EVALUATING THE EFFECT OF BIOFERTILIZERS ON GROWTH AND EMERGENCE OF BARLEY (*HORDEUM VULGARE*)

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ABSRACT

In order to study the effects of some biological fertilizers on growth parameters of three barley cultivars, completely randomized factorial experiments with three replications were performed in pots (using natural field soil, pH=8) at the Research Greenhouse of Fars Science and Research Branch of Islamic Azad University. Three barley cultivars namely; Yousef, Nosrat and Reihan, and six different biological fertilizers: Phosphotidic Bavaria 2, Bavaria 3, Nitrokara, Nitroxin, Biophosphorus, EM and control (non-inoculated seeds) were used. The investigated traits, including morphological characters: percentage of emergence, shoot length, volume of seminal roots, and wet and dry weight. SAS, Minitab, and Excel software were used for statistical analysis at 1and 5 percent significance level. Results showed that the application of biological fertilizers had significant effects on all traits except for shoot length. The highest averages for these traits were obtained from Nosrat cultivar and the most effective biological fertilizers with respect to these traits were Barvar 2. It seems that, in practice, biological fertilizers have the required potentials to replace the chemical (synthetic) fertilizers.

Keywords: *Biological Fertilizers, Morphological Characters, Barley Cultivars*