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Czech Journal of

FOOD SCIENCE

[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.

**Ovesná J., Kučera L.,
Hodek J., Demnerová**

K.:

Reliability of PCR based screening for identification and quantification of GMOs

Czech J. Food Sci., 28 (2010): 133-138

Handling with genetically modified organisms (GMOs) is regulated namely in EC. Laboratories often use polymerase chain reaction (PCR) based screening methods to monitor the presence of GM particles in food commodities as a cost effective approach. The reliability was tested of such screening using the CaMV promoter as the target sequences. Soya grown from non-GM cultivar as declared by a company was investigated after the harvest, transport to the silo, and before processing. The results based on PCR and real-time PCR analysis clearly showed that, the contamination with debris of other species, dust during transport, storage, and other kind of handling led to contamination with detectable amounts of *Cauliflower mosaic virus* (CaMV). Impurities are allowed by EC regulations but may, as has been shown, interfere with the analytical procedures based on PCR. The identification of 35S CaMV promoter and NOS terminator in food with uncertain history and no approved specific events r