

Evaluation of Biofertilizer and Manure Effects on Quantitative Yield of *Nigella Sativa* L.

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Abstract : The main objective of this study was to determine the effects of Nitrogen fixing bacteria and manure application on the seed yield and yield components in black cumin (*Nigella sativa* L.). The experiment was carried out at the RAN Research Station in Firouzkouh in 2012. A 4×4 factorial experiment, arranged in a randomized complete blocks designed with three replications. The treatments consisted of 4 level of nitrogen fixing bacteria (control, Azotobacter, Azospirillum and Azotobacter + Azospirillum) and 4 level of manure (0, 2.5, 5 and 7.5 ton ha⁻¹). The present results have shown that the highest height, 1000 seeds weight, seed number per follicle, follicle yield, seed yield and harvest index were obtained after using Azotobacter and Azospirillum, simultaneously. Manure application only affects on follicle yield and by 5ton manure ha⁻¹ the highest follicle yield obtained. Results of this investigation showed that the maximum seed yield obtained when Aotobacter+Azospirillum inoculated with black cumin seeds and 5 ton manure ha⁻¹ applied. Combined application of nitrogen fixing bacteria and manure can be helpful in developing of production and yield in Black cumin.

Keywords : azotobacter, azospirillum, black cumin, yield, yield components

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