



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

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<b>Project Title</b> Friendly Fungi: Can It Green Up the Planet?	
<b>Objectives/Goals</b> My investigative question was: Does Mycorrhizal Fungi affect how much a plant grows? I started the project with hypothesis that Mycorrhizae will increase the height of the experimental plants because Mycorrhizal fungi create greater root surface area for greater nutrient and water intake resulting in larger, healthier plants. <b>Abstract</b> <b>Methods/Materials</b> The materials I used were: Pots, plants (Hypoestes Phyllostachya), Mycorrhizae product "Great White", potting soil, and water. My procedures were as follows: A: Put each plant in separate pot with potting soil. B: Applied one teaspoon of "Great White" Mycorrhizae to 5 plants. Five plants were used as control plants without application of Mycorrhizae. C: All plants were watered equally daily. D: Measured height of tallest plant stalk in each pot weekly. Also measured diameter of plants. Made note as well of leaves affected by pests. <b>Results</b> Average growth of plants with Mycorrhizae was 4.6 inches. Average growth of plants without Mycorrhizae was 3.85 inches. Diameter measurements were inconclusive. Pests ate more leaves on control plants without Mycorrhizae. Largest leaf was on plant with Mycorrhizae measuring 3 inches in length. <b>Conclusions/Discussion</b> The plants on which Mycorrhizal fungi were applied grew .75 inches taller in height than the control plants without fungi. The plants with Mycorrhizae were more resistant to pests. I conclude that Mycorrhizal fungi create larger, more pest resistant plants organically and naturally without the use of artificial fertilizers, chemical pesticides, or genetically modified plant genes by surrounding and protecting the roots from foreign invaders and by increasing root surface area for greater water absorption. Mycorrhizae is a fungus that has been stripped from the soil by over-cultivation and commercial and residential development and has great advantages for the earth and the future of food production when placed back into the ecosystem.	
<b>Summary Statement</b> Mycorrhizal fungi, which has been stripped from most soils of the earth, can increase plant growth and pest resistance organically without toxic chemicals, greening up the planet by restoring soil to its natural state.	
<b>Help Received</b> Mother helped create Excel graphs and take photos. The Eagan's of Plant Revolution provided background research, product design ideas, and mycorrhizae to test. Father helped pick out and purchase materials. Sister helped clean pots for photos.	