25% sharp granite mix containing Osmocote, dolomite lime, superphosphate and fritted trace elements.

As there are other containers on the market which can be used in a manner similar to Jiffy 7's, it would be helpful to summarise the advantages and disadvantages of the method we use.

## ADVANTAGES

1. Immediate containerisation.
2. Strong root systems.
3. No root breakages at potting time.
4. Less check at potting time.
5. Quicker final plant.

6. Higher percentage rooting.
7. Flexibility on the propagation bench (additional crops through).
8. Easy to pack for transportation.
9. Reduction in disease.

#### DISADVANTAGES

1. Fewer plants per square foot on propagation bench (35 as against 50 per seed tray).
2. Occasional difficulty in checking rooting in some subjects due to cross-rooting between containers.
3. Algae growth; this depends on water supply and method of watering.
4. Extra cost of electricity in bench heating.
5. Without a mist line or overhead watering it sometimes proves difficult to maintain a constant water content in the Jiffy.
6. Drying out of the sand below the pots may occur.
7. Cost of Jiffy 7's (£7 per 1000).

These few remarks will give you an idea as to how we have dealt with the Jiffy 7's system at Winster along with the pros and cons we have experienced.

After saying all this, we grow only part of our production in them; we use them for particular customers and according to their needs and dates of delivery. The Jiffy 7 is a valuable alternative tool which has a tremendous future on a wide number of subjects.