



Effects of Natural and Home-Made Bio-Inoculants on Containerized Okra Plants (*Abelmoschus Esculentus*)

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Abstract

The study focused on growing okra plants (*Abelmoschus esculentus*), one of the most popular vegetables that can be grown in containers, with composted chicken manure, vermi compost, and home-made liquid bio-inoculants such as fish amino acid (FAA), fermented fruit juice (FFJ), and calcium phosphate (CALPHOS). The scope was to determine which of these natural amendments could improve the growth performance of containerized okra plants during the vegetative stage, as well as to reveal the significant difference in the mean height of the containerized okra plants at two-time points, Week 1 and Week 8, as well as the significant difference in the mean growth rate among the three treatments. Composted chicken manure and vermicompost were applied directly to the soil, whereas bio-inoculants were used as a foliar or direct fertilizer application to the leaves. To compare the mean difference between groups, the Paired Samples t-test, and One-way Variance Analysis were used concurrently to compare height differences and weekly growth rates. The experiment revealed that okra plants fertilized with liquid bio-inoculant outperform significantly those fertilized with composted chicken manure and vermicompost. Furthermore, the disparity in mean growth rates in containerized okra plants is most likely the result of experimental manipulation rather than random occurrence. The efficacy of vermicompost is related to the nutrient content of substrates, which in this study had a low growth effect on the specific okra plants. Bio-inoculants, on the other hand, have a greater impact on containerized okra plants as a foliar fertilizer.



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Introduction

Gardening is a wonderful hobby that provides physiological and psychological benefits to most people. It also encourages greater environmental

awareness and connection to nature.¹ Container gardening may be an option in urban areas where gardening is difficult due to a lack of space. Container gardening can be combined with the cultivation of

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