Successful Disinfestations of Sap-beetle Contaminations from Organically Grown Dates Using Heat Treatment: A Case Study

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Palm dates suffer from high infestations of sap-beetle (Coleoptera: Nitidulidae) populations. Organically grown dates are particularly subject to high infestations for lack of alternative treatments both during pre- and postharvest, while export requirements of null infestations are in effect. Present methods of postharvest control include treatments using $CO_{2,}$ which are expensive and require several hours. In this report we describe an effective, short-duration and inexpensive method of postharvest heat-treatment using a postharvest heating container (PHHC). Laboratory experiments determined the optimum temperature regime for maximum escape of beetles from the fruit to be 55°C for 2.5 h; this temperature was attained at a rate of 1.8°C/min. Subsequent successful disinfestation of beetles was obtained in the PHHC after a total exposure time of 2.5 h. Sampling dates before and after treatment and quality control tests on cartons ready for export showed that this method compared in efficiency with CO_2 treatments but was much more economical.

KEY WORDS: Organic farming; sap beetles; *Carpophilus* spp.; postharvest; heat-treatments.

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