



# Agricultural Journals

*Czech Journal of*

## **GENETICS AND PLANT BREEDING**

[home](#) [page](#) [about us](#) [contact](#)

[us](#)

### 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.**

**Šašek A., Černý J.:**

# **Assessment of Frost Tolerance of Wheat Doubled Haploids by Gliadin Electrophoresis**

Czech J. Genet. Plant Breed., 38 (2002): 104-108

The relationship between gliadin alleles, known to mark frost tolerance, and actual frost tolerance was investigated in 52 doubled haploids (DH) from the cross Florida × Vlada. Frost tolerance was expressed as percentage of plant winter survival in pots placed at different heights above the ground. Gliadin allelic blocks (GLI) were determined by starch electrophoresis. From the six GLI, known as frost tolerance markers, the GLI 1B1, GLI 1D5 or GLI 6D2 was present in 27, 27 or 31 DH, respectively. A weak, but significant correlation of  $r = 0.29$  was found in the DH between their survival and frost tolerance prediction values

based on the presence of the gliadin frost tolerance markers. The average survival of DH with gliadin frost tolerance marker GLI 1B1 or GLI 6D2, but not with GLI 1D5, was significantly higher than the survival of DH without this block. The DH without any gliadin frost tolerance marker had the lowest survival. Some gliadin genes thus can be used as frost tolerance markers for preliminary selection of frost tolerant lines and for the study of physiological and genetic constitution of frost tolerance in common wheat.

### **Keywords:**

gliadins; frost tolerance; marker; doubled haploids; wheat

[ [fulltext](#) ]

---

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