



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.

**Delgado-Andrade C.,
Rufián-Henares J. A.,**

Optimised procedure to analyse Maillard reaction-associated fluorescence in cereal-based products

Czech J. Food Sci., 26 (2008): 339-346

Fluorescent Maillard compounds measurement provides more specific information on the extent of the Maillard reaction than other unspecific tools to monitor the reaction, and is suitable, as the first approach, to assess the nutritional quality of foods as related to protein damage. This work presents an optimised laboratory procedure for the measurement of total fluorescent intermediate compounds (FIC) associated with Maillard reaction, described and evaluated in a cereal-based product. Total FIC are evaluated using increased pronase E concentrations and different incubation times for the enzymatic hydrolysis, as well as three different sample clean-up steps after the enzymatic digestion. The effects of

basic/acid media are considered for the stability of the fluorescent compounds. The standardised procedure is finally applied to breakfast cereals as a model of cereal-based products, analysing the correlation between total FIC production and fibre and protein contents. It is demonstrated that fluorescent compounds are mainly linked to the protein backbone in ready-to-eat breakfast cereals. Fluorescence measurement is presented as an inexpensive, rapid and accurate procedure to study the extent of Maillard reaction in breakfast cereals.

Keywords:

Maillard reaction; fluorescent intermediate compounds (FIC); breakfast cereals

[[fulltext](#)]

© 2011 [Czech Academy of Agricultural Sciences](#)