

HARDENING AND OVERWINTERING CUTTINGS IN BEDS

MR. MERTON CONGDON

Congdon's Wholesale Nursery, North Collins, N.Y.

My operation is comparatively small, being confined to softwood cuttings of the more common shrubs. For example, we have been very successful using mist to root the common varieties of such genera as *Spiraea*, *Weigela*, *Philadelphus*, *Hydrangea*, *Ligustrum*, *Viburnum* and *Hypericum*.

I spent considerable time two years ago with Mr. Fillmore while he was employed in Shenandoah, Iowa. Basically our mist beds have been patterned after those which he and Mr. Ward described to the membership last year. Since we were very much dissatisfied with the Electronic Leaf because it was altogether too sensitive to wind eddies, we switched to the 24-hour clock, coupled with the one-minute timer. The 24-hour clock was initially set up to operate between 8:00 o'clock in the morning and 8:00 o'clock in the evening. We are on the south shore of Lake Erie where we get considerable dew at night and so perhaps it was not necessary for us to start it off in the morning as some of you who are not in such favorable locations.

At the outset, the minute timer was set to function from ten to fifteen seconds out of each minute, depending on weather conditions. As the rooting process started, we gradually decreased the frequency of misting to a point where it was operating only four seconds out of the minute. As far as hardening-off is concerned, we gradually decreased the misting period through the use of the 24-hour clock. In the first stages the clock was set to function from 8 A.M. to 8 P.M., then from 9 A.M. to 7 P.M., and so forth, back to 2:00 P.M. at which point it was shut-off completely. We had absolutely no trouble in handling the items with this clock system.

Now, as far as overwintering is concerned, we would not dream of putting any labor or expense into disturbing these plants until they were ready for the field. Using the stratified medium, the cuttings root down through the sand, into the peat, and finally into the soil, which in our case is a sandy loam. This soil layer under our bed, of course, is fortified with a commercial fertilizer, at the time of preparation.

After the first light frost in the Fall, we take several precautions to protect the stock in the event of an unseasonal cold snap. A number of bales of straw are hauled to the area and in a matter of minutes, if we think we are going to get a severe drop in temperature which might injure the cuttings in the bed, the entire area can be mulched. This is not done with the intention of leaving the straw on, but is a precautionary measure we use in case we get one of those severe temperature drops:

So far as the permanent cover is concerned, we use two methods which are essentially the same, namely reed mats and lath shade covered with straw. We have a slight preference for the reed mats since it is light in weight and gives slightly better protection. The lath is used at times because it is readily available, being used in our operation throughout the summer for shading.

Now you say that this is very nice, but there may be a rodent problem; you are right, there is. We would be particularly troubled with mice

if we did not use poisoned bird seed as a control measure. This seed which contains thalium sulfate can be obtained from any exterminating concern. We take cylindrical cans, such as the type that canned grapefruit juice comes in and place a few tablespoonfuls of the poisoned bird seed in them. These cans are then placed under the straw cover and tilted so that the seed doesn't quite roll out. The action is almost instantaneous.

* * * * *

MODERATOR MAHLSTEDE: For another method of handling mist propagated cuttings overwinter, I will call on Mr. Ralph Shugert of Forrest Keeling Nurseries, Elsberry, Missouri, who will discuss banding.

Mr. Shubert presented his paper entitled: "Handling of Rooted, Mist Propagated Cuttings in Plantbands." (Applause.)

HANDLING OF ROOTED, MIST PROPAGATED CUTTINGS IN PLANTBANDS

MR. RALPH SHUGERT

Forrest Keeling Nursery, Elsberry, Missouri

Our procedure for handling rooted cuttings from mist is to bring the cuttings to the potting bench and pot directly into cypress plantbands. The cypress bands are set up in flats, and after a flat is filled it goes into a "storage area," for a hardening-off period. In 1953 and 1954 we experienced, in certain varieties, losses immediately after banding-off. This past summer we used a shade house which provided approximately 70% shade. As added insurance, we have two auxiliary mist lines, manually operated, using the Florida "B" type nozzle, with the nozzles spaced on twelve foot centers. The operation of these lines held down top dessication and assisted materially in the development of a secondary root system.

After the cuttings have rooted out in the bands, the flats are then moved to an unsheltered propagation area. At this location each band is removed from the flat and placed in beds—five feet in width—on a sand base. The thin layer of sand encourages roots to stay within the band and not grow down into the underlying soil strata. We have found that two or three inches of sand aids materially in lifting the bands when it is time to line the plants out in the field.

The bands then remain in this area until fall transplanting time, or may even remain over the winter,—with a sufficient straw mulch, until spring. At transplanting time they can go in the ground with or without the bands affixed to the soil ball. At the Forrest Keeling Nursery we remove the cypress bands before planting.

I have neglected to mention our potting soil, but as most of you know, we use the John Innes formula with a #1 base. We shall continue the use of John Innes compost next year, with certain modifications.

Our bands are cypress, and I don't believe I shall add to that statement, except to make mention of the fact that we anticipate using some