

EFFECTS OF NITROGEN, PHOSPHORUS AND POTASSIUM ON THE PROPAGATION IN VITRO OF SEVERAL WOODY PLANTS

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Abstract This report recommended a revised MS basal medium (macro-elements were modified as follows: NH_4NO_3 , 850 mg/L, KNO_3 , 2000 mg/L, KH_2PO_4 , 100 mg/L, which is suitable for tissue culture of woody plants, by studying effects of three major nutrient elements (nitrogen, potassium and phosphorus) on the propagation in vitro of several woody plants (*Cunninghamia lanceolata* (Lamb.) Hook., *Sequoia sempervirens* (Lamb.) Lindl., etc.). Based on the data of the researches, the possibility in mass propagation in vitro of woody plants in particular those with difficulty for conventional propagation and some effective measures for increase of productivity and decrease of production cost were discussed.

Key words nitrogen; phosphorus; potassium; woody plants; propagation in vitro

石梓栽培技术研究成果达到国内领先水平

为了发展和利用石梓这一珍贵树种资源, 1976年农林部下达“优良、速生珍贵用材树种调查和栽培技术”研究课题, 石梓为其中之一。1980年林业部把石梓速生丰产栽培技术研究列入重大课题, 由中国林科院热带林业研究所和大青山实验局共同负责进行专项研究, 取得了可喜的成果。种子贮藏期延长至1年, 发芽率仍保持88%; 种子催芽技术获得了成功; 提出了整地方式、低切干苗和容器小苗栽培方法、造林密度、抚育间伐期及间伐强度, 为培育石梓丰产林, 提出了可行的技术措施。7年生的石梓林, 平均年生长量每公顷为26.0~29.7 m^3 。受林业部的委托, 中国林科院于1989年底对该项成果进行书面鉴定, 专家们认为, 经过10多年的培育试验, 并与生产单位结合, 营造3000多亩中间试验林, 整理出系统的研究资料, 这对我国热带、南亚热带地区发展石梓这一树种提供了科学依据, 并作出显著的成效, 研究成果达到国内领先水平。

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