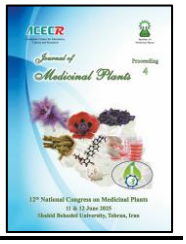
Institute of Medicinal Plants
National Research and Technology Network of Medicinal Plants
12th National Congress on Medicinal Plants
11 & 12 June 2025
Shahid Beheshti University, Tehran, Iran



Poster Presentation ID: 1418

Effect of the biostimulant Ecoquel FMZ® on growth parameters of arugula (*Eruca vesicaria* subsp. *sativa*)

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ARTICLE INFO

Keywords:
Fertilizer
Rocket plant
Spraying
Shoot weight
Root weight

ABSTRACT

Eruca vesicaria subsp. *sativa* (rocket or arugula) is an economically important leafy vegetable cultivated primarily in the Mediterranean region, southern Europe, and Central Asia [1]. Beyond its culinary uses, arugula is valued for its medicinal properties, with plant and seed extracts demonstrating various therapeutic potential [2]. This study investigated the effects of the biostimulant Ecoquel FMZ® (applied at 2kg/1000L) on arugula growth under greenhouse soil cultivation. The fertilizer composition included free amino acids (6%), Fe (6%), Mn (3%), and Zn (4%). A single foliar application was performed on arugula plants one day after the second harvest. Growth parameters, including leaf number, plant height (cm), shoot fresh weight (g), shoot dry weight (g), root fresh weight (g), and root dry weight (g), were evaluated 10 days post-treatment. The experiment was arranged in a completely randomized block design with ten replicates per treatment. Treated plants showed significantly higher values (t-test, $P < 0.05$) in all growth parameters compared to controls. Specifically, treated plants showed values of 29.10±2.43 (leaf number), 13.35±0.42 cm (plant height), 12.33±0.21 g (shoot fresh weight), 1.19±0.02 g (shoot dry weight), 4.63±0.15 g (root fresh weight), and 0.55±0.02 g (root dry weight). In contrast, control plants demonstrated values of 4.00±0.56, 9.50±0.44 cm, 9.49±0.15 g, 1.06±0.02 g, 2.90±0.11 g, and 0.50±0.02 g, respectively. These findings indicate that Ecoquel FMZ® significantly enhances arugula growth, suggesting its potential as an effective biostimulant for this medicinal crop.

References

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