Electrophysiological Studies and Identification of Possible Sex Pheromone Components of Brazilian Populations of the Sugarcane Borer, *Diatraea saccharalis*

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*Diatraea saccharalis*, Sex Pheromone, (9\textsuperscript{Z},11\textsuperscript{E})-Hexadecadienal

Virgin female gland extracts of sugarcane moth *Diatraea saccharalis* (Fabricius) (Lepidoptera: Pyralidae), from three locations in Brazil, have been analyzed. By GC-MS analysis and comparison of the chromatographic retention time of the components of the pheromone gland with those retention times of synthetic standards, we observed the presence of (Z)-hexadec-11-enal (1), hexadecanal (2), (9\textsuperscript{E},11\textsuperscript{Z})-hexadecadienal (4), (9\textsuperscript{Z},11\textsuperscript{Z})-hexadecadienal (5) and (9\textsuperscript{E},11\textsuperscript{E})-hexadecadienal (6), as minor components besides the major constituent (9\textsuperscript{Z},11\textsuperscript{E})-hexadecadienal (3) already reported. We found no variations in the composition of the gland extracts deriving from the three Brazilian populations and only two compounds, (Z)-hexadec-11-enal (1) and (9\textsuperscript{Z},11\textsuperscript{E})-hexadecadienal (3), elicited antennal responses (GC-EAD). In electroantennography (EAG), however, pure compounds 1 and 3, a binary mixture containing 1 and 3, and a mixture containing all of the six synthetic compounds 1–6 elicited a depolarization in male antennae of *D. saccharalis*, without any statistically different delay. The EAG responses to the other isomers of 9,11-hexadecadienal were small and not significantly different from the control, except for the (9\textsuperscript{Z},11\textsuperscript{Z})-isomer (5) which showed an relatively strong electroantennal activity.