Do green lacewings (*Mallada signata*) contribute to the mortality of *Helicoverpa* on Transgenic *Bt* cotton?

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**Aim:**

To investigate the capacity of green lacewing larvae (*Mallada signata*) as a potential biological control agent of *Helicoverpa* on transgenic *Bt* cotton.

**Methods:**

- In Small Arenas:
  - Twenty *Helicoverpa* eggs or 10 neonate larvae were transferred onto individual cotton leaves in 750ml plastic cups. One green lacewing larva was released and the numbers of remaining *Helicoverpa* eggs or larvae recorded after 24 hours.

- In Small Arenas:
  - Twenty *Helicoverpa* eggs or larvae were recorded after 24 hours on cotton leaves in small arenas (plastic cups).

- On Whole Plants:
  - Potted cotton plants were maintained in controlled environment cabinets at 20-30°C, 50-60% RH and 14:10 L:D period.
  - Seven *Helicoverpa* eggs (Expt. 1) or 7 neonates (Expt. 2) were distributed on leaves, petioles, stems, squares, flowers and bolls (i.e., 49 eggs or neonates per plant).
  - Two green lacewing larvae were released onto each plant.
  - Remaining *Helicoverpa* eggs and larvae were recorded after 24 and 72 hours, respectively.

**Results:**

- In the small arenas, green lacewings fed on similar numbers of *Helicoverpa* eggs or larvae whether searching *Bt* or conventional cotton leaves.

**Conclusion:**

Green lacewing larvae consumed similar numbers of *Helicoverpa* eggs on *Bt* or conventional cotton plants and added significantly to the mortality of larvae on *Bt* cotton. The mortality of *Bt* and green lacewing larvae was synergistic over the 72 hours period, suggesting conservation of green lacewing would be useful in IPM for *Bt* cotton.

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