

**FACULTY OF AGRICULTURE  
GOCE DELCEV UNIVERSITY, STIP**



**4<sup>th</sup> INTERNATIONAL MEETING  
AGRISCIENCE & PRACTICE  
(ASP 2024)**

**BOOK OF ABSTRACTS**

**July 2024  
Stip, Republic of North Macedonia**



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**4<sup>th</sup> INTERNATIONAL MEETING AGRISCIENCE & PRACTICE  
ASP 2024**

**Organized by**

**FACULTY OF AGRICULTURE  
GOCE DELCEV UNIVERSITY, STIP, REPUBLIC OF NORTH MACEDONIA  
13 June 2024, Stip, Republic of North Macedonia**

Faculty of Agriculture organizes the 4<sup>th</sup> International Meeting Agriscience & Practice (ASP 2024), giving an opportunity to the participants for presentation and discussion of original scientific and practical results in different fields of agriculture.

The 4<sup>th</sup> International Meeting Agriscience & Practice (ASP 2024) 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 abroad, 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 poster presentation. Nevertheless, the needs of the agricultural sector entail organization of plenary presentation on the most actual topic in the field of agriculture and panel discussions, where invited speakers and panellists 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 on 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.

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

**Emilija Arsov, PhD**

**Dean of the Faculty of Agriculture  
&  
Chair of the Organizing Committee**

**July, 2024, Stip, Republic of North Macedonia**

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**ANALYSIS OF GROUNDWATER QUALITY IN SHALLOW WELLS BEFORE AND AFTER DISINFECTION WITH PERACETIC ACID** Ankica Anastasova<sup>1</sup>, Dimitar Nakov<sup>1\*</sup>, Aleksandra Angjelevska<sup>2</sup>, Aco Kuzelov<sup>1</sup>, Fidanka Ilieva<sup>1</sup>

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**Abstract**

Peracetic acid has garnered increasing attention as an alternative oxidant and disinfectant in water treatment due to the rising demand to reduce chlorine usage and control disinfection byproducts. The main aim of the research was to assess the well water quality before and after disinfection with peracetic acid. The water samples were taken from 5 wells in the rural areas of Probishtip and Kocani regions of North Macedonia. Sampling was conducted twice during the winter season, both before and after disinfection. Water samples from 5 private wells were analysed for physical, chemical, and microbiological parameters using referent methods. The results were compared with the quality of control water and permissible limited values according to the national legislation. Water quality parameters indicated that all well water samples failed to meet safe drinking water limits. Disinfection with 0.025% peracetic acid did not increase the groundwater quality. The paired sample t-test showed that there was no statistically significant difference in parameters for water quality before and after disinfection. These findings may be linked to permanent sources of faecal contamination in well water. In the subsequent research, the highest concentration of peracetic acid will be used to reach better results in water disinfection. Identification and management of groundwater quality are of utmost importance for maintaining freshwater resources, which is essential for sustainable development. Based on the groundwater quality in different areas, householders can allocate resources for either drinking or agricultural purposes.

**Key words:** well water quality, disinfection, peracetic acid.