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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**

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### **Subscription**

# **Czech J. Food Sci.**

**Veselá M., Drdák M.,  
Standara S.**

# **Relation between free amino acids and the biogenic amines contents in green tomatoes inoculated with *Lactobacillus plantarum***

Czech J. Food Sci., 21 (2003): 51-58

The aim of the work presented here was the evaluation of the profile of free amino acids as the possible precursors of biogenic amines (BAs) in tomatoes and its changes during tomato ripening. Hygienically significant amounts of BAs can be formed by the action of amino acid decarboxylases provided the tomatoes contain a high enough amount of free amino acids. In view of this, the effect was studied of *Lactobacillus plantarum* strains 976H and 3626 on the BAs formation in green tomatoes. Homogenates of green tomatoes were adjusted to the model conditions of conservation by the addition of NaCl to the concentration of 1.5%

(w/w) and of glucose to the concentration of 2.0% (w/w). The homogenates were subsequently inoculated with the two strains given above. The formation of BAs was monitored for 186 h and compared with that in the control non-inoculated samples. The changes in the BAs content taking place during fermentation were estimated by means of statistical methods. It was found that, during fermentation of green tomatoes with the two strains of *Lactobacillus plantarum* used, the conditions were not fulfilled that enable BAs formation, i.e. as sufficient amount of free amino acids together with a sufficient production of decarboxylases.

### **Keywords:**

tomato; biogenic amine; free amino acids; *Lactobacillus plantarum*

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