

研究论文

PP333、GA3和BA对马铃薯试管苗生长调节作用的研究

李玉巧, 朱鹿鸣

江苏省林业科学研究所植物微繁殖技术中心, 江苏南京, 211153

收稿日期 1991-10-31 修回日期 1992-12-20 网络版发布日期 接受日期

摘要 针对马铃薯试管苗在继代培养中, 苗生长细长、瘦弱和叶嫩黄等现象, 在

在培养马铃薯的培养基中附加不同浓度的生长调节剂PP333 (mg/l, 单位不同)、GA3、BA、GA3+BA、PP333+GA3、PP333+BA和PP333+GA3+BA等进行培养壮苗的试验。加入PP333各处理对试管苗的高、茎粗和增绿效应明显, 但高浓度的PP333对试管苗生长过于抑制; 加入GA3对PP333有拮抗作用。适宜浓度的PP333+GA3+BA能培养壮苗, 并促进侧芽分化, 增加叶面积、叶绿素含量和干物质的累积。各处理对马铃薯试管苗的抑制生长效应为PP333>PP333+BA>PP333+GA3>PP333+GA3+BA>BA>GA3>GA3+BA; 生理效应和移栽苗成活率的顺序为PP333+GA3+BA>PP333+GA3>GA3+BA>PP333+BA>GA3>BA>PP333。

关键词 [马铃薯试管苗](#), [植物生长调节剂](#), [PP333](#), [GA3](#), [BA](#)矮壮

分类号

Study on the Effects of Growth Regulator PP333, GA3 and BA on Potato Seedlings Cultured in vitro

Li Yu-qiao, Zhu Lu-ming

The Centre of Plant Micropropagation of Jiangsu Province, Forestry Research Institute of Jiangsu Province Nanjing, 211153

Abstract In order to reduce the risk of leggy and feeble and leaf yellowish and increase the survival rate of seedlings of *Solanum tuberosum* during the transplanting of the plantlets, an experiment was carried out to study the effects of chemical control of Paclobutrazol (PP333), Gibberellin(GA3), and promalin(BA) on the cultured potato plantlets in vitro by adding PP333 1.0mg/(lunit(mg/l), the same as below)+GA3 0.7+BA 0.2, PP333 1.0+GA3 0.7, PP333 1.0+BA 0.2, GA3 0.7+BA 0.2, GA3 0.7, PP333 1.0 and BA 0.2 in the basic medium(MS). According to the experimental results, the decrease of growth rate in potato seedlings was the character of significant growing-control effects of PP333 which could be overcome by GA3. By observations, PP333 and exogenous GA3, had the antagonism obviously on the growth of potato seedling in vitro. The regulators at suitable concentration of PP333 1.0+GA3 0.7+BA 0.2 could inhibit the growth of seedling and promoted the stem diameter, lateral bud number, leaf area chlorophyll content, and biomass of plantlets dry weight of the seedlings in vitro. The test results also showed: 1. the growth-controlling effect on potato seedling in vitro with 7 treatments during seedling growth in 40 days were PP333>PP333+BA>PP333+GA3>PP333+GA3+BA>BA>GA3>GA3+BA; 2. the physiological effect on growth of seedling quality (included chlorophyll content and biomass of seedling dry weight) and the survival rate of potato seedling during transplanting of the plantlets in vitro with 7 treatments were PP333+GA3+BA>PP333+GA3>GA3+BA>PP333+BA>GA3>BA>PP333.

Key words [Solanum tuberosum seedling in vitro](#) [Plant regulator](#) [PP333](#) [GA3](#) [BA](#) [Dwarfism](#)

DOI:

通讯作者 李玉巧

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(372KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [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“马铃薯试管苗、植物生长调节剂,PP333,GA3,BA矮壮”的相关文章](#)

▶ 本文作者相关文章

· [李玉巧](#)

· [朱鹿鸣](#)