

Original Article

Fatty Acids, Tocopherols of *Aspongubus viduatus* (melon bug) oil during different maturity stages

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ABSTRACT

Objective: to analyze the total fatty acids in melon bug (*Aspongopus viduatus*) oil at different maturity stages

Method: Melon bug adults were collected from the field, and were kept in board cage with glass windows for five months (January to May), the adults were feed with fresh water melon leaves twice a day. Every month 50 adults were withdrawn, sun dried crushed and ground. The oil was extracted from the ground material by extraction with *n*-hexane 50-60°C in a Soxhlet apparatus for 6 hr. The oil content, fatty acid by GC and tocopherols by HPLC were determined

Results: The fatty acid composition of the oil exhibited greater variation during insect maturity stages (MBO_{Jan} to MBO_{May}). Palmitic acid was found to be 33.6±0.3% at the first maturity stage in January (MBO_{Jan}) and dropped during the rest of the stages to reach 30.9% by the end of the maturity process (MBO_{May}), while oleic and linoleic acids were increased from 45.3 and 3.6% to 46.6 and 3.9%, respectively. Differences were quite pronounced in saturated fatty acid which decreased from 39.0 to 37.3%, while total unsaturated fatty acids increased from 59.3 to 61.9%. A significant difference was found within the tocopherol content among MBO_{Jan} to MBO_{May} maturity stages of melon bug.

Keywords: *Aspongubus viduatus*, Fatty acids, Melon bug, Maturity stages, Tocopherols, Oil

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