

**Faculty of Agriculture
Goce Delcev University - Stip**



**3rd INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE
(ASP 2023)**

BOOK OF ABSTRACTS

19-20th April 2023

Stip, Republic of North Macedonia

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Publisher:
Faculty of Agriculture, Goce Delcev University - Stip

Editor
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Biljana Petkovska Ivanova (MA, Senior lecturer)

The abstracts are technically edited according to the 'Template for Abstracts', without additional editing of the abstract text. The results and writing style are presented in the original form provided by the authors.

CIP-Каталогизација во публикација Национална и универзитетска библиотека "Св. Климент Охридски", Скопје

631/635(062)(084.3)

INTERNATIONAL meeting agriscience & practice (ASP 2023) (3 ; 2023 ; Stip)

Book of abstracts / 3rd international meeting agriscience & practice (ASP 2023), 19-20th April 2023 Stip, Republic of North Macedonia. - Текст во пдф формат, содржи 63 стр. - Stip : Goce Delcev University, Faculty of agriculture, 2023

Начин на пристапување (URL):

<https://zf.ugd.edu.mk/index.php/mk/agronauka-i-praksa>. - Наслов преземен од екран. - Опис на изворот на ден 09.05.2023 година

ISBN 978-608-244-969-2

а) Земјоделство -- Собири -- Апстракти

COBISS.MK-ID 60284421

**3rd INTERNATIONAL MEETING AGRISCIENCE & PRACTICE
ASP 2023**

Organized by

**FACULTY OF AGRICULTURE
GOCE DELCEV UNIVERSITY - STIP, REPUBLIC OF NORTH MACEDONIA
19-20 April 2023, Stip, Republic of North Macedonia**

Faculty of Agriculture organizes the 3rd International Meeting Agriscience & Practice (ASP 2023), giving an opportunity to the participants for presentation and discussion of original scientific and practical results in different fields of agriculture.

The 3rd International Meeting Agriscience & Practice (ASP 2023) is organized with an intention to bring together all agricultural stakeholders for sharing their knowledge, experience and obstacles. One of the main aims is to link research and field work in agricultural sector in the country and broader, giving it an international dimension.

The main goal of the Meeting was to connect and promote scientific achievements and practical knowledge presented in different thematic areas.

The scientific and applicative presentations are conducted in sections: 1. Agricultural economics, 2. Plant biotechnology, 3. Plant production, 4. Plant protection, 5. Quality control and food safety, 6. Soil science and hydrology 7. Viticulture, enology and fruit production, with a possibility for oral or poster presentation. Nevertheless, the needs of the agricultural sector entail organization of panel discussions, where invited speakers and panelists have a possibility to share their experience with the Meeting participants.

Dear colleagues, let's again gather together in one place with one joint idea - to combine agricultural science and practice with a purpose to share information, knowledge, experiences and solutions to exceed the problems. The main objective of this Meeting is successful establishment of continuous and valid communication and collaboration among scientific, research and practical activities in agriculture sector in our country, neighboring countries and broader international level. We will achieve the main goal of the Meeting as well as our common objective only by virtue of synergic connections on which we have been working intensively in the past years.

Every science has its significance and value in the given social context, but agricultural production has a special place of vital significance.

“Only one who knows the way of food movement, from field to table, really respects it”.

With great joyfulness we thank you for active participation in the Meeting!

Prof. d-r Emilija Arsov

**Dean of Faculty of Agriculture
&
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MASTITIS MAKE CHANGES IN THE ANTIOXIDANT ENZYMES CAPACITY OF RAW MILK FROM DAIRY COWS IN EARLY LACTATION Dimitar Nakov^{1*}, Aco Kuzelov¹, Slavča Hristov², Katerina Belichovska³, Branislav Stanković², Jelena Miočinović²

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Abstract

Early postpartum is the period when cows experience a significant increase in physiological stress levels followed by increased susceptibility to mastitis. The aim of this study was the evaluation of enzymatic antioxidant status through the activity of superoxide dismutase (SOD) and glutathione peroxidase (GPX) in milk collected from cows with mastitis in comparison with healthy cows. The two years prospective study was carried out to assess the changes occurring in the activity of antioxidant enzymes SOD and GPX in milk in two physiological periods: the period from the beginning of lactation until 21st day in lactation and the period from 22nd to 42nd day in lactation. The cows were allocated in groups regarding the season years of calving. The enzyme activity was determined in milk serum using spectrophotometric methods. The average test day milk yield of the dairy cows included in the survey ranged from 28.15±0.485 to 28.79±0.472 kg. There was a statistically significant positive correlation between the activity of SOD and GPx in milk serum. Health disorders of the mammary gland showed a statistically significant influence on GPx activity in milk serum ($p < 0.05$), but there wasn't a statistically significant influence on SOD activity in milk serum. The milk yield on test days had a statistically significant influence on GPx activity in milk serum. The GPx activity in milk serum can be used as a predictive biomarker for the determination of mammary gland health status in early lactation.

Key words: *glutathione peroxidase, superoxide dismutase, mastitis.*