

陆地棉体细胞胚胎发生与植株再生

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摘要 利用陆地棉品种下胚轴为外植体进行体外培养研究。激素和品种是影响愈伤诱导和胚胎发生的主要因素。去除激素后胚性愈伤在固体培养基上只能形成少量的成熟胚。悬浮培养是获得大量成熟胚的中间步骤。悬培两周后, 悬培物转到固体培养基上促进胚状体成熟, 30—60目之间的悬培物比大于30目的悬培物易形成成熟胚。KT0. 1ppm、Zea 0. 1ppm分别有效地促进了胚状体成熟。活性炭250mg/L、NAA0. 1ppm、IBA0. 1ppm和IAA0. 1ppm能使胚状体萌发并健壮生长。目前已得到100多株幼苗, 大苗已达八片真叶。

关键词 [陆地棉, 胚胎发生, 悬浮培养, 植株再生](#)

分类号

Somatic Embryogenesis and Plant Regeneration in Upland Cotton

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Abstract

A great number of calli were obtained from seed hypocotyles of upland cotton (*Gossypium Hirsutum* L.). The initiation of calli depended mainly on hormones, Calli were induced from all the varieties on the medium with 2,4-D, but the results were not very effective with NAA or IAA. Somatic embryogenesis of the variety Coker 2 01 initiated easily on the MS medium containing of 1mg/L IAA and 1mg/L KT. But the other seven varieties failed to produce embryoid. This suggested that there existed a relationship between embryogenesis and genotypes. Embryogenesis was most effectively induced on the medium with IAA. NAA was less effective, the poorest result was recorded on the medium with 2,4-D. It is probably that 2,4-D suppressed embryogenesis. Only a few mature embryoids had been obtained after the embryogenic cultures were transferred to the medium without hormones. Suspension culture was regarded as an intermediate step to promote embryoid maturity. Suspension cultures with 30 —60 mesh sieve produced more matured and much bigger embryoids than 30 mesh sieve suspension cultures on the solid medium. KT 0.1mg/L. Zea 0.1mg/L were found to effective in promoting embryoid development. Active carbon, NAA 0.1mg/L each stimulated germination and development of the matured embryoids. Over a hundred regenerated plants, some of which are now at eight-leaf stage, have been obtained.

Key words [Gossypium hirsutum](#) [Embryogenesis](#) [Suspension culture](#) [Plant regeneration](#)

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