

Effects of Transgenic Bt Rice on the Food Consumption, Growth and Survival of Cnaphalocrocis medinalis (Guenée) Larvae [PDF]

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摘要: The transgenic rice KMD1, expressing a synthetic Cry1Ab gene from Bacillus thuringiensis, showed effective resistance to the older (third- to fifth-instar) larvae of the rice leaf-folder (RLF), Cnaphalocrocis medinalis (Guenée) in laboratory bioassay. Significant declines were revealed in food consumption and growth of the older RLF nymphs fed on the cut-leaves of transgenic KMD1 plants. The increase rate of food consumption by larvae fed on KMD1 was drastically lower than those on Xiushui 11. Food consumption was varied with different instars when the larvae fed on the Bt rice. Those of fourth- and fifth-instar larvae were different compared to the third-instar, lower than those on the non-transgenic rice but still increased a little when the feeding time prolonged. It is indicated that younger RLF larvae are more sensitive to Bt rice than older ones. Also, about 81%, 78% and 68% of the third-, fourth- and fifth-instar RLF larvae died within 72 hours bioassay period on KMD1 leaves, respectively. These results demonstrated that Bt-transgene in KMD1 rice confers substantial protection against infestations with older RLF larvae.

关键词: Cnaphalocrocis medinalis; cry1Ab gene; transgenic rice; resistance to insects

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