

研究论文

棉花优良品种中棉所19高频体细胞胚胎发生细胞系筛选与植株再生

张宝红, 刘方, 刘志红, 巩万奎, 姚长兵

中国农业科学院棉花研究所, 农业部棉花遗传改良重点开放实验室, 河南安阳, 455112

收稿日期 1998-6-25 修回日期 1998-12-16 网络版发布日期 接受日期

摘要 选用我国优良棉花品种中棉所19进行组织培养, 研究了该品种的体细胞胚胎发生和植株再生能力。中棉所19的体细胞胚胎发生有两种情况: 一是由外植体直接诱导获得胚性愈伤组织和体细胞胚; 二是先诱导获得愈伤组织, 再经继代培养获得胚胎发生。单独使用ZT可在早期诱导胚胎发生, 在该情况下, 对子叶的诱导能力最强, 胚根次之, 下胚轴最差。刚诱导获得的胚性愈伤组织胚胎发生能力较差, 通过在含有0.1 mg/L ZT或2iP及2 g/L活性炭的培养基上连续培养, 可获得具有高频胚胎发生和植株再生能力的细胞系。中棉所19诱导获得的体细胞胚中, 畸形胚的比率较高。在较合适的培养基上培养, 20%~30%的体细胞胚可萌发形成再生植株。

关键词 [棉花](#) [中棉所19](#) [胚胎发生](#) [植株再生](#)

分类号

High Frequency Somatic Embryogenesis and Plant Regeneration of Elite Cotton Variety CCRI 19

ZHANG Bao-Hong, LIU Fang, LIU Zhi-Hong, GONG Wan-Kui, YAO Chang-Bing

Cotton Research Institute of CAAS, Key Lab. of Cotton Genetic Impro., Agri. Ministry PRC, Anyang Henan 455112

Abstract Chinese elite cotton variety CCRI 19 was chosen for tissue culture, and obtained callus with high frequency embryogenesis and somatic embryos. Embryogenic callus can produced directly from cotyledon, hypocotyle and radical, or from callus producing from explants. Embryogenic callus and somatic embryos could be directly obtained on the medium only with ZT, but it was influenced by explant sources. Cotyledon was easiest to be induced embryogenesis, and hypocotyl was the most difficult. The initial embryogenic callus was difficult to produce somatic embryos, but it could be improved by sub culture on the medium with 0.1 mg/L ZT (or 2iP) and 2 g/L active carbon. Many abnormal embryos existed. About 20%~30% somatic embryos can be converted into plantlets on suitable medium This paper suggested an efficient procedure for CCRI 19 somatic embryogenesis and plant regeneration.

Key words [Gossypium hirsutum L](#) [CCRI 19](#) [Somatic embryogenesis](#) [Plant regeneration](#)

DOI:

通讯作者 张宝红

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(32KB\)](#)

▶ [HTML全文\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中包含“棉花”的相关文章](#)

▶ 本文作者相关文章

- [张宝红](#)
- [刘方](#)
- [刘志红](#)
- [巩万奎](#)
- [姚长兵](#)