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Fungus Or Fertilizer?

In 2005, American farmers used over 22 million tons of chemical fertilizers. Overuse of chemical fertilizers by industrial farmers and home-gardeners have contaminated our soils and polluted our water. Fortunately, there are alternatives to chemical fertilizers that can help maintain and rebuild healthy soil. This project was designed to determine if the addition of Mycorrhizal Fungi to soil could be a viable alternative to chemical fertilizer. In trial #1, pea seeds were planted in four separate pots. Pot #1 filled with potting soil, #2 pre-fertilized soil, #3 soil watered with a fertilizer solution, and #4 soil watered with a Mycorrhizal Fungi solution. I observed and compared the growth rate, height, number of leaves, and root development of each plant over a four week time period. I am currently conducting two more trials using the same methods. Results of trial #1 indicated: Average height Pot #1 (no fertilizer) was 6.75cm; Pot #2 (pre-fertilized soil) 9.16cm; Pot #3 (fertilizer solution) 3cm; Pot #4 (Mycorrhizal Fungi) 10.5cm. Average number of leaves in #1 was 9; #2 ... 9.3; #3 ... 5; #4- 15.3. The actual root length of one plant in each pot was 7cm in #1; 5cm in #2; 3cm in #3; and 7.5cm in #4. Data thus far for trails #2 and #3 are showing similar results. Now more than ever we need to develop sustainable agricultural techniques. Based on the results of my trials to date, use of Mycorrhizal Fungi shows great promise as being an alternative to chemical fertilizers.