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Mycorrhizal Symbiosos: Unlocking the Potential of Soil

Life depends on healthy soil. Unsustainable agricultural practices are having devastating effects on global agriculture. Human induced soil degradation is transforming productive agricultural areas into wastelands at tragic speeds. One area of concern is soil salinity. High soil-salt concentrations inhibit seed germination and retard plant growth. Current remediation methods rarely address soil structure and rebuilding healthy rhizospheres. Mycorrhizal fungi are important members of healthy rhizospheres. This project was designed to determine if mycorrhizal fungi could assist the growth of Glycine-Max plants in salt-affected soil. My experiment consisted of filling ten buckets with salt-affected soil. These buckets were divided equally into two groups: Control and Mycorrhizal. Five Glycine-Max seeds were planted in each bucket. I documented germination rate, overall health/growth and verified mycorrhizal relationships microscopically. Control: Germination % = Zero. Growth/Health: N/A. Mycorrhizal: Germination % = 80%. Consistent growth; Healthy foliage; No yellowing. Experiment will be replicated. Plant development/ productivity will be documented until plants expire. My experimentation and research to date has shown that Glycine Max seeds inoculated with mycorrhizal fungi grown in salt affected soils were far more viable than those grown in the same soil without. Even in poor soil conditions, the plants grew constantly with no visible signs of salt stress. Franklin D. Roosevelt said, “A nation that destroys its soils destroys itself.” I believe this is true and that now more than ever we need to develop sustainable agricultural techniques.