

甘蓝型油菜小孢子培养技术的几项改进 Improvement of Microspores Culture Techniques in Brassica napus.L

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摘要 本研究在NLN-16和NLN-13的培养基中分别加入0.1mg/L 6-BA和0.05%的活性炭, 结果表明6-BA对小孢子再生胚有明显地促进作用, 再生胚的频率比对照增加26枚/皿, 经分析达到显著水平; 而0.05%的活性炭对小孢子再生胚促进作用不显著。对甘蓝型油菜小孢子培养再生植株的染色体加倍及移栽的研究结果表明, 在小孢子培养初期加50mg/L秋水仙碱加倍效率最佳, 加倍率达到67.6%。小孢子培养的再生苗移栽至大田后, 采用遮阳网覆盖小苗, 移栽成活率达到87.6%。

Abstract:The application of microspore culture technique was restricted because of its low frequency of embryogenesis and chromosome doubling. Two methods of enhancing the frequency of embryogenesis were employed in the study, namely, activated charcoal treatment in NLN-13 media and 6-BA treatment in NLN-16 media. The treatment with 0.05% activated charcoal produced 24 embryos per plate, which increased 1.7 embryos per plate, as compared with the treatment without activated charcoal. However, the analysis of T-test showed that it was not significant. After adding 0.1mg/L 6-BA in NLN-16 media, the frequency of embryogeny was 38.3 embryos per plate, and it was 26 embryos more per plate than that of CK. Analysis of T-test is significant. This indicates that 6-BA promotes embryogeny in microspore culture. Adding 50mg/L colchicines in NLN-16 media, the doubling frequency was 67.6%. The plantlets transplanted into field with two methods of light-covered net and plastic films were investigated. A survival rate of 87.6% was obtained using light-covered method whereas 57.7% survived using plastic film method.

关键词 [甘蓝型油菜](#) [小孢子培养](#) [技术改进](#) **Key words** [Brassica napus.L](#) [microspore culture](#) [techniques improvement](#)

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