Laboratory evaluation of the effectiveness of heat treatment against the dried fruit beetles

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Abstract

Dried fruit beetles are among the most troublesome pests of dried fruits in Turkiye and urgent control methods against these pests have been investigated with the ban of methyl bromide since 2004.

In this work, the mortality rates of different life stages of *Carpophilus hemipterus* exposed to 50 and 55°C at 75% r.h. for different exposure periods were determined and LT_{50} values were calculated.

According to the results; at 50 and 55 °C complete mortalities of *Carpophilus hemipterus* including all life stages were achieved in 30 and 17.5 min., respectively. LT_{50} values at 50°C showed that mature larvae were the most resistant stage (23.4 min.) followed by adults (18.9 min.), eggs (17.3 min.), and pupae (15.5 min.). However, at 55°C, adults were the most resistant stage with a LT_{50} value of 9.7 min. followed by pupae (9.1 min.), mature larvae (5.4 min.), and eggs (3.1 min.).

Acknowledgement: Supported through the projects entitled "*Mites infesting stored products in Diyarbakir and Sanliurfa provinces and their control* (TUBITAK-TARP 1848)" funded by The Scientific and Technical Research Council of Turkey (TUBITAK)