



## Table of Contents

### **IN PRESS**

**CJGPB 2014**

**CJGPB 2013**

**CJGPB 2012**

**CJGPB 2011**

**CJGPB 2010**

**CJGPB 2009**

**CJGPB 2008**

**CJGPB 2007**

**CJGPB 2006**

**CJGPB 2005**

**CJGPB 2004**

**CJGPB 2003**

**CJGPB 2002**

**CJGPB**

**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. Genet. Plant Breed.**

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## Evaluation of winter wheat collection in terms of HMW- and LMW-glutenin subunits

Czech J. Genet. Plant Breed., 46 (2010): S96-S99

The composition of high molecular weight (HMW-GS) and low molecular weight (LMW-GS) glutenin subunits was examined in a collection of 86 Czech registered winter wheat varieties. These proteins were analyzed by sodium dodecyl sulphate polyacrylamide gel electrophoresis. An inter-varietal polymorphism of the HMW and LMW glutenin subunits was detected. Twenty-one different patterns for HMW were identified, and eighteen for the LMW-glutenins. The different alleles encoded at the six glutenin loci were determined. Three, six, and four alleles were observed, respectively at the *Glu-A1*, *Glu-B1*, and *Glu-D1* loci (encoding high HMW-GS). Three, eight, and three alleles of LMW-GS were found, respectively, at the *Glu-A3*, *Glu-B3*, and *Glu-D3* loci. The evaluated varieties were split into four categories of baking quality, and these variety groups were analyzed for the presence of different HMW-GS and LMW-GS alleles. While the alleles *Glu-B1c* (7+9), and *Glu-D1d* (5+10) were detected exclusively in bread wheat varieties, the alleles *Glu-B1d* (6+8), *Glu-D1a* (2+12), and *Glu-A3e/f* only occurred in those varieties that are not

suitable for bread-making.

## **Keywords:**

characterization; electrophoresis; genetic diversity; glutenin subunits; *Triticum aestivum* L.

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