

Effect of vermicompost and its extract on emergence and the growth parameters of *Plantago psyllium*

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Abstract

The first experiment was performed to evaluate the effect of vermicompost extract (20, 40, 60, 80, 100%) on seed germination and seedling growth of *Plantago psyllium*. In second experiment, the effect of solid vermicompost with 4 levels (0, 25, 50, 75) on the emergence and subsequent growth of plantlets was investigated. The 20 and 40% increased germination capacity, germination index, and length of root, shoot, vigor index and decreased mean germination time and T50. In second experiment 25% increased emergence energy, emergence rate, emergence index and emergence coefficient and decreased mean emergence time. 25% and 50% treatments increased the diameter, length, dry and fresh weight of root and aerial parts and length and width of leaves, and a, b, total chlorophyll and carotenoid in 3 old months's plant. But high concentrations were decreased these parameters. Thus, the effect of vermicompost on seed germination and subsequent growth of plantlets is dependent on concentration.

Keywords: *Plantago psyllium*, Growth, Emergence, Chlorophyll, Vermicompost.