

TECHNIQUES FOR THE MASS PRODUCTION OF CUTTINGS OF
PINUS CARIBAEA VAR. HONDURENSIS

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Stool plants are established with seed of superior full-sib families. When approximately 30 cm tall (at about 5 months), stool plants are decapitated at 15 to 20 cm. Two months later, the first harvest of cuttings (average over 5 per stool plant) is taken. After another two months, a second harvest of cuttings (average over 15 per stool plant) is available.

After harvest, the shoots are trimmed to 10 cm in length, given a basal dip in 0.5% IBA in 50% ethanol, and set in a 1:1 mixture of peat moss and sand in 170 ml polythene containers. The best setting environment tested for container stock has been a shaded greenhouse with 3 x 1 minute waterings per day.

Using these techniques, average rooting has been in excess of 90%. No *P. caribaea* var. hondurensis families displaying a rooting percentage lower than an operationally acceptable level of about 70% have been identified. Cuttings are ready for planting out 7.5 months after setting. The techniques described are potentially useful for the multiplication of limited sexually derived material of superior full-sib families. By adding 12 months to the usual propagation interval (approximately 5.5 months for sowing of seed to availability of planting stock for container seedlings) a multiplication factor of at least 20 (in two harvests of cuttings) can be achieved.

PROPAGATION OPTIONS FOR PINUS CARIBAEA VAR.
HONDURENSIS IN QUEENSLAND, AUSTRALIA

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Technically feasible propagation options which potentially permit the capture of genetic gain greater than that achieved in conventional seed orchards include the propagation of full-sib families via mass artificial pollination in monoclonal orchards, and the propagation of these families by controlled pollination in clone banks followed by multiplication by cuttings. Potentially feasible also is the mass propagation of juvenile cuttings stimulated to develop on superior phenotypes selected at age four.

These propagation strategies are compared with respect to the effects of selection intensity (including the effect of constraints imposed by reproductive phenomena involved in the propagation procedure) and time involved in the propagation procedure.