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滤光膜对黄檗离体再生能力及其生理生化指标影响

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摘要

以黄檗（*Phellodendron amurense*）无菌苗茎段为材料，MS附加1.5 mg·L^{-1} BA和0.5 mg·L^{-1} NAA为基本培养基，研究了不同滤光膜对黄檗茎段离体再生影响，并对再生过程中生理生化指标变化进行了研究。结果表明，蓝膜对不定芽再生有着明显的促进作用，再生频率达75.4%，平均每个外植体再生的不定芽数为14.7，其次为荧光和黄膜，红膜和绿膜不利于芽的分化。同时发现，蓝膜和荧光有较高的叶绿素含量、较低的chla/b比值。抗氧化酶的活性和可溶性蛋白的含量以蓝膜最高，荧光次之，绿膜最低。

关键词　黄檗；滤光膜；植株再生；抗氧化酶；可溶性蛋白

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Effects of Color Plastic Films on Shoot Regeneration of Stems of *Phellodendron amurense* and on Some Physiological and Biochemical Indexes During Shoot Regeneration

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Abstract

The stems of sterile plantlets of *Phellodendron amurense* were cultured on MS medium supplemented with 1.5 mg·L^{-1} 6-BA and 0.5 mg·L^{-1} NAA, the effects of different film filters on shoot regeneration from stem explants of *P.amurense* and some physiological and biochemical indexes changes during shoot regeneration were investigated. The results showed that there was obvious promotion of blue films to shoot regeneration and the highest percentage of shoot regeneration (75.4%) with the maximum number of shoots per callus(14.7) were observed under blue films, followed by fluorescent light and yellow films. However, red and green films were ineffective for shoot regeneration. In this study, it was found that blue films and fluorescent light induced lower chlorophyll a/b ratio and higher level of chlorophyll content than other treatment. Antioxidant enzymes activity and soluble protein were the highest under blue films, followed by fluorescent light, the lowest under green ones.

Key words

Phellodendron amurense　color film　shoot regeneration　antioxidant enzyme　soluble protein

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