



# **YOURS 2020**

## **ABSTRACT PROCEEDINGS**

**YOUng ResearcherS Conference 2020**


**28<sup>th</sup> September 2020, Belgrade**

**Ministry of Education, Science and Technological Development**

**Editorial Board of Journal of Applied Engineering Science**

**UKAS - Association for Quality, Accreditation and Standardization**

**Faculty of Mechanical Engineering, University of Belgrade**



# YOURS 2020

## YOUng ResearcherS Conference 2020

YOURS 2020 supports young researchers and their results in its broadest sense by highlighting the presentation of new trends and research and promoting innovative practices that advance academic achievements.

This year's conference topics are dedicated to

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**YOURS 2020** promotes the presentation of new trends, advances and research in all mentioned areas bringing together prosperous researchers with leading professionals, academicians, universities, industry experts from around the region.

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## ENRICHED ZEOLITES FOR VEGETABLE SEEDLING PRODUCTION

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**Summary:** A series of experiments was conducted in the experimental greenhouse of the Institute of Vegetable Crops in Smederevska Palanka (Serbia) with a goal to determine the biological nutritional value of the studied substrate mixtures and create the appropriate replacement for Zeoplant soil enhancer. In addition to the peat component (commercial Clasmann-Deilmann KTS 1 substrate or Pirotski peat), the substrate mixtures also contained commercial zeolite based soil enhancer as a control treatment (Zeoplant) and natural zeolites provided from the Igroš tuff deposit near Brus enriched in different ways (treatments). Preliminary experiments showed that the optimal ratio of enriched zeolites in the peat based substrate mixtures is about 25% (volumetric). In the final experiment, natural zeolites were enriched with 4 different organic and mineral fertilizers by diverse methods. Enriched zeolites (EZa, EZb, EZc, Ezd) were mixed in optimal ratio with Pirotski peat and compared with Zeoplant based mixture using Lettuce (*Lactuca sativa* L.) as the test species. The data concerning plant height, number of leaves and fresh plant mass were collected. The differences between examined treatments was minimal, without or with small significance for almost all traits. The only exception was fresh plant mass and the Zeoplant based mixture which exceeded all other mixtures. The trials should be continued. To reach the planned goal, in the future, higher doses of mineral and organic fertilizers should be used for natural zeolites enrichment.

**Keywords:** substrates, zeolites, natural peat, vegetable, seedlings.

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The background features a vibrant, abstract composition. At the top, there are overlapping circles in shades of olive green, yellow, and orange. These circles contain various icons: a blue puzzle piece with a white dollar sign, a white brain, a blue arrow pointing up and right, a yellow magnifying glass, a red arrow pointing up and right, and a yellow gear. Below these circles, there are stylized white clouds. At the bottom, the silhouettes of three human heads in profile are visible, rendered in dark grey and teal. A large, rounded teal rectangle is superimposed over the lower half of the image, containing white text.

## IMPRESUM

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