



## Economic Impact of Insecticide Resistance Management (IRM) Strategies in Cotton in Muktsar District (Punjab)

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**Abstract:** To disseminate Insecticide Resistance Management (IRM) strategies, 10 villages were adopted in Muktsar district of Punjab during 2008 and 2009. Two villages were kept as check (Non-IRM) for comparing the impact of IRM strategies on the major insect pests and natural enemies in *Bt* cotton arthropod fauna. The impact of adoption of IRM strategies leads to reduction in the population of jassid and whitefly in IRM villages as compared to non-IRM villages. The mean population of nymphs jassid, *Amrasca biguttula biguttula* (Ishida), and whitefly, *Bemisia tabaci* (Gennadius), adults per three leaves was 0.41, 0.45 and 0.61, 0.69 in IRM villages, while in non-IRM villages, it was 0.50, 2.00 and 0.80, 2.40 during 2008 and 2009 crop season, respectively. No incidence of bollworms was observed in IRM as well as Non-IRM villages. Cotton IRM villages were sprayed 3.73 and 3.40 as compared to 6.30 and 6.05 in non-IRM villages for both the years. The per cent reduction in number of sprays, cost of sprays and increase in seed-cotton yield was 40.79 and 43.80, 64.96 and 51.16, 22.70 and 30.45 over non-IRM villages in 2008 and 2009, respectively. The additional net profit per hectare in IRM villages was Rs 11422 and Rs 18441 during both the years.

**Key Words:** Arthropod fauna, *Bt* Cotton, Insecticide resistance management, Economics, Non-IRM, Natural enemies

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