

FOREST CROP IMPROVEMENT BY TISSUE CULTURE

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Existing methods of selection followed by seed orchard production of seeds requires 17 years and can yield a 32% value increase. Currently, methods are developing for the clonal production of forest trees (Southern conifers) via tissue culture. Existing tissue culture methods generally are applicable only to juvenile trees and the number of individuals within the clone is small, so large gains predicted for clonal forestry are not yet attainable. Nevertheless, these current methods are precursors for callus mediated mass propagation systems of the near-term future which can yield massive gains. Protoplast technology and in vitro breeding and selection offer a pathway to rapid production of genetically improved individuals which may be multiplied by emerging propagation techniques.