

## The efficacy of modified atmosphere to control *Tribolium confusum* under various temperature regimes

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DOI: xx.xxxx/xxx.2014.xxx.xxx.xxx

### Abstract

The aim of this study was to compare influence of three temperatures on control of *Tribolium confusum* adults using a 100% nitrogen atmosphere. These experiments were conducted under the following temperature regimes 20°C, 25°C and 30°C. We used twelve exposure times. It was found that a 100% nitrogen atmosphere caused different levels of mortality of *T. confusum* adults depending on temperature and exposure time. Complete mortality was achieved at 20°C after 33 hours, at 25°C after 27 hours and at 30°C after 15 hours of exposure time. Lethal times were estimated for different temperatures as follows: for temperature 20°C  $LT_{50} = 22.45$  and  $LT_{99} = 30.90$ ; 25°C  $LT_{50} = 11.93$  and  $LT_{99} = 24.58$  and 30°C  $LT_{50} = 8.02$  and  $LT_{99} = 13.89$ .

Keywords: modified atmosphere, nitrogen, temperatures, *Tribolium confusum*