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植物生长调节剂对大豆根系氮代谢相关指标的影响

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作者: 张鑫 (KeySearch.aspx?type=Name&Sel=张鑫); 翟瑞常 (KeySearch.aspx?type=Name&Sel=翟瑞常); 郑殿峰 (KeySearch.aspx?type=Name&Sel=郑殿峰); 冯乃杰 (KeySearch.aspx?type=Name&Sel=冯乃杰); 祁倩倩 (KeySearch.aspx?type=Name&Sel=祁倩倩)

黑龙江八一农垦大学 农学院, 黑龙江 大庆163319

Author(s): ZHANG Xin (KeySearch.aspx?type=Name&Sel=ZHANG Xin); ZHAI Rui-chang (KeySearch.aspx?type=Name&Sel=ZHAI Rui-chang); ZHENG Dian-feng (KeySearch.aspx?type=Name&Sel=ZHENG Dian-feng); FENG Nai-jie (KeySearch.aspx?type=Name&Sel=FENG Nai-jie); QI Qian-qian (KeySearch.aspx?type=Name&Sel=QI Qian-qian)

College of Agriculture, Heilongjiang August First Land Reclamation University, Daqing 163319, Heilongjiang, China

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摘要: 在植物生长调节剂拌种的情况下, 探讨了不同植物生长调节剂对大豆根系氮代谢的影响。结果表明:DTA-6和DTA-6+GA3提高了大豆的根系活力和硝酸还原酶的活性, 增加了硝态氮的含量。DTA-6、GA3和DTA-6+GA3均提高了可溶性蛋白的含量, 增强了蛋白水解酶的活性。GA3增加了根系内游离氨基酸积累量和输出量, 降低了硝态氮的含量和硝酸还原酶的活性。综合分析表明, 应用化学调控手段可以改善大豆根系内同化物代谢水平, 促进根系的正常生长发育。

Abstract: The aim of this experiment was to ascertain the effects of different plant growth regulators(PGRs) on the nitrogen metabolism of soybean root with dressing different PGRs on seed. The treatments of DTA-6 and DTA-6+GA3 increased the activity of root and nitrate reductase, and increased the content of nitrate.DTA-6, GA3, and DTA-6+GA3 increased soluble protein content and proteolytic enzyme activity. GA3 improved the accumulation and output of free amino acids(FAA), while reduced thenitrate content and nitrate reductase activity. Results indicate that chemical control could improve the assimilation of soybean root metabolism and promote the normal growth and development of soybean root.

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第一作者简介: 张鑫 (1982-), 男, 硕士, 研究方向为环境与作物生长。E-mail: everzhangxin@126.com。

通讯作者: 郑殿峰, 教授, 博士生导师。E-mail: zhengdianfeng@hlau.cn。

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