

## Effects of foliar application with fulvic acid on the growth, yield and protein content of three genotypes of faba bean ( *Vicia faba* L.)

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**ABSTRACT:**

A field experiment was conducted at the second Agricultural Research Station (Al-Bander), during 2017/2018 winter seasons, to study the effects of foliar application using fulvic acid on the growth, yield and protein content of three genotypes of Faba bean. The experiment was arranged in a factorial design with three replicates. The genotypes used in this experiment were koulaji, primato and zinnia with the foliar application spraying of fulvic acid at the concentration of 0, 1.5 and 3 g/L. Results indicated that genotype zinia increased number of branches per plant 8.92 branch/plant, chlorophyll content 541.8 mg.m<sup>2</sup>, number of pods per plant 22.60 pods/plant, weight of 100 seeds 106.70 g, as well as total yield per hectare 3559 kg/ha. The foliar application of sprayed fulvic acid at the concentration 3 g/L was superior in plant height 86.51 cm, number of branches per plant 11.33 branch/plant, chlorophyll content 575.1 mg.m<sup>2</sup>, number of pods per plant 22.87 pods/plant, weight of 100 seeds 108.82 g as well as total yield 4092 kg/ha. The interaction between genotypes and foliar application of fulvic acid (zinia × 3.0 g/L) was superior in chlorophyll content 649.3 mg.m<sup>2</sup>, no. pods per plant 27.00 pods as well as the weight of 100 seeds 120.33 g, while the combinations (koalaji × 3.0 g/L) and (primato × 3.0 g/L) were superior in plant height 91.67 and 85.67 cm respectively, and protein content 33.67 %. Finally the combination (primato × 1.5 g/L) was significantly superior with the number of seeds per pod 5.27 seeds/pod.

**Keywords:**

Genotypes of faba bean, Fulvic acid application, Growth, Yield and protein content.