

研究论文

水稻原生质体愈伤组织再生植株培养程序的比较

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摘要 在4种不同的培养程序中应用了几种处理方法, 并对其在诱导水稻原生质体起源的愈伤组织再生植株中的效果进行了比较。直接将愈伤组织从含有2,4-D的增殖培养基转移到含有BA和NAA的植株再生培养基上培养, 只能得到少量的弱苗(第1种程序)。在增殖培养基中添加ABA诱导了结节状的愈伤组织形成, 使愈伤组织的植株再生能力明显加强(第2种程序); 而在植株再生培养基中添加ABA则使愈伤组织变得紧结并形成生长受抑制的不定芽, 当这些愈伤组织被转移到不含ABA的生长培养基后, 不定芽开始快速生长(第3种程序)。先将愈伤组织培养在含有ABA的增殖培养基上, 然后相继转移到含有ABA的植株再生培养基和生长培养基上, 可以取得大量健壮的再生苗(第4种程序)。统计结果显示, 第2和第3种程序的培养效果比第1种程序要好, 而第4种程序的培养效果则比其他程序好得多。

关键词 [植株再生](#) [原生质体](#) [愈伤组织](#) [脱落酸](#) [水稻](#)

分类号

Comparison of Culture Procedures for Regeneration of Plants from Protoplast-derived Calluses of Rice(*Oryza sativa* L.)

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Abstract Four different culture procedures combined with several treating methods were compared for their effects on regeneration of plants from protoplast-derived calluses of rice. Only a small number of weak plants could be regenerated when the calluses were transferred and cultured directly from a proliferation medium containing 2, 4-D to a plant regeneration medium containing BA and NAA (procedure 1). Addition of ABA to the proliferation medium induced the formation of nodular calluses with enhanced regeneration potential (procedure 2), while addition of ABA to the regeneration medium resulted in the formation of compact calluses with suppressed adventitious buds, which would grow fast upon transfer to a growth medium free of ABA (procedure 3). By culturing of the calluses consequently on ABA supplemented proliferation medium, ABA supplemented regeneration medium and the growth medium (procedure 4), large number of more healthy plants was obtained. Statistical test indicates that procedure 2 and 3 were much more efficient than procedure 1, while procedure 4 was the most efficient for plant regeneration.

Key words [Plant regeneration](#) [Protoplast](#) [Callus](#) [Abscisic acid](#) [Rice](#)

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