The Effects of Mycorrhizal Fungi on the Growth of Tomato Plants

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Plants and certain types of fungi have the potential to have a symbiotic relationship, which is referred to as a mycorrhiza. Through research we identified that, the presence of mycorrhizal fungi has been shown to improve the growth of trees. The goal of this project is to determine whether arbuscular mycorrhizal fungi can have a positive effect on the growth of tomato plants and in turn, if they have the potential to improve agricultural yields, and act as a substitute for synthetic fertilizers. We hypothesized arbuscular mycorrhizal fungi will have a positive effect on tomato plant growth. To test this, we took sixteen pots which contained two tomato seeds each in potting soil. four of the pots were watered with mycorrhizal mushroom spores, four were watered with commercial fertilizer, four were watered with both mycorrhizal mushroom spores and commercial fertilizer , and four were watered with potable water. Once a week we watered and measured height and widths. From our data, you can clearly see that the commercial fertilizer impacted our plants over the course of seven weeks having an exponential growth curve which was far greater than our mycorrhizal fungi growth curve. However, after six weeks we began to see an increase in the mycorrhizal fungi's growth curve. This supports the possibility that the mycorrhizal fungi can be a substitute over growing plants in just regular potting soil.

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