

### **Major Results from This Project.**

1. Nocturnal observations of *Heliothis* activity using a variety of techniques provided valuable details and parameters needed to model movement in the associated Project CSE5C.
2. A previously undescribed behaviour pattern was observed in adult *Heliothis* which shows that moths are able to perceive and respond to boundaries and that their movements may be effectively constrained to an attractive host patch once colonisation has occurred.
3. The timing of emergence and first flight were quantified for the first time for Australian species, showing a peak of emergence between 2100 and 2200. First flight occurred approximately 2 hrs after emergence.
4. Mark-recapture was used successfully to demonstrate significant differences between *H. armigera* and *H. punctigera* in local movement. *H. punctigera* was confirmed to be more mobile than *H. armigera*, and may be an obligate migrant species. Both species were shown to be able to locate and colonise small areas of highly attractive hosts (safflower) despite the presence of large areas of squaring cotton. Further studies of *H. armigera* movement during summer will be undertaken under a new project CSE24C.