

# **1716 Impact of transgenic cotton expressing Cry 1Ac on dynamics of insect predators and its effect on growth and development of *Chrysoperla carnea* (Stephans) (Chrysopidae: Neuroptera)**

Dr. Shashikant S. Udikeri , Agricultural Research Station, Dharwad, India  
Dr. B.V. Patil , Agriculture College, Raichur, India  
Dr. Basavangoud K , College of Agriculture, DHARWAD, India  
Dr. Vamadevaiah H.M. , Agricultural Research Station, University of Agricultural Sciences, Dharwad-580 007, DHARWAD, India  
Dr. B.M. Khadi , Central Institute for Cotton Research, Nagpur, Nagpur 440010, India  
Dr. K.A. Kulkarni , College of Agriculture, DHARWAD, India

The dynamics of cotton aphids *Aphis gossypii* Glover and its predator viz., *Cheilomenes sexmaculata* Fab., *Chrysoperla carnea* Steph. and *Ischiodon scutellaris* Fab. was studied in RCH-2Bt and non-Bt cotton hybrids. The mean incidence of aphids was 23.82 and 21.37 per leaf in RCH-2 Bt and non Bt respectively indicating no significant variation. The dynamics of predators was density dependent on aphids in both Bt and non Bt hybrids. Mean population of coccinellids, chrysoperla and syrphids was 0.89, 0.78 and 1.0 per plant in RCH-2 Bt which was almost similar to the incidence on RCH-2 non Bt. There was strong and positive correlation between incidence of predators and aphid on both Bt and non Bt cotton. The 'r' value for syrphids v/s aphids was 0.94 in RCH -2 Bt and 0.96 in non Bt. Laboratory feeding experiments using Bt and non Bt cotton was carried out to study the effect of Bt fed aphids on predator *C. carnea* indicated no difference in incubation period, longevity of grubs and adults, fecundity and aphid consumption potential indicating safety of Cry1Ac to *C. carnea* through intoxicated aphid host.

**Key words:** Bt cotton, Cry1Ac, *Aphis gossypii*, *Cheilomenes sexmaculata*, *Chrysoperla carnea* and *Ischiodon scutellaris*