OBSERVATIONS ON THE DORMANCY PERIOD OF DOUGLAS-FIR (PSEUDOTSUGA MENZIESII) SEEDLINGS

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ABSTRACT

Six hundred 2-year-old Douglas-fir seedlings were planted, ten seedlings to a container, in 3-gallon cans of forest soil in February, 1964. The seedlings were allowed to grow under natural conditions until late July, when all the plants had set resting buds. The cans then were divided into six random lots which were moved into a controlled-environment chamber at intervals of about 6 weeks from the first of August until mid-March. During the 6-week period each group of cans spent in the environment chamber, light intensity and duration were employed to evaluate the degree of dormancy of the terminal and lateral meristems of the shoot, and the root meristems. Both light intensity and photoperiod affected meristematic activity in shoots and roots until the chilling requirements had been satisifed. Seedlings placed in the chamber in March initiated growth rapidly under all treatments, including short photoperiods. Individual buds were shown to be the receptors of the light stimulus.

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