



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Keegan V. Mendonca	Project Number S1998
Project Title The Effects of IAA and IBA on Laccaria bicolor	
Abstract Objectives/Goals The objective is to determine the effects of IAA and IBA, two plant hormones, on growth in Laccaria bicolor, a fungus that is involved in mycorrhizal relationships with plants. Methods/Materials Laccaria bicolor spores were grown in 9 petri dishes each of 1 microgram IAA, 2 micrograms IAA, 1 microgram IBA, 2 micrograms IBA and a control. The diameters of the mycelia were measured after 10 days, and the growth in different groups was compared. Results There was a statistically significant difference in the measured diameters of the mycelia diameters in 1 microgram IAA ($p=0.016$), 2 micrograms IAA ($p=0.0041$), and 2 micrograms IBA ($p=0.0016$) against those of the control. There was no significant difference between the measured diameters in 1 microgram IBA against those of the control ($p=0.47$). Conclusions/Discussion Plant hormones do have a statistically significant effect on the growth of fungi. This relationship has important effects for agriculture, because knowing this relationship could enable us to grow crops in places where we currently cannot, simply by adding these auxins to the soil in very low concentrations.	
Summary Statement This project aims to test the effectiveness of plant hormones on mycorrhizal fungal growth.	
Help Received Mr. Matt Trappe provided spores; Mr. Francis Martin provided culture and information on the fungus; Ms. Amanda Alonzo and Ms. Kathleen Loia helped me with lab equipment	