



**XII INTERNATIONAL SYMPOSIUM ON
AGRICULTURAL SCIENCES**

BOOK OF ABSTRACTS

BOOK OF ABSTRACTS



AGRORES
2023

**XII INTERNATIONAL
SYMPOSIUM ON
AGRICULTURAL SCIENCES**

**24-26, May, 2023
Trebinje
Bosnia and Herzegovina**

BOOK OF ABSTRACTS



XII International Symposium on Agricultural Sciences "AgroReS 2023"
24-26. May, 2023; Trebinje, Bosnia and Herzegovina

Publisher

University of Banja Luka
Faculty of Agriculture
University City
Bulevar vojvode Petra Bojovića 1A
78000 Banja Luka, Republic of Srpska, B&H

Editor in Chief

Branimir Nježić and Biljana Kelečević

Technical Editors

Danijela Kuruzović

Edition

Electronic edition

CIP - Каталогизacija y publikaciji
Народна и универзитетска библиотека
Републике Српске, Бања Лука

631(048.3)(0.034.2)

INTERNATIONAL Symposium on Agricultural Sciences (12 ;
Trebinje ; 2023)

Book of Abstracts [Електронски извор] / XII International
Symposium on Agricultural Sciences "AgroReS 2023", 24-26 May,
2023, Trebinje, Bosnia and Herzegovina ; [editor in chief Branimir
Nježić and Biljana Kelečević]. - Banja Luka : Faculty of Agriculture
= Poljoprivredni fakultet, 2023. - 1 USB

Sistemski zahtjevi: Nisu navedeni. - Dostupno i na:
<https://agrores.net/>. - Nasl. sa nasl. ekrana. - Na nasl. str.: AgroRes
2023. - El. publikacija u PDF formatu opsega 260 str. - Tiraž 200.

ISBN 978-99938-93-88-2

COBISS.RS-ID 138380545

01_09

Variability of wheat technological quality properties and their relationships with gliadin and glutenin alleles

Desimir Knežević¹, Danijela Kondić², Aleksandra. Yu. Novoselskaya Dragovich³, Alexander M. Kudryavtsev⁴, Mirela Matković Stojšin⁵, Veselinka Zečević⁶, Adriana Radosavac⁷, Aleksandar Paunović⁸

¹ *University of Pristina temporary settled in Kosovska Mitrovica, Faculty of Agriculture, Lesak,, Kosovo & Metohia, Serbia*

² *University of Banja Luka, Faculty of Agriculture Banja Luka, B&H*

³ *Russian Academy of Sciences Laboratory of Plant Genetics, Vavilov Institute of General Genetics RAS, 119333 Moscow, Russia*

⁴ *Russian Academy of Sciences Laboratory of Plant Genetics, Vavilov Institute of General Genetics RAS, Russia*

⁵ *Institute „Tamiš“, Serbia*

⁶ *Institute for Vegetable Crops, Serbia*

⁷ *University Business Academy in Novi Sad, Faculty of Applied Management, Economics and Finance in Belgrade, Serbia*

⁸ *University of Kragujevac, Faculty of Agriculture, Čačak, Serbia*

Corresponding author: Desimir Knežević, deskoo@ptt.rs

Abstract

The storage proteins influence technological quality value of grain wheat, dough quality traits and loaf quality. The aim of this study estimation of variability grain protein content, sedimentation volume, dry gluten content, loaf volume and their relationships with encoding allele of gliadin and glutenins. For investigation used wheat genotypes grown in two vegetation season (2015/16 and 2016/17). The analysed technological quality traits varied in wheat genotypes within and between vegetation season. In both vegetation season were established the highest grain protein content in G-3627-1 (14.40% and 14.60%), the highest protein sedimentation volume in G-3606-5 (46.0 ml and 52.0 ml), the highest dry gluten content in G-3621-1 (30.23% and 31.15%) and the highest value of loaf volume in the G-3621-1 (530 ml and 540 ml). In both vegetation were found the least protein sedimentation volume in genotypes G-3636-3 (34.0 ml and 36. ml), the least grain protein content in G-3606-4 (13.10% and 13.00%), the least dry gluten content was in G-3606-6 (25.42% and 25.98%) and the least loaf volume in G-3606-6 (380 ml and 390 ml). The composition of gliadin and glutenin alleles at the analyzed wheat genotypes was different. In analysed wheat genotypes at six Gli- loci were

identified 24 alleles and at three Glu-1 loci eight alleles. Genotypes carrying Gli-B1b, Gli-D1b, Gli-D2b and Glu-A1b, Glu-B1c, Glu-D1d had the highest sedimentation volume, genotype that carried Gli-B1l and Glu-A1b, Glu-B1c, Glu-D1d had high volume of bread. The results showed relationships of gliadin and glutenin alleles with analysed grain, flour and bread traits quality.

Key words: wheat, gliadin, glutenin, allele, bread, quality