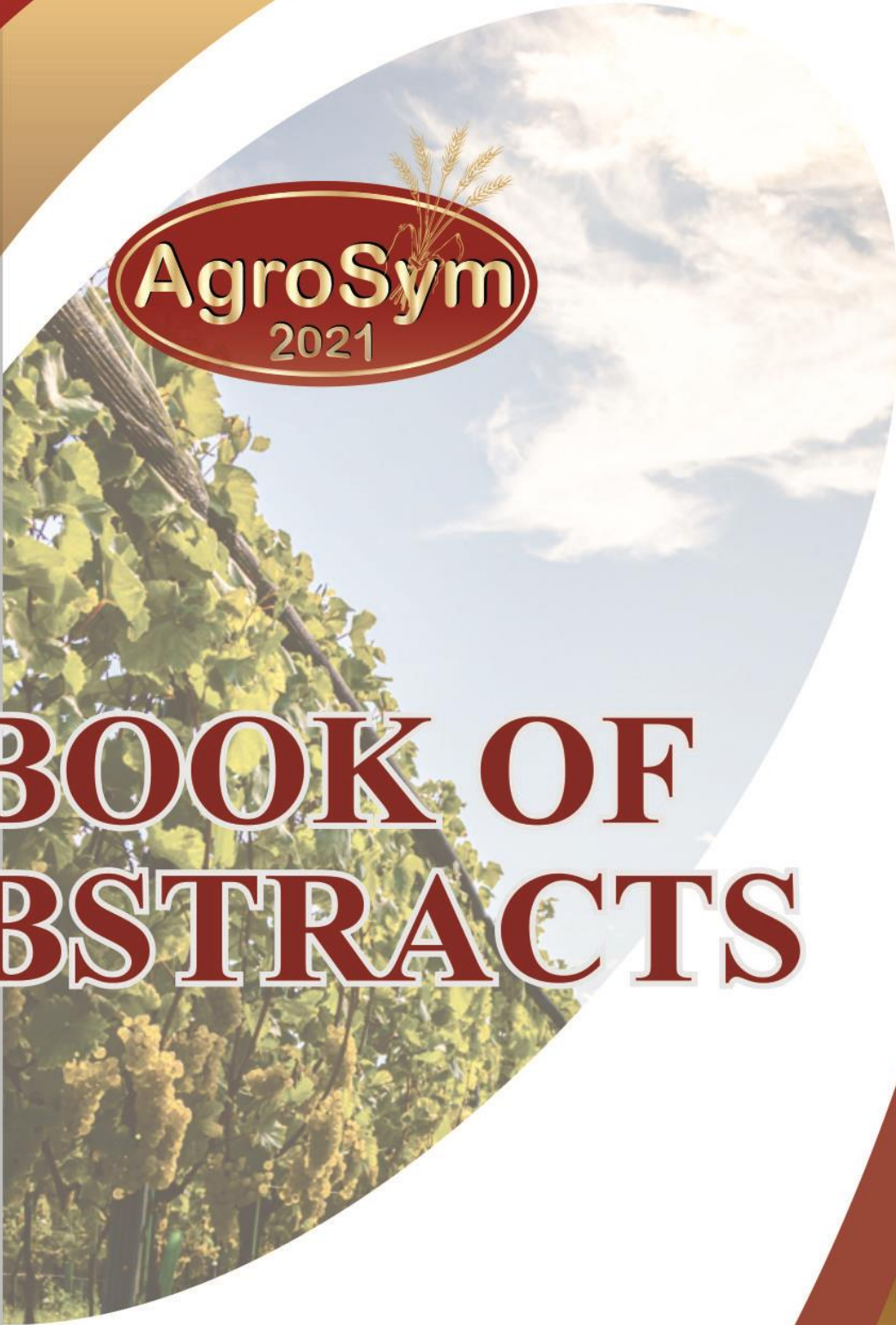




AgroSym
2021



BOOK OF ABSTRACTS

*XII International Scientific
Agriculture Symposium
"AGROSYM 2021"
October 7-10, 2021*



