



# Agricultural Journals

*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.**

**Sýkorová A., Š áka E.,  
Bubník Z., Schejbal M.,**

# Size distribution of barley kernels

Czech J. Food Sci., 27 (2009): 249-258

Barley primarily serves as a major animal feed crop; smaller amounts of barley are used in health foods and in the malting process. Detailed geometric parameters of kernels are very important for the design of food engineering processes, such as the air transport, drying, milling, and malting. Image analysis was used to determine the size parameters of one hundred kernels of selected varieties of *Hordeum vulgare* L. The data for every kernel captured were stored for further use, together with the mean, standard deviation (SD), coefficient of variation (CV), and images themselves. The measured data were then used to compute the volume and surface area of each of the five kernel models (Models 0–4), the results being subsequently verified by pycnometric measurement. Model 0 represents the general ellipsoid, models 1–3 various combinations of two parts of a general ellipsoid with one or two

cone frustums. The best fitted model 4 was a combination of two cone frustums. Based on the results of image analysis measurements and on the presented model 4, a simplified method for the