

Title Efficacy of heat treatments against the tobacco beetle *Lasioderma serricornis* F. (Col., Anobiidae) and the lesser grain borer *Rhyzopertha dominica* F. (Col., Bostrichidae).

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Citation Advances in stored product protection. Proceedings of the 8th International Working Conference on Stored Product Protection, York, UK, 22-26 July 2002 (2003); 617-621

### Abstract

All developmental stages and adults of the tobacco beetle *L. serricornis* and the lesser grain borer *R. dominica* were tested for their tolerance against heat treatments. Each age cohort, together with 10 mL of substrate, was exposed to 45, 50 and 55 deg C in preheated glass tubes in a water bath. At 45 deg C, pupae of the tested population of *R. dominica* proved more tolerant to heat treatments than *L. serricornis*, while at the higher temperatures, eggs of the tobacco beetle were most difficult to control. At 45 deg C, it took 40 h to control the tobacco beetle, but 100 h to control the lesser grain borer. At 50 deg C, exposure times of up to 280 minutes were not sufficient to control *L. serricornis* and *R. dominica*. At 55 deg C, first results seem to indicate that 40 minutes may be sufficient to control both species, but more data are needed to support this finding. The findings indicate that all life stages of critical species should be tested to determine effective heat treatment schedules.