Cotton (*Gossypium hirsutum*) Response to Simulated Repeated Damage by *Helicoverpa* spp. Larvae

Authors: Tom T. Lei
Pages: 119-125
Arthropod Management

Full Text PDF (99K)

Cotton (*Gossypium hirsutum*) experiences frequent episodes of insect infestation during the growing season in Australia. The most important pests are larvae of the cotton bollworm (*Helicoverpa armigera*) and the native budworm (*H. punctigera*). While cotton has some ability to recover from repeated pest damage without yield loss, the degree of damage it can tolerate is still not well defined. In a two-year field trial, the recovery of yield and maturity rate of cotton subjected to manual damage to terminals (twice) and to fruit (twice) mimicking repeated infestations by *Helicoverpa* spp. was examined. The terminals of 80% of the plants were removed from all but the control treatments. Following terminal damage, five levels of fruit damage simulating that caused by 0, 2, 4, 6, and 8 Helicoverpa larvae per m^{-2} were imposed. Yield loss was not statistically significant for any damage level, but there was a delay of 3 to 8 days in maturity. An examination of the process of compensation revealed that early season terminal damage could affect cotton canopy structure and may increase light interception. The pattern of fruit production in damaged plants suggests that replacement of lost fruit was achieved largely through greater retention because no significant increase in fruit production occurred. Fruit development was delayed but the 10 weeks between last damage and maturity was sufficient for full yield recovery.

The Journal of Cotton Science is published four times a year by The Cotton Foundation.
Articles are available as Adobe PDF files and can be viewed with the free Adobe Acrobat Reader.