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## LOVE BUGS: THE EFFECTS OF MALE HAIRPENCIL ODOUR ON COURTSHIP BEHAVIOUR OF FEMALES IN *HELICOVERPA ZEA*

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*Helicoverpa zea* (Lepidoptera: Noctuidae), commonly known as Corn Earworm, is a billion dollar crop pest, affecting agriculture in both North and South America as well as Europe. Males have odour-secreting hairpencil glands found at the tip of their abdomen which are extruded during courtship. Previous studies have shown that hairpencil odours may make copulation attempts by males more likely to be accepted. This study was designed to determine the effects of the *H. zea* male hairpencil odour on the courtship behaviour of female *H. zea*. Normal mating assays



were conducted to first determine stereotypical courtship behaviour within the moth species. Subsequent manipulations were performed on the moths to determine the importance of the hairpencil odour in mating. The first experiment involved the removal of the female antennae at the scape. The virgin antennectomized females were then paired with normal virgin males for the mating assays following a recovery period. In the second experiment, virgin male moths underwent hairpencil ablation surgeries and were paired with normal virgin females for mating assays following a recovery period. Control trials were performed with moths who had undergone similar 'mock' surgeries. The final experiment involved ablated males with the addition of an extract of hairpencil odour that was reintroduced to the female during courtship attempts; hexane was used as a control. Results show that presence of male odour is important in the courtship and mating of *H. zea*. Data from this study will aid in better understanding the role of the male hairpencil odour of *H. zea* and will help advance studies involving pheromones as an alternative to insecticides.

**Sarah Rose** graduated from Barrington Municipal High School in Barrington Nova Scotia in 2006. Sarah is currently completing her Honours thesis in her fourth year in Biology at Acadia. At Acadia, Sarah enjoys volunteering with different organizations including the SMILE program. She works as a teaching assistant in Introductory Biology and Physiology courses and also runs the 'After the Bell' physical activity program at New Minas Elementary School. Sarah is an Athletic Therapy student and works with Varsity Football; after graduation, Sarah plans on attending school to receive her Certificate in Athletic Therapy.

