

SABRAO Journal of Breeding and Genetics
 57 (2) 833-840, 2025
<http://doi.org/10.54910/sabrao2025.57.2.39>
<http://sabraojournal.org/>
 pISSN 1029-7073; eISSN 2224-8978



FERTILIZATION EFFECTS ON GROWTH TRAITS AND IRON AND COPPER CONTENT OF BROAD BEAN (*VICIA FABA* L.)

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SUMMARY

An agriculture experiment materialized during the cropping season of 2022–2023 in the Kateban Area, Basra Governorate, Iraq, to demonstrate the effect of nitrogen fertilization with three levels (0, 100, and 200 kg ha⁻¹) on two types of cultivars of broad bean plants (Shamea and local) grown in clay loam soil. The study also displayed enhance fertilization by spraying two types of liquid fertilizers (Al-Jamea Fertilizer and Communication) on the beans. Results showed the broad bean cultivar Shamea, the commercial liquid fertilizer, and the level of nitrogen fertilization (200 kg ha⁻¹) were significantly superior for plant height, plant dry weight, protein percentage, and copper content, except for the iron content. The highest values were 95.20 cm, 50.14 gm, 39.98%, and 39.98 ppm, respectively, from the interaction among the bean cultivar, type of liquid fertilizer, and the level of nitrogen fertilization at 100 kg ha⁻¹, reaching 0.5637 ppm.

Keywords: Broad bean (*Vicia faba* L.), cultivars, liquid fertilizer, protein, iron, copper

Key findings: Using the cultivar Shamea with liquid foliar fertilization increased plant growth, including plant height, dry weight of the vegetative part, protein percentage, and plant content of micronutrients (iron and copper), especially when using a nitrogen fertilization level of 200 kg ha⁻¹.

Communicating Editor: Dr. A.N. Farhood

Manuscript received: August 08, 2023; Accepted: April 22, 2024.

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Citation: Ahmed WA, Almansor AN, Alshummary AM MA (2025). Fertilization effects on growth traits and iron and copper content of broad bean (*Vicia faba* L.). *SABRAO J. Breed. Genet.* 57(2): 833-840. <http://doi.org/10.54910/sabrao2025.57.2.39>.