CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
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Project Number
J1932

Project Title
Soil Microorganisms: Who Needs 'Em?

Abstract