## SOME OBSERVATIONS ON THE USE OF THE TRANSPIRATION INHIBITOR "PLANT COTE" ON LIFTED TREE SEEDLINGS

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For the past three years small quantities of seedlings of white fir, red fir, Douglas-fir, sugar pine, and Sierra redwood have been treated by dipping the tops and roots in a solution consisting of one part Plantcote and two parts of water. Since Plantcote forms the best films at temperatures above 70 degrees F. and since lifting operations generally are carried on during cool weather, the seedlings were subjected to warm air from the ventilator of an oil furnace until the shiny film was formed on the needles or foliage. No effort was made

to shield the roots from the warm air during the drying operation. This treatment was followed by packaging in sugar pine shingle tow, and the packages were stored in an unhumidified cold room with temperatures maintained near 38 degrees F.

Packaged, treated seedlings have been kept in an unhumidified cold room for 1 to 2 months prior to planting, with no apparent damage from drying out. Sierra redwood (1-0) seedlings were planted after 4 months of storage and no early seedling mortality after planting occurred.

No molds have developed on seedlings treated immediately after lifting and stored in a cold room for a period of 2 months. However, several small lots of seedlings received from other nurseries, and treated after receipt, developed molds within 10 days to 2 weeks while in the cold room.

Treated sugar pine seedlings (1-0) showed survivals of 30-35 percent on burned southwest slopes at an elevation of 3, 200 feet in the Sierra-Nevada Mountains. Treated white fir seedlings (2-0) showed survivals of 70 percent one year after planting on a burned-over gentle east slope at the same elevation.

In planting operations with a planting bar, seedlings were exposed to mild air temperatures for several minutes with no apparent harm.

The action of Plantcote in preventing excessive water loss does not appear to be definitely known. Some investigators believe that the film is permeable to gaseous molecules of carbon dioxide and oxygen, but not to molecules of water vapor. The literature states that growth is slowed up at first but later
exceeds that of untreated plants. The film is ruptured easily by growth, and apparently there is a holding action in the tops of seedlings until satisfactory water relations are established by the roots.

After observing the results bf this treatment it appears as if its use will give the nurseryman and planter more leeway in all of the ordinary operations from lifting to planting of seedlings where drying-out is a factor.

PLANTCOTE is a vinyl resin latex to which certain ingredients are added to obtain three formulations, namely, transplanting, cut-greens and Christmas trees, and cut-flowers. The basic substance of these formulations is known as Good-rite Latex VL 600. It may be purchased in commercial quantities or for experimental purposes from the B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio. The prices are as follows: in 5-gallon containers for $6.50 per gallon, Domestic price schedule, and for $4.88 per gallon, Formulators price schedule, F. O. B. their plant, Louisville, Kentucky.

The transplant formulation of Plantcote may be purchased from Newton Chemical and Supply Co., Bridgeville, Delaware for $8.00 per gallon, list price, in gallon lots, F. 0. B. Bridgeville,

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