



棉花学报 » 2013, Vol. 25 » Issue (1) :68-72 DOI: 1002-7807(2013)01-0068-05

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转Cry1Ac+Cry2Ab抗虫棉对3种害虫的存活、生长发育及中肠相关酶活性的影响

雒珺瑜, 崔金杰*, 张 帅, 辛惠江, 王春义

中国农业科学院棉花研究所/棉花生物学国家重点实验室, 河南 安阳 455000

Effects of Transgenic Cry1Ac plus Cry2Ab Cotton on Pest Survival, Growth and Enzymes Activity of Three Kinds of Pests

LUO Jun-yu, CUI Jin-jie*, ZHANG Shuai, XIN Hui-jiang, WANG Chun-yi*

Institute of Cotton Research, CAAS / State Key Laboratory of Cotton Biology, Anyang, Henan 455000, China

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摘要 以转Cry1Ac基因棉花和常规非转基因棉花为对照, 系统研究了转Cry1Ac+Cry2Ab基因棉花对棉铃虫、斜纹夜蛾、甜菜夜蛾的存活、生长发育及中肠酶活性的影响。研究表明, 与常规棉对照相比, 转Cry1Ac+Cry2Ab基因棉花和转Cry1Ac基因棉花叶片对3种害虫的慢性毒性差异较大, 对每种害虫的抗性程度也有一定的差异; 饲喂转Cry1Ac+Cry2Ab基因棉花和转Cry1Ac基因棉花叶片的3种害虫幼虫生长发育进度明显缓慢、体重明显减轻, 相关酶活性也有不同程度的变化, 但每种酶的变化有一定的差异。

关键词: 转Cry1Ac+Cry2Ab棉花 抗性 生长发育 酶活性

Abstract: Using the transgenic Cry1Ac cotton and non-transgenic cotton as control, the effects of transgenic Cry1Ac plus Cry2Ab cotton on survival, growth and enzymes activity of three types of pests (*Helicoverpa armigera* Hübner, *Spodoptera liture* and *Spodoptera exigua* Hübner) were studied. The results show that, the difference of chronic toxicity to three types of pests fed with leaves from different cotton varieties is significant, and resistance of every type cotton varieties to these pests is different too. Compared to the conventional variety CCRI 49, the growth speed of three pests fed with transgenic Cry1Ac+Cry2Ab gene cotton and transgenic Cry1Ac cotton is slower, and the weight is lighter. Meanwhile enzymes activity change with different degrees too, but the changes of each enzyme activity have some difference.

Keywords: transgenic Cry1Ac plus Cry2Ab cotton resistance to pest growth enzyme activity

Received 2012-04-26;

Fund:

农业部转基因生物新品种培育重大专项(2013ZX08011-002)

Corresponding Authors: cuijj@cricaas.com.cn

About author: 雒珺瑜 (1978-), 女, 助理研究员, luojunyu1818@126.com

引用本文:

雒珺瑜, 崔金杰, 张 帅, 辛惠江, 王春义. 转Cry1Ac+Cry2Ab抗虫棉对3种害虫的存活、生长发育及中肠相关酶活性的影响[J] 棉花学报, 2013, V25(1): 68-72

LUO Jun-Yu, CUI Jin-Jie, ZHANG Shuai, XIN Hui-Jiang, WANG Chun-Yi. Effects of Transgenic Cry1Ac plus Cry2Ab Cotton on Pest Survival, Growth and Enzymes Activity of Three Kinds of Pests[J] Cotton Science, 2013, V25(1): 68-72

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