



Agricultural Journals

Czech Journal of

FOOD SCIENCES

[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.

K. Cihelková, M.

Zárubová, I. Hrádková,

V. Filip, J. Šimůnek. Changes of Sunflower Oil Polyenoic Fatty Acids under High Temperatures

Czech J. Food Sci., 27 (2009): S13-S16

Heat induced *cis-trans* isomerisation of sunflower oils depending on temperature, reaction time and original content of linoleic acid was investigated. The content of isomeric fatty acids was determined by gas chromatography and the content of polymers by gel permeation high-performance liquid chromatography. The content of *trans* fatty acids increased with time and with temperature and a rate of *cis-trans* isomerisation and polymerisation depends on the temperature according to Arrhenius equation. The content of polymers was significantly lower in sunflower oil with high content of oleic acid because of the low concentration of linoleic acid in oil. In both oils the content of conjugated linoleic acid initially increased depending on time and temperature, however after certain

time the stationary state occurred.
Polymerisation of polyenoic fatty acids takes place directly with heat induced *cis-trans* isomerisation.

Keywords:

cis-trans isomerisation; polymerisation;
trans fatty acid; conjugated linoleic acid

[[fulltext](#)]

© 2011 Czech Academy of Agricultural
Sciences

XHTML11 VALID

OSS VALID