

EFFECTS OF THE HYDROCARBONS PRESENT IN THE ESSENTIAL OILS ON *SITOTROGA CEREALELLA* (LEPIDOPTERA : GELECHIIDAE)

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Sitotroga cerealella Olivier has been reported to be the most serious pest of harvested grains on a worldwide basis (Champ & Dyte 1977). The present study was undertaken to investigate the effectiveness of terpene hydrocarbons of some essential oils in controlling this pest.

The terpene hydrocarbons in the essential oils were identified and the repellent effect of the respective hydrocarbons on the moth was determined with the help of a modified Y-shaped insect olfactometer (Hershberger & Smith 1967).

Analysis of the data from the experiments gave the following results:

- i. β -pinene is the most effective individual repellent.
- ii. β -pinene : p-cymene (1:2) is the most effective synergistic repellent.

An additional experiment, conducted to determine the toxic effect of the terpene hydrocarbons, gave the following results:

- i. The vapour of p-cymene is the most effective individual toxic agent.
- ii. β -pinene : p-cymene (1:2) is the most effective synergistically toxic agent.

References:

1. Champ, B. R. and Dyte, C. E. 1977. FAO Global Survey of Pesticide susceptibility of Stored Grain Pests. FAO Plant Protection Bulletin 25 (2) : 49-67.
2. Hershberger, W. A. and Smith, M. P. 1967. Conditioning in *Drosophila melanogaster*. Animal Behaviour 15 : 259 - 262.