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POSTER SESSION

APPLICATION OF A MERISTEMATIC TISSUE PROLIFERATION SYSTEM TO DIVERSE PINUS SPECIES

Ben A. Bergmann
Forestry Department
North Carolina State University

A system for in vitro propagation will only be useful for large-scale forestry if it produces quality plantlets at an acceptably low cost. The Pinus radiata system for meristematic tissue proliferation as developed by Aitken-Christie, particularly if it is automated, may produce the necessary cost reduction to allow efficient clonal forestry with superior conifer material. Several pine species of interest to forestry were investigated for their potential use in the P. radiata meristematic tissue proliferation system. The species used are P. radiata, P. oocarpa, P. taeda, P. caribaea, P. eldarica, P. tecunumanii, and P. strobus. The pines selected represent species which are taxonomically and morphologically close to and widely divergent from P. radiata. Results are presented on how excised mature embryos of these species performed when cultured for three months on the following eight media: full or half-strength Aitken-modified LePoivre medium + 1.0 or 5.0 mg/1 benzylaminopurine + 0 or 0.1 mg/1 indole-3-butyric acid. Although P. radiata performed as expected, no other species exhibited such successful meristematic tissue proliferation. Possible explanations are many and include non-optimal basal medium constituents, growth regulators, and/or environmental conditions. Need for seed stratification and/or pregermination may also vary with species, and this aspect is currently under investigation.