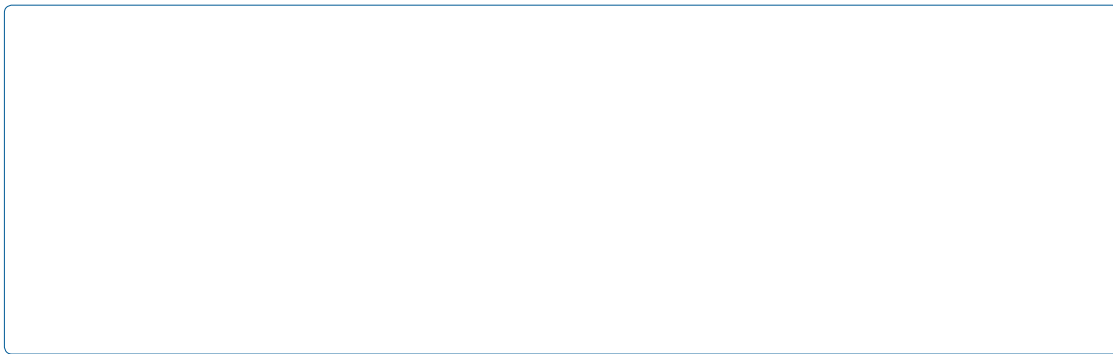


Ericoid Mycorrhizae & Growth-Promoting Microbes: Impact on Blueberry Growth & Resilience

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Keywords:

Blueberry, Ericoid mycorrhizae, Growth-promoting microbes, Plant growth, Resilience

Introduction

Blueberry (*Vaccinium* spp.) is a widely cultivated fruit crop, particularly in acidic and nutrient-poor soils. The growth and resilience of blueberry plants are significantly influenced by soil microbial communities. Ericoid mycorrhizae, a type of arbuscular mycorrhizal fungus, forms a symbiotic relationship with blueberry roots, enhancing nutrient uptake and water absorption. Additionally, certain growth-promoting microbes, such as *Bacillus* and *Pseudomonas* species, can stimulate plant growth and improve stress tolerance. This study investigates the synergistic relationship between ericoid mycorrhizae and growth-promoting microbes on blueberry plants, focusing on their impact on plant growth and resilience under various abiotic stresses.

The study was conducted in a controlled environment using a randomized complete block design. Blueberry plants were grown in pots containing a mixture of ericoid mycorrhizae and growth-promoting microbes. The plants were subjected to various abiotic stresses, including drought, nutrient deficiency, and low pH. The growth parameters, including shoot and root biomass, and nutrient uptake efficiency were measured. The results showed that the combined treatment of ericoid mycorrhizae and growth-promoting microbes significantly enhanced blueberry growth and resilience compared to the control. These findings highlight the potential of harnessing microbial interactions to enhance blueberry production systems, ultimately leading to increased yield and sustainability in blueberry production systems. Further research is warranted to fully exploit their benefits for agriculture.

Method and Materials

Blueberry (*Vaccinium* spp.) plants were grown in pots containing a mixture of ericoid mycorrhizae and growth-promoting microbes. The plants were subjected to various abiotic stresses, including drought, nutrient deficiency, and low pH.

*source are credited. This study investigates the synergistic relationship between ericoid mycorrhizae and growth-promoting microbes on blueberry growth and resilience. Ericoid mycorrhizae are symbiotic fungi known to form associations with blueberry roots, particularly in acidic and nutrient-poor soils. Additionally, certain microbial species have been shown to enhance plant growth and stress tolerance. Through a series of experiments, the combined effects of ericoid mycorrhizae and growth-promoting microbes on blueberry plants were evaluated. The results demonstrate that the presence of both ericoid mycorrhizae and specific microbial strains significantly enhanced blueberry growth parameters, including shoot and root biomass, as well as nutrient uptake efficiency. Moreover, the combined microbial consortium exhibit improved resilience to various abiotic stresses such as drought and nutrient deficiency. These findings highlight the potential of harnessing microbial interactions to enhance blueberry production systems, ultimately leading to increased yield and sustainability in blueberry production systems. Further research is warranted to fully exploit their benefits for agriculture.

7. Magalhães RFD, Danilevicz ADMF, Saurin TA (2017) Reducing construction waste: A study of urban infrastructure projects. *Waste Manag* 67: 265-277.
8. Li X, Yang L, Xu K, Bei K, Zheng X (2021) Application of constructed wetlands in treating rural sewage from source separation with high-in fuent nitrogen load: a review. *World J Microbiol Biotechnol* 37:138.
9. Grant M (2015) Resolving communication challenges in the intensive care unit. *AACN Adv Crit Care* 26: 123-30.
10. Litwin H, Levinsky M, Schwartz E (2019) Network type, transition patterns and well-being among older Europeans. *Eur J Ageing* 17: 241-250.