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**BOOK OF  
ABSTRACTS**

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# **BOOK OF ABSTRACTS**

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# THE EFFECTS OF BIOSTIMULANTS ON MINT CULTIVATION UNDER DEFICIT IRRIGATION

Christina CHASKI<sup>1</sup>, Kyriakos D. GIANNOULIS<sup>1</sup>, Alexios ALEXOPOULOS<sup>2</sup>, Spyridon A. PETROPOULOS<sup>1\*</sup>

<sup>1</sup>University of Thessaly, Department of Agriculture, Crop Production and Rural Environment, Fytokou Street, 38446, Volos, Greece

<sup>2</sup>University of the Peloponnese, Department of Agriculture, 24100, Kalamata, Greece

\*Corresponding author: spetropoulos@uth.gr

## Abstract

Menthol mint (*Mentha arvensis* L.) belongs to the *Lamiaceae* family and is commercially cultivated worldwide for its essential oils. The present study evaluated the effect of four different biostimulant products (Tr1: vegetable proteins + amino acids + 5% carboxylic acids; Tr2: vegetable proteins + amino acids + seaweed extracts; Tr3: Humic & Fulvic Acids Balanced Solution + seaweed extracts; Tr4: 35% CaO and 35% SiO<sub>2</sub> + Calcium Mobilization and Translocation Factor + 1% Mo, 15% Bo and 30% Zn; and Tr5: control – no biostimulants added) on field grown mint plants (*Mentha arvensis* L.) under deficit irrigation supply (I: 33% of field capacity). Mint crop was established on May 2021, at the experimental field of the University of Thessaly in Velestino, Greece. Harvest took place on September 19, 2021. The aerial parts of fifteen plants from each plot were collected and weighed for fresh yield estimation, while a subsample of 5 plants was air dried at 42°C for further essential oil analysis. After drying, three batch samples were used to measure the essential oil content with a Clevenger apparatus. Our results showed that treatments Tr2 and Tr3 recorded statistically significant higher fresh weight (producing about 13 t ha<sup>-1</sup>) and essential oil yield (108 kg ha<sup>-1</sup>) compared to the rest of the biostimulant treatments, as well as to the control treatment (fresh biomass and oil yield; 8.1 t ha<sup>-1</sup> and 47 kg ha<sup>-1</sup>, respectively). In conclusion, it is clearly shown that the tested biostimulants can alleviate the negative effects of deficit irrigation by increasing fresh biomass yield while at the same time increasing oil yield of mint.

**Keywords:** *Mentha arvensis* L., seaweed extracts, humic and fulvic acids, aminoacids.

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