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Effect of organic inputs on the grain quality of *Nigella Sativa* L.

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Abstract

Organic input application is one of the vital approaches to producing high-quality agricultural products. Thus a field experiment was carried out to evaluate the effect of organic inputs on the grain quality of black cumin (*Nigella sativa* L.). This experiment was laid out at the Research Field of the University of Kurdistan in 2021 growing season. The experimental treatments were fertilizers at three levels including control, organic fertilizer, and chemical fertilizer and humic acid at three levels consisting of control, 0.2 g/ L, and 0.4 g/L. The experimental design was factorial based on RCBD with three replications. The results indicated that fertilizer had a significant effect on the oil content. The highest oil percentage belonged to the organic fertilizer treatment. The organic fertilizer significantly increased the oil percentage by 19.8% compared to the control treatment. The third level of humic acid increased oil content by 10.2 % compared to the first level of it. The highest amount of seed nitrogen and phosphorus was observed in the integrated treatment of organic fertilizer and 0.4 g/L of humic acid. The humic acid increased seed potassium content significantly. Overall organic inputs application could be effective to improve the grain quality of black cumin.

Keywords: Black cumin, Oil content, Organic agriculture, Seed nutrient content.

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