

Influence of Pesticide Applications on Pest and Predatory Arthropods Associated with Transgenic *Bt* Cotton and Nontransgenic Cotton Plants

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The effects of pesticide applications on pests (aphids and acarid mites) and predators (ladybeetles and spiders) were investigated in transgenic *Bt* cotton and nontransgenic cotton agroecosystems in 1999, 2000 and 2001. Transgenic cotton did not cause changes in populations of acarids and did not reduce numbers of predators considerably; its effects on aphids were inconsistent. Although insecticides were not applied against the main pest – cotton bollworm – on transgenic cotton, the total number of insecticide applications in 3 years was no less than the total applied on nontransgenic cotton, because additional applications were required against sucking pests on transgenic *Bt* cotton. Pesticide applications decreased numbers of aphids, acarids and predatory spiders significantly on both transgenic and nontransgenic cottons. The results suggest that the use of *Bt* cotton should be evaluated carefully in China.

KEY WORDS: Transgenic *Bt* cotton; pesticides; arthropods; pests; predators; non-target effect.

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