CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)
Alicia N. Hans

Project Number
J0805

Project Title
Do Mycorrhiza Fungi Physically Help Retain Water in Soil during Drought?

Abstract

Objectives/Goals
The goal of this project was to discover if mycorrhiza fungi physically help retain water in soil during simulated drought conditions.

Methods/Materials
Materials used were soil, fungus mixture, and a standard measuring scale.
A batch of sifted soil was sterilized. Ten equal samples of soil were measured out. To the remaining soil the fungus mixture was added, and then ten more equal samples of soil were measured out. All the samples were watered until the fungus had grown, then the watering stopped to simulate drought. The samples were weighed twice a day.

Results
The cups with the fungus weighed up to 2% more than the cups without fungus.

Conclusions/Discussion
It has been recently discovered that plants grown with mycorrhiza fungi tolerate drought better than plants grown without mycorrhiza fungi. It is not clear, however, how the fungi help the plants tolerate drought. The mycorrhiza fungi do make a difference in terms of retaining water in the soil. However, it appears that the mechanism through which the fungi help plants tolerate drought comes from a relationship between the plants and the fungi.

Summary Statement
My project investigates if mycorrhiza fungi help retain water in soil.

Help Received
Community college professor sterilized soil and provided fungus mixture.