

tenth day; seed of the other two species failed to germinate, which would indicate that they may require special handling.

The case with which we are able to raise some plants from seed and the challenge and uncertainty afforded by the "difficult" ones makes this phase of plant propagation a fulfilling experience to those of us who are fortunate enough to be employed in this field.

MODERATOR CLARKE: We will go right along and save the questions until later. The next speaker is a member of a nursery family, a graduate of Oregon State University and now has a wholesale nursery at Vancouver and, I believe, he recently has branched out into the retail business. Jack Doty is going to talk about direct seeding into peat pots, Jack:

### DIRECT SEEDING INTO PEAT POTS

JOHN C. DOTY

*Viewcrest Nurseries*

*Vancouver, Washington*

We are all aware of certain plants which are difficult to transplant. In view of this, one can readily see the advantages of direct seeding into peat pots so as to reduce transplanting shock to a minimum.

Seeds selected for our tests were *Arbutus menziesi* (Pacific madrone), *Mahonia nervosa* (Cascade mahonia), and *Cornus nuttallii* (Pacific dogwood). It should be noted here that for the first two plants there is no problem if more than one seed were to germinate in a pot. Therefore, in the case of arbutus and mahonia, two to three seeds were used per container, but only one per pot for *Cornus nuttallii*.

Two types of containers were used: (1) 2½" x 3⅛" peat pot filled with a standard potting mix, and (2) Jiffy "7's", which are basically a fertilized peat contained in a plastic net. Both the peat pots and the Jiffy "7's" were placed in standard 15 x 20 in. nursery flats to facilitate production seeding. An assembly line was set up on roller conveyers. Peat pots were filled at the potting bench, flatted, and fed onto the conveyor where they were dibbled, seeded, and then covered lightly with a fine peat over the whole flat for better moisture control. In the case of the Jiffy "7's", it was necessary to set up tubs for soaking, as they come in a dehydrated form and expand to size when wet.

In direct seedling, one must give careful consideration to seed stratification. As all seeds used have a dormancy problem, we felt it best to stratify them, at least partially, before seeding. However, this could be done naturally by seeding in the fall and maintaining the moisture content during the winter. In our case, direct seeding worked out very well in the

spring as a fill-in for our weeding and seeding crews during the showery periods.

Another variation of direct seeding was done using *Araucaria araucana* (*A. imbricata*), monkey puzzle tree. Seeds were stratified until germination had begun in early summer; then they were planted in peat pots with no losses involved. When working with an expensive seed such as this one, the advantage of having each plant established in a pot is obvious. They could readily be transplanted into a larger container later.

An interesting thing was noted in the use of flats. Cedar flats were dipped in a solution of copper naphthanate. A mid-summer set-back was noted with Pacific madrone and the native dogwood. On further inspection, the cause of the set-back was attributed to the tap-root coming in contact with the copper-treated flat where the root would become dessicated. Other roots would subsequently be forced out within the medium and a fibrous root system would soon develop. When transplanting to larger containers, the protruding roots were broken off when possible, giving the plants an extra root pruning.

Other experiments were conducted to a lesser degree with *Liquidambar*, *Sequoiadendron giganteum* (*Sequoia gigantea*), *Acer circinatum*, and *Albizia julibrizzin*.

After looking back over the results of our tests for the season, we are certain that transplanting shock can be minimized, or completely eliminated, by using these procedures.

MODERATOR CLARKE: I don't think our past president needs any introduction. If I want to characterize him, I would just say that he is an old-time nurseryman. Bill Curtis, Sherwood, Oregon is going to talk on *Acer palmatum*, seed germination and culture. Bill:

## SEED GERMINATION AND CULTURE OF ACER PALMATUM

W. J. CURTIS  
*Wil-Chris Acres,*  
*Sherwood, Oregon*

Over the past years I have grown a few *Acer palmatum* seedlings with varying degree of success. Poor germination occurred sometimes but at other times germination was excellent; however other problems developed. I have sown the seed outside in beds, covered with sawdust, but always with a variable survival percentage. Some adverse problems are birds or mice in the beds; the mice ate the seeds or the pheasants picked off the seedlings as they came through the sawdust. On one occasion I was too late with shade on an April day when the temperature climbed to the high 80's. On another day I forgot to water when watering was critical.

Two years ago I changed procedures and have been following closely a more exact method of handling the seeds and