

## Best Timing of controlling application for *Pectinophora gossypiella* (Saund.) using remote sensing.

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Since they are prerequisite to predicting timing and phenology of insect life cycle events and to initiating management actions, the present study dealt with certain biological aspects of the pink bollworm as a principal and prior step to limit its requirements of heat units necessary to be used *through* forecasting system in establishment of an IPM program for the control of *P. gossypiella*. This section of the present investigation was dedicated throughout two successive cotton seasons (2009 and 2010) during the period from the 1<sup>st</sup> week of May to the last week of September. Satellite remote sensing was used in determining the emergence and population density of *P. gossypiella*; and using the heat unit summation method to expect their population peaks and number of generations that the insect can be expected to have during a specific period of time that can assist in reduce monitoring time and find best timing of applying control measures in cotton fields. This acts by calculating the average of thermal units in degree-days (dd's) for completion of generation (499.71 degrees-days) considering 12.03 °C as a developmental threshold. We also found that this insect pest completes four main overlapping generations; in addition to the 5<sup>th</sup> generation; this generation represents the initiator of the four successive generations that appear on cotton plants and also male moths exhibited cyclic population peaks at intervals of  $499.71 \pm 8.41$  dd's. These data indicate that, the best timing for control application against *Pectinophora gossypiella* can easily be calculated and expected.

**Key words:** *Pectinophora gossypiella*, remote sensing, prediction, degrees-days, control application