

University of Ss. Cyril and Methodius in Trnava

Faculty of Natural Sciences

The 9th International Scientific Conference
Applied Natural Sciences 2025



ANS 2025

Book of abstracts

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17th – 19th of September 2025
Štrbské Pleso, Slovakia

University of Ss. Cyril and Methodius in Trnava

Faculty of Natural Sciences

Applied Natural Sciences 2025 – Book of Abstracts

Session:

1. Applied Informatics
2. Biology and Biotechnology
3. Environmental Sciences
4. Chemistry
5. Young Scientists

Published with the support KEGA 009UCM-4/2024, KEGA 014UCM-4/2025
KEGA 015UMB-4/2025 and VEGA 1/0220/23, VEGA 2/0062/25.

The publication has passed the review process.

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Date of the event: 17th – 19th of September 2025

Editor: MSc. Martin Valica, PhD.

Publisher: University of Ss. Cyril and Methodius in Trnava

Edition : 1st

Pages: 92

ISBN 978-80-572-0542-5

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FOREWORD

Dear Colleagues, Dear Guests,

It is my great pleasure to welcome you to the **9th International Scientific Conference *Applied Natural Sciences* 2025**. Over the past years, this conference has become an important forum for scientists, researchers, and students to exchange ideas, present new findings, and strengthen collaborations across disciplines.

This year, we are honored to host participants from many countries, whose contributions span a wide range of fields – from biology and biotechnology to chemistry, environmental sciences, and informatics. The diversity and quality of the submitted abstracts reflect not only the progress made in applied natural sciences, but also the enthusiasm and dedication of the scientific community to address current and future challenges.

I would like to extend my sincere thanks to all authors for their contributions, to the keynote speakers for sharing their expertise and vision, and to the Organising Committee for their tireless work in making this event possible. My gratitude also goes to our partners and supporters, without whom this conference would not be possible.

I believe that the *Book of Abstracts* you now hold in your hands will serve not only as a record of the scientific discussions held here in **Štrbské Pleso**, but also as an inspiration for future research and cooperation.

I wish you a fruitful conference, stimulating discussions, and many enjoyable moments during your stay in the High Tatras.

With best regards,

Assoc. Prof. Iveta Dirgová Luptáková, PhD.
Dean
Faculty of Natural Sciences
University of Ss. Cyril and Methodius in Trnava

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Bokashi composting as an alternative method of processing biodegradable kitchen waste in households

Janka Ševčíková*, Karolína Laceková, Michaela Murgašová, Terézia Beck, Matej Vesteg

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Abstract: The study focuses on the application of Bokashi composting as an alternative method of biodegradable kitchen waste (BKW) management in households. A questionnaire survey conducted in the Lučenec district aimed to assess residents' willingness to separate BKW and their interest in alternative processing methods. The Bokashi composter uses anaerobic fermentation to transform waste into solid residues and fermentation liquid. The effectiveness of this liquid was tested via a phytotoxicity test using garden cress seeds (*Lepidium sativum L.*), observing germination effects at various dilutions over 48 hours. Results showed that 38.9% of respondents would prefer home composting with provided composters, and 61.1% consider it the most efficient method of BKW management. While 50% had not heard of the Bokashi method, 22.2% expressed interest in further information. Findings suggest a significant potential for domestic composting, especially when proper technical support and education are provided. The phytotoxicity test confirmed that the fermentation liquid is suitable for gardening use when adequately diluted.

Acknowledgement: The contribution was supported by the Cultural and Educational Grant Agency Slovak Republic KEGA, Project No. 015UMB-4/2025 and of Project UGA-12-DS-2025.

Keywords: Bokashi composting, biodegradable kitchen waste, fermentation, phytotoxicity, waste management



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Editor

Martin Valica

*Authors are responsible for ensuring the accuracy of the content
and language of their texts.*

Title: Applied Natural Sciences 2025 – Book of Abstracts
Publisher: University of Ss. Cyril and Methodius in Trnava (Slovak Republic)
Edition: 1st, 2025
Pages: 92

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ISBN 978-80-572-0542-5