

CHAPTER 12

BIOTECHNOLOGY AND ITS APPLICATIONS

BT-Cotton:

Bacillus thuringiensis produce protein that kills.

Insects such as,

Lepidopterans – Tobacco budworm, Armyworm

Coleopterans – Beetles

Dipterans – Flies, Mosquitoes

BT – forms protein crystals in particular phase of growth. Usually it is protoxin when ingested into insects. Toxin get converted into active form. The activated toxin binds to surface of midgut epithelial cells and create pores that cause swelling and lysis and eventually cause death.

Toxin is coded by gene cry Cry1Ac and Cry2AB – cotton bollworms.

Cry1AB – Corn borer.

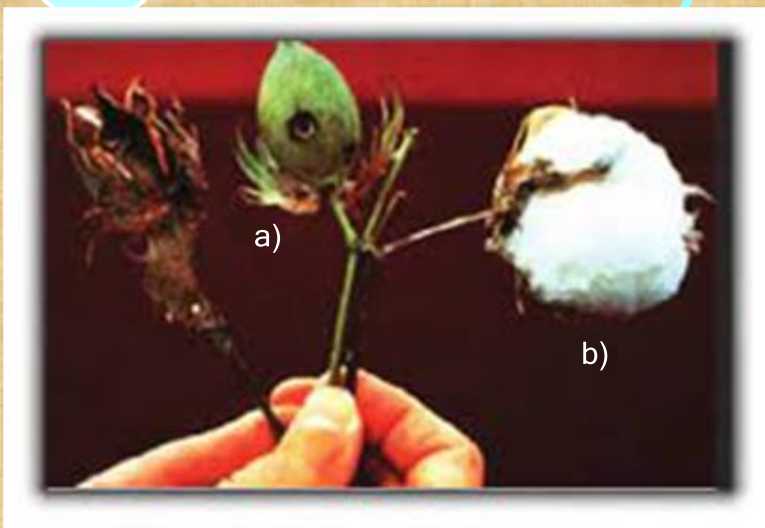


Fig. Cotton boll: (a) destroyed by bollworms; (b) a fully mature cotton boll