

Biology Studies on Cotton Bollworm (*Helicoverpa armigera* Hübner) with Different Resistance Level to Bt Toxic Protein

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Abstract: Toxicity test shows that the LC_{50} values of Anyang and Xinjiang strains are 8.7645 and 0.2547 $g \cdot L^{-1}$, respectively. The former is 34.4 fold of the later. Using the third leaves from the top of transgenic Bt cotton CCRI29 and non-transgenic Bt cotton CCRI35 feed the neonates of the two strains. The results are: the two strains' accumulated mortality

have not significant difference within 1~2d, but from the second to 23rd, the accumulated death-rate are parallel lines, showing the Anyang strain is resistant to transgenic Bt cotton; The Xinjiang strain's highest larvae instar is the fourth instar on transgenic Bt cotton and the ratio is 6.7%, but Anyang strain could complete development on transgenic Bt cotton. The ratio of fourth instar is 45.5%, the ratio of fifth, sixth and pupae are 12.6%, 3.8% and 1.6%, respectively; The developing durations of the two strains have no significant difference on transgenic and non-transgenic Bt cotton, but Anyang strain has a shorter developing durations than that of Xinjiang strain.

Key words: cotton; Bt toxic protein; cotton bollworm; resistant strain; susceptible strain; biology