

PLANT REGENERATION OF HYBRID POPLARS USING NODULE CULTURE SYSTEM

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Development of micropropagation method for hybrid poplars, Populus euramericana, P. nigra X P. maximowiczii, was established using nodule culture system. Callus was initiated from in vitro cultured leaf explants of hybrid poplars on Murashige and Skoog's medium supplemented sucrose 20 mg/l, agar 7 g/l, and 2,4-D 0.5 mg/l. To raise cell suspension, the induced calli from leaf explant cultures were transferred to liquid medium of the same composition. Among 4 tested BA concentrations, BA 0.2 mg/l gave the best formation of fine nodules (about 1-2mm diameter) after 2 weeks of culture. Using the developed liquid nodule culture system, the fine nodules grow via nodule enlargement (about 5-7mm diameter) and nodule multiplication. Plant regeneration could be obtained from the nodule (3-5mm diameter) in liquid medium or on agar solidified medium. In particular, the regeneration medium with BA 0.5 mg/l and adenine sulfate 40 mg/l stimulated shoot differentiation on hybrid poplar nodules.