AGRO 2021
sym

BOOK OF ABSTRACTS

**XII International Scientific Agriculture Symposium
“AGROSYM 2021”**



Jahorina, October 07 - 10, 2021

Katarina ČUKOVIĆ, Slađana TODOROVIĆ, Milan DRAGIĆEVIĆ, Ana SIMONOVIĆ, Milica BOGDANOVIĆ.....	215
STABILITY OF WHEAT CULTIVARS FOR YIELD AND QUALITY COMPONENTS IN DIFFERENT AGROECOLOGICAL CONDITIONS	
Kristina LUKOVIĆ, Vladimir PERIŠIĆ, Veselinka ZEČEVIĆ, Kamenko BRATKOVIĆ, Milivoje MILOVANOVIĆ, Snežana BABIĆ, Snežana ANĐELKOVIĆ	216
EFFECT OF ROOTSTOCKS ON GRAFTING WATERMELON PLANT GROWTH, YIELD AND QUALITY	
Lidija MILENKOVIĆ, Ljubomir ŠUNIĆ, Dragana LALEVIĆ, Zoran S. ILIĆ	217
EXPRESSION ANALYSIS OF COLD INDUCED GENES IN EARLY DEVELOPMENTAL STAGES OF MAIZE	
Manja BOŽIĆ, Dragana IGNJATOVIĆ MICIĆ, Jelena VANČETOVIĆ, Ksenija MARKOVIĆ, Ana NIKOLIĆ	218
ENERGY EFFICIENCY OF THE MINERAL FERTILIZER APPLICATION IN CEREAL PRODUCTION	
Marija GAVRILOVIĆ, Aleksandra DIMITRIJEVIĆ, Zoran MILEUSNIĆ, Rajko MIODRAGOVIĆ, Milan UGRINOVIĆ, Radiša ĐORĐEVIĆ, Dejan CVIKIĆ	219
GERMINATION OF DIANTHUS SEROTINUS SEED ORIGINATING FROM PLANTS PRODUCED BY MICROPROPAGATION	
Marija MARKOVIĆ, Vesna GOLUBOVIĆ-ČURGUZ	220
EFFECTS OF RED AND FAR-RED LIGHT ON SEED GERMINATION OF PLATANUS × ACERIFOLIA (AITON) WILLD.	
Marija MARKOVIĆ, Mihailo GRBIĆ, Dragana SKOČAJIĆ, Danijela ĐUNISIJEVIĆ-BOJOVIĆ, Marijana MILUTINOVIĆ.....	221
GERMINATION OF BUDDLEJA DAVIDII FRANCH. SEED EXPOSED TO RED AND FAR-RED LIGHT TREATMENTS	
Marija MARKOVIĆ, Mihailo GRBIĆ, Dragana SKOČAJIĆ, Danijela ĐUNISIJEVIĆ-BOJOVIĆ, Marijana MILUTINOVIĆ.....	222
GERMINATION OF PAULOWNIA FORTUNEI (SEEM.) HEMSL. SEED AFTER DIFFERENT RED AND FAR-RED LIGHT TREATMENTS	
Marija MARKOVIĆ, Mihailo GRBIĆ, Dragana SKOČAJIĆ, Danijela ĐUNISIJEVIĆ-BOJOVIĆ, Marijana MILUTINOVIĆ.....	223
GERMINATION OF RUDBECKIA FULGIDA VAR. SULLIVANTII 'GOLDSTURM' SEED UNDER DIFFERENT TREATMENTS	
Marija MARKOVIĆ, Mihailo GRBIĆ, Dragana SKOČAJIĆ, Danijela ĐUNISIJEVIĆ-BOJOVIĆ, Marijana MILUTINOVIĆ.....	224

EXPRESSION ANALYSIS OF COLD INDUCED GENES IN EARLY DEVELOPMENTAL STAGES OF MAIZE

Manja BOŽIĆ*, Dragana IGNJATOVIĆ MICIĆ, Jelena VANČETOVIĆ, Ksenija MARKOVIĆ,
Ana NIKOLIĆ

Maize Research Institute “Zemun Polje”, Belgrade, Serbia

*Corresponding author: mbozic@mrizp.rs

Abstract

Earlier sowing is one of the most promising approaches in crop production for battling the negative ramifications of climate change, such as the increasing temperatures and drought during spring and summer. Since earlier sowing implies exposure of plants to low temperatures in early developmental stages, finding ways of estimating low temperature tolerance of different crops, including maize, during these stages is very important. Certain genes are known to play an important role in the low temperature response during later stages of development (V3 and beyond), but less is known about their expression profiles and roles during the earlier stages. Hence, the expression of five low temperature induced genes (*FAD2*, *FAD6*, *FAD7*, *ZmCDPK1* and *ZmDREB2A*) was analysed in 5-day old seedlings and compared to plants in V3 stage. The experiment was performed with seedlings of two genotypes (tolerant and sensitive), under optimal (25°/20°C) and low (8°/10°C) temperature conditions. Sampling was done at different time points during the treatment (6h and 24h) and used for RNA extraction, cDNA synthesis and qPCR expression analysis. Results showed that the expression of these genes differed based on the developmental stage. In most cases, the expression was decreased in the 5-day old seedling stage both after 6h and 24h of treatment, while in the V3 stage it was increased at both time points. The significant difference between gene expression in these two developmental stages suggests that different genes are involved in the response to low temperatures in stages prior to V3, and this will be further studied.

Key words: *Maize, Low temperature stress, Gene expression, Cold induced genes, Early developmental stage.*

Ludger HERRMANN	746	Małgorzata ŁOCHYŃSKA	527
Ludovic ANDRES 105, 308, 309, 310, 424, 615, 690, 691		Małgorzata NOWACKA	345
Luis L. PANIAGUA	554, 558	MALIGE, J	310
Luis L. PANIAGUA	262, 555, 556, 559	Malihe MORSHEDLOO	143
Luis L. PANIAGUA SIMÓN	261	Malik F. H. FERDOSI	520
Luis L. PANIAGUA	551	Malika ABBAD-BENNOUR	574, 581
Lukáš HLEBA	659	Malika BENNOUR	583
Łukasz JAŁOWIECKI	528	Malika BOUALEM	286
Lynda Fatma BENAMARA	579	Manel CHOUACHI	394
Lyubov GETMANTSEVA	638	Manja BOŽIĆ	218
M Leonor da Silva CARVALHO	714	Manoochehr GHOLIPOUR	142
M. ABDULAHA-AL BAQUY	438	Manuel ALGARRA	207
M. BIGOT	307	Manuel GARCÍA-FUENTE	552
M. CRANIER	105	Marcel COSTACHE	177
M. GIDOIN	308	Marcello SCIVICCO	506
M. ĪMRAN	735	Marcin BRYŁA	343
M. J. DOBRIYAL	494	Marco LUTHARDT	107
M. KALAYCI	734	Marco MACCAFERRI	133
M. KOCH	105	Marek BEDNÁŘ	482
M. M. B'CHIR	396	Marek RENČO	548
M. M. M. ABD EL-MIGEED	102	Marek SELWET	633
M. MANSOUR	305	Margarita GEORGIEVA	474
M. RIZAKOV	97	Margarita JUAREZ-NAJERA	510
M. S. REDDY	431	Margarita VOYTYUK	718
M.-V. DOUZEAU DCALET	309	Maria Antonietta RANAUDA	148, 154, 504
Mădălina Maria JURCOVAN	531	Maria CIOCAN-ALUPII	634
Madalina RADULEA	347	Maria COMPOCHOLI	125
Madalina-Andreea CIOCAN	444	Maria de La Luz GARCIA	594
Magdalena BACIOR	172	Maria De La Luz GARCIA	596
Magdalena CHĄDZYŃSKA	345	Maria GLUSHKOVA	740
Magdaléna LACKO-BARTOŠOVÁ	457, 458	Maria IAMANDEI	347
Magdalena STOBIECKA	344	Maria IWEBOR	351
Mahamadou MOUSSA DIT KALAMOU	711	Maria José ARGENTE	594
Maharazu A. YUSUF	711	Maria Josée ARGENTE	596
Mahfoud MESSARAH	674, 675	Maria KARAGIANNI	127
Mahieddine BOUMENDJEL	674, 675	Maria KOKKORA	490
Mahmoud ABDELSALAM AHMED MOHAMED	300	Maria KOKORA	128
Mahmoud ABDELSALM AHMED	686	Maria MAISTO	148, 154, 504
Mahmoud M.M. ABD EL-MIGEED	103	Maria MOSCHOU	127
Mahmoud MOHAMED ALI	745	Maria SAPONARI	323
Mahmoud MOHAMED HEGAZI	745	Maria TARTAGLIA	148, 149, 154, 502, 504
Mahmoud SELEIMAN	570	Maria Teresa GORGITANO	706
Mahtem T. MENGSTU	402	Mariaconcetta SICURELLA	324, 325
Maia DIAKONIDZE	692	Marialena AGGELAKI	486
Maïder SAINT JEAN	306, 311	Marian FOLTYN	610
Maira SHAKEEL	167	Marian HÝBL	483
Maisa L. ABD-EL-MONEIM	301	Mariana NACHEVA	99
Maja BELIĆ	213	Mariana NICULESCU	257
Maja IGNJATOV	204	Mariana NISTOR-ANTON	635
Maja SUDIMAC	192	Mariangela PAPPADÀ	324, 325
Maja ŠUMARUNA	201	Maricica STOICA	530, 715
Majid MAHMOOD TAHIR	438	Marie JÍLKOVÁ	685
Majid NADEEM	757	Mariia SUBBOTINA	181
Malamine Thioub	437	Marija BAJAGIĆ	205
		Marija ĆOSIĆ	193, 257
		Marija GAVRILOVIĆ	219, 451