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[home](#) [page](#) [about us](#) [contact](#)

us

Table of Contents

IN PRESS

CJFS 2014

CJFS 2013

CJFS 2012

CJFS 2011

CJFS 2010

CJFS 2009

CJFS 2008

CJFS 2007

CJFS 2006

CJFS 2005

CJFS 2004

CJFS 2003

CJFS 2002

CJFS 2001

CJFS Home

Editorial Board

For Authors

- **Authors Declaration**
- **Instruction to Authors**
- **Guide for Authors**
- **Copyright Statement**
- **Submission**

For Reviewers

- **Guide for Reviewers**
- **Reviewers Login**

Subscription

Czech J. Food Sci.

**Špelina V.,
Schlemmerová L.,**

**Lanfield A., Kynos K.,
Měřička P., Houška M.:
Thermal inactivation of
*Enterococcus faecium***

Czech J. Food Sci., 25 (2007): 283-290

Data for thermal inactivation of working suspension of *Enterococcus faecium* in model solutions were acquired and used to develop a mathematical model for thermal inactivation of the bacterium. The model is valid within the water activity range 0.97 to 0.99; pH range 6.0 to 7.6; temperature range 60° C to 65° C, and was determined for the microorganism concentration ranges of 10² per ml to 10⁸ per ml of the model inactivation solution. An Excel procedure was developed in Visual Basic language which enables the calculation of the final concentration of the microorganism from the input data for pH, a_w , $\log N_0$, temperature, and holding time of the treatment. The proposed model was verified in experiments using cow and human

milks. With cow milk, the correspondence between the experimental and the predicted data is highly satisfactory. With human milk, the model predicts a smaller effect of heating than is that manifested experimentally.

Keywords:

thermal inactivation model;

Enterococcus faecium; verification

[[fulltext](#)]