

# INTERNATIONAL CONFERENCE ON TECHNOLOGY, ENGINEERING AND SCIENCE

ABSTRACT BOOK



Antalya / TURKEY



## **THE EFFECTS OF BORON APPLICATION ON YIELD AND MORPHOLOGICAL PROPERTIES OF CORIANDER (*CORIANDRUM SATIVUM L.*) VARIETIES**

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*Coriandrum sativum L.* is a single-year medical and aromatic plant known as kişniş, aşotu, kuzbere in our country belonging to the Umbelliferae family. Plant nutrients on the yield and quality of medicinal plants have significant effects. Particularly boron is very effective in the formation of cell walls, root length and plant growth parameters. Therefore, this study was carried out in Kayseri province in 2014 to determine the effects of boron application (control, 4, 8, 12 kg / da) on the yield and morphological characteristics of four coriander varieties (Arslan, Gurbuz, Gamze, Erbaa). The parameters such as plant height, first branch height, number of branches, number of umbrellas, number of fruits in umbrella, 1000 seed weight, biological yield, seed yield and harvest index were examined in the experiment. According to the results of the research; the highest seed weight and seed yield was obtained from Erbaa variety in control application, the highest 1000 seed weight was obtained from Gamze variety at application of 4 kg/da. At the end of the study, it was determined that boron application was not effective on seed yield and seed yield decreased due to boron application.

**Keywords:** *coriandrum sativum*, coriander, boron, plant height, seed yield



## **A SPECTRAL METHOD TO OBTAIN SOLITON SOLUTIONS TO CQNLS EQUATION**

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In optics, the cubic-quintic nonlinear Schrödinger (CQNLS) equation models electromagnetic wave propagation in various optical media. Competing cubic and quintic nonlinearities will allow the existence of stable soliton solutions. In this study, a numerical method is introduced to obtain these solitons in different self-focusing / self-defocusing cubic-quintic media. Solitons obtained numerically by this spectral method are then validated by comparison with exact solutions.

**Keywords:** nonlinear schrödinger equation, soliton, spectral methods