

DROUGHT-INDUCED FLOWERING OF POTTED DOUGLAS FIR CLONES

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ABSTRACT

Six Douglas fir clones from ortets selected for outstanding cone production or non-bearing were greenhouse grafted in **1959** for studies of the physiology of reproduction. Most of the material was moved outdoors to a shade frame in October 1960 and part of it outplanted in October 1962. Each year since 1962, varying numbers of ramets held outside produced male and female cones, whereas all greenhouse material remained vegetative. On April 28, 1964, a reciprocal transfer of greenhouse and outside material of the two most prolific clones was made. Half of each group was well watered and the other half subjected to minimal **watering** until the end of June. All well-watered plants remained vegetative in 1965, whereas 25% of the greenhouse-dry series produced female cones and **40** bore male cones. Cone production of the lathhouse-dry series was about half of that of the greenhouse-dry series. Height growth reduction due to drought treatment continued into the second year. The possible role of moisture stress in other artificial methods of floral induction and in natural cone bearing is discussed.

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