

Effects of Barvar Phosphate biofertilizer (BPB) and different soil fertilizing treatments on yield, yield components and mineral nutrient content of Isabgol (*Plantago ovata Forsk*)

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Abstract

To evaluate the effects of Barvar Phosphate Biofertilizer (BPB) and soil fertilizing treatments on yield, yield components and grain mineral nutrients content of Isabgol a glasshouse experiment was conducted in College of Agronomy and Animal Sciences, University of Tehran. The experiment was factorial and had randomized complete block design and three replications. In this study, the effects of nitrogen and phosphorus chemical fertilizers, cattle manure, combination of cattle manure and chemical fertilizer and Barvar Phosphate biofertilizer (BPB) were investigated. The results demonstrated the significant effects of applied treatments on evaluated traits. Fertilizing treatments revealed significantly higher yield, yield components, mucilage and mucilage yield than control. The effect of BPB on the majority of above mentioned traits were significant, while mucilage percentage was not affected by BPB. Cattle manure and combination of cattle manure and chemical fertilizer were more effective than chemical fertilizer and significantly increased grain yield and mucilage. The highest grain yield and mucilage were obtained from $N_{20}P_{10} + 20$ ton/ha cattle manure with BPB treatment. This treatment did not show any significant difference with 20 ton/ha cattle manure with BPB.

Key words: Isabgol, BPB, Chemical fertilizer, Manure fertilizer, Yield, Yield components, Mucilage percentage.

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