WORK SAVING METHODS IN PLANT PROPAGATION

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Since the early 1970s our nurseries at Boskoop specialized in the production of rooted cuttings, partly for the local market, but mainly for export.

Our propagation methods are similar to those in most Boskoop nurseries, using polythene and bottom heat from hot water pipes lying about 6 in. deep below the surface.

About five years ago we were in a position to expand our greenhouses by about 2.5 acres on a plot situated about 10 miles from Boskoop. We started propagation there in the way we were accustomed to, but found that three or four weeks after sticking the cuttings, the compost (peat and sand) had turned extremely wet.

Then we realized that our new department was situated in a deep polder 16 ft. below sea level. The heated pipes together with the excessive natural capillary action not only sent heat but also humidity upwards.

That experience made us change the complete propagation system. A complete new drainage system meant covering the soil with 2 in. polystyrene sheets to stop capillary action from below. Tubes filled with water were inserted into the sheets with interspaces of 6 in. and the whole was covered with aluminium foil and polythene to keep it as dry as possible. On top came a culture mat, kept wet by rigid tubes with tiny holes at 10 in. spaces.

In order to prevent contact with the culture mat each tray is placed on two tubes. The heating system is in use for 10 months a year so humidity comes upwards and enters the tray from its bottom. There it continues going up and watering the cuttings. Control of the right humidity and watering on top is seldom necessary. A problem turned out to be an advantage!

A second possibility to reduce inspection is furnished by our hygiene program. Being convinced that cuttings should be as clean as possible and free from waste material such as bracts, dead leaves, and twigs, we accent hygiene. We collect finished cuttings in a plastic basin. When it is full we lift the cuttings out and put them into a big tray. Turning the whole basin upside down would cause waste material to lay on top of the cuttings, causing damage later on. So, from the moment we collect cuttings—always in a tray, never in a plastic bag—until they are stuck, we lift them six to eight times.

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When sticking the cuttings we keep them, as well as the compost, dry by putting a rigid plastic sheet on the compost.

The watering system under the trays, together with the hygiene program, save us a lot of work. During the six to eight weeks rooting period of *Cotinus coggygria* 'Royal Purple' cuttings are inspected only once. After inspection a new polythene sheet is essential.