



**XII INTERNATIONAL SYMPOSIUM ON
AGRICULTURAL SCIENCES**

BOOK OF ABSTRACTS



BOOK OF ABSTRACTS



**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 - Каталогизација у публикацији
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



XII INTERNATIONAL SYMPOSIUM ON
AGRICULTURAL SCIENCES



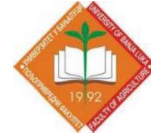
BOOK OF ABSTRACTS

24-26 May, 2023
Trebinje
Bosnia and Herzegovina

ORGANIZERS



**FACULTY OF
AGRICULTURE**
University of Banja Luka



in cooperation with



University of Ljubljana
Biotechnical Faculty

Biotechnical Faculty
University of Ljubljana



Faculty of Agriculture
University of Novi Sad



Biotechnical Faculty
University of
Montenegro



**Agronomick
fakulta**
Mendelova
univerzita
v Brně

Faculty of AgriSciences
Mendel University in Brno



Mediterranean
Agronomic Institute
of Bari



Institute of Field and
Vegetable Crops Novi Sad



Faculty of Horticulture
and Business in Rural
Development
University of
Agricultural Sciences
and Veterinary
Medicine of Cluj-
Napoca



Faculty of Agrobiotechnical
Sciences
Josip Juraj Strossmayer
University of Osijek



Institute of Genetic
Resources
University of Banja
Luka



Agricultural Institute
of the Republic of Srpska



Regional Rural
Development Standing
Working Group (SWG)



RebResNet Scientific
Network



Ss. Cyril and Methodius
University of Skopje
Faculty of Agricultural
Sciences and Food



Chamber of Commerce of
Agricultural Engineers of
the Republic of Srpska

P2_47

Response of two tomato lines to drought stress based on the proline content in fruits and yield

Sladana Savić¹, Marina Dervišević¹, Lela Belić¹, Milena Marjanović², Ivana Radović², Veselinka Zečević³, Zorica Jovanović²

¹ *Institute for vegetable crops Smederevska Palanka, Serbia*

² *University of Belgrade - Faculty of Agriculture, Serbia*

³ *Institute for vegetable crops Smederevska Palanka, Serbia*

Corresponding author: Sladana Savić, ssavic@institut-palanka.rs

Abstract

Drought is one of the factors that most reduces crop productivity. Water deficit affects the morphological and physiological parameters of the plant, and some of them can be used as indicators of plant tolerance to drought. The aim of this experiment was to evaluate the effects of water deficit on proline content in fruits, as well as yield parameters of two tomato lines (M7 and R83), that in previous research showed a contrasting response in vegetative phase. Tomato plants were grown in a glasshouse in pots during three months after planting of seedlings. Two water regimes were applied (optimal field capacity and water deficit - reduction of water for 30% compared to control). The content of proline was significantly higher in the fruits of both tomato lines exposed to water stress. The increase in proline content under stress conditions compared to control was higher in fruits of line M7 (81.0%) compared to line R83 (35.4%). Our results showed that water deficit significantly affected fruit diameter, length and biomass of the fruit, but did not affect the number of fruits per plant in both tested tomato lines. The reduction of fruit yield in water deficit conditions was higher for line M7 (31.5%) in comparison to line R83 (20.7%). Based on the obtained results, the R83 line showed a potentially better response to drought stress at fruit level, which is in accordance with our research results conducted on the same lines in the vegetative phase.

Key words: tomato, drought, fruit, proline content, lipid peroxidation, yield

Acknowledgment: This work was supported by the Ministry of Science, Technological Development and Innovation Republic of Serbia under Contracts No. 451-03-47/2023-01/200216 and 451-03-47/2023-01/200116.