



**PROCEEDINGS OF ABSTRACTS  
VII. INTERNATIONAL  
AGRICULTURAL, BIOLOGICAL,  
LIFE SCIENCE CONFERENCE  
AGBIOL 2025**

**07-10 SEPTEMBER 2025**

**ISTANBUL, TURKEY**



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**Organized by  
Trakya University  
İstanbul Beykent University  
International Researchers Association**

**ISBN #:  
978-625-96407-1-6**

## WELCOME NOTES

You are welcome to our VII. AGBIOL Conference that is organized by Trakya University, Beykent University and International Researchers Association. The aim of our conference is to present scientific subjects of a broad interest to the scientific community, by providing an opportunity to present their work as oral or poster presentations that can be of great value for global science arena. Our goal was to bring three communities, namely science, research and private investment together in a friendly environment of Edirne, Turkey in order to share their interests and ideas and to get benefit from the interaction with each other.

In September 2018, we organized the first AGBIOL Conference with more than 700 scientists and researchers from all over the world with over 800 scientific papers. Due to COVID-19 situation, II. AGBIOL 2020 has organized fully on-line event which was one of the biggest online conferences in recent years in the world with 499 papers and 1133 authors with 333 oral and 166 e-poster presentations from 55 countries. Due to COVID-19 situation, AGBIOL 2021 was organized online again. AGBIOL 2022 conference was organized with a worldwide participation from 44 countries over 522 papers contributed by over 1300 authors. AGBIOL 2023 was organized with a record and worldwide participation from 33 countries 833 papers contributed by over 2000 authors with 522 oral and 311 poster presentations. AGBIOL 2024 consisted of 835 papers contributed by about 2000 authors with worldwide record participation again from 55 countries with 522 oral and 311 poster presentations.

There is a worldwide record participation from 60 countries 988 papers contributed over 2300 authors with 400 oral and 588 poster presentations in AGBIOL 2025.

The AGBIOL 2025 is normal participation as well as with online participation in Beykent University in İstanbul, Turkey on 07-10 September, 2025. The program included oral talks by invited prominent scientists and oral and e poster presentations by participants in selected topics from the submitted abstracts focusing on Agriculture, Biology and Life Sciences topics.

With care for our nature and environment, we aim the green congress, meaning that as little as possible papers will be used. Abstract book is published in electronic book and is distributed to the participants by e mail for online participants. All the e-posters are prepared in electronic form and then submit to via the conference e mail and exhibited in electronical poster boards as well as in online e poster hall in our web page during the conference.

The participants with paid conference fee accessed all the normal and virtual presentation talks in each session, as well as to visit the virtual poster hall via preliminary provided. The abstracts were published in the Conference Abstract and Proceedings Book. Participants might send us their full papers, which based on their preferences are published either in our Conference Abstract and Proceedings Book or in selected International Indexed Scientific Journals.

### **Conference Topics:**

Agriculture, Forestry, Life Sciences, Agricultural Engineering, Aquaculture and Biosystems, Animal Science, Biomedical science, Biochemistry and Molecular Biology, Biology, Bioengineering, Biomaterials, Biomechanics, Biophysics, Bioscience, Biotechnology, Botany, Chemistry, Chemical Engineering, Earth Sciences, Environmental Science, Food Science, Genetics and Human Genetics, Medical Science, Machinery, Pharmaceutical Sciences, Physics, Soil Science.

We would like to thank all of you for joining this conference and we would like to give also special thanks to TUBITAK and collaborators for giving us a big support to organize this event.

Prof Dr Yalcin KAYA  
Head of the Organizing Committee

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**ADVANCEMENTS IN CUCUMBER MICROPROPAGATION - THE ROLE OF MEDIA, GROWTH REGULATORS AND EXPLANTS**

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**ABSTRACT**

Our current work aims to select suitable protocol for successful micropropagation of different cucumber genotypes. Therefore, more than 30 articles from the 1980s until now were analyzed. Since the 1980s, advancements in tissue culture protocols have focused on optimizing media compositions and plant growth regulators to improve shoot proliferation, rooting, and overall plantlet development in different cucumber genotypes. Yet, Murashige and Skoog (MS) medium has remained as a primary choice for cucumber micropropagation, regularly supplemented with varying concentrations of cytokinins and auxins. Early studies favored BAP as the key cytokinin for shoot induction, while NAA and IBA were commonly used for root development. Over the years, various explants have been used as starting material for cucumber micropropagation, including cotyledons, hypocotyls, shoot tips, nodal segments, and leaf discs. Shoot tips and nodal segments have been widely preferred for direct organogenesis, while cotyledons and hypocotyls have been utilized for adventitious shoot regeneration and genetic transformation studies. The choice of explants significantly influences regeneration efficiency and response to plant growth regulators. Although there is significant progress, challenges such as genotype dependency, explant sensitivity, and somaclonal variation are still present. Future research should focus on adjusting hormonal interactions, genetic stability, and cost-effective alternatives for large-scale application.

**Keywords:** *Cucumis sativus* L., genotype, cytokinins, auxins, explants