

细毛樟茎段组织培养研究

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摘要:【目的】建立细毛樟茎段组织培养技术, 为其苗木繁殖提供理论依据。【方法】以细毛樟一年生半木质化枝条为材料, 研究基本培养基、消毒时间、生长调节剂对细毛樟茎段组织培养的影响。【结果】细毛樟茎段组织培养适宜的基本培养基为MS培养基, 茎段萌芽率达到 63.73%, 萌芽叶片嫩绿色, 生长良好, 萌芽有分枝。5 月采集细毛樟半木质化茎段进行组织培养, 用质量浓度 0.1% HgCl_2 消毒, 消毒适宜时间为 7 min, 茎段的萌芽率最高、污染率和褐化率较低。细毛樟茎段萌芽诱导适宜培养基为MS + 1.5-2.0 mg/L 6-BA + 0.25 mg/L NAA, 茎段的萌芽率分别为 61.11%和 60.47%; 组培苗增殖培养适宜培养基为MS + 1.6 mg/L 6-BA + 0.05 mg/L NAA, 增值系数为 4.73; 组培苗生根适宜培养基为 1/2MS + 1.5 mg/L IBA, 生根率为 100%、根数达到 3.78 条。组培苗带顶芽和不带顶芽生根培养, 组培苗的生根率差异不显著, 但带顶芽组培苗的根数是无顶芽的 3 倍、根长是无顶芽的 2 倍, 根粗也显著大于无顶芽。【结论】细毛樟茎段组织培养适宜培养基为MS培养基, 5 月采集细毛樟半木质化茎段用 0.1% HgCl_2 消毒 7 min, 茎段的萌芽率最高; 细毛樟适宜诱导培养基为MS + 1.5-2.0 mg/L 6-BA + 0.25 mg/L NAA, 增殖培养适宜培养基为MS + 1.6 mg/L 6-BA + 0.05 mg/L NAA, 生根适宜培养基为 1/2MS + 1.5 mg/L IBA。

Study on tissue culture technology of stem segment of *Cinnamomum tenuipilum*

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Abstract: 【Objective】 The tissue culture technology of stem segment of *C. tenuipilum* was established to provide theoretical basis for rapid propagation of *C. tenuipilum*. 【Method】 One-year-old semi-lignified branches of *C. tenuipilum* were used as materials to analyze the effects of basic medium, disinfection time and growth regulators on the tissue culture of stem segments of *C. tenuipilum*. 【Result】 The results showed that the optimal medium for tissue culture of stem segments was MS, and the germination rate of stem segments reached 63.73%. The germinated leaves grow vigorously and sprouting branches. The germination rate of semi-lignified branches was the highest with the lower browning rate and pollution rate after 0.1% HgCl_2 disinfected for 7 min in May. Optimal medium for germination induction of stem segments was MS + 1.5-2.0 mg/L 6-BA + 0.25 mg/L NAA, the germination rate rate reached 60.47%. Optimal medium for multiplication was MS + 1.6 mg/L 6-BA + 0.05 mg/L NAA with the multiplication coefficient of 4.73. The best medium for rooting was 1/2MS + 1.5 mg/L IBA, which

基金项目: 江西省林业局樟树研究专项(创新专项 202007), 江西省科学技术厅重大科技研发专项(20203ABC28W016)。

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the rooting rate was 100% and the number of roots reached 3.78. There was no obvious difference in the rooting rate of tissue culture seedlings with and without apical buds. But the number of roots and root length of tissue culture seedlings with apical buds were 3 times and 2 times of those without apical buds, respectively. The root diameter of tissue culture seedlings with apical buds was also significantly larger than that without apical buds.

【Conclusion】 The suitable medium for stem segments tissue culture of *C.tenuipilum* was MS. The germination rate was the highest with 0.1% HgCl₂ disinfected for 7 min in May. The optimum medium for induction, multiplication and root was MS + 1.5-2.0 mg/L 6-BA + 0.25 mg/L NAA, MS + 1.6 mg/L 6-BA + 0.05 mg/L NAA, 1/2 MS + 1.5 mg/L IBA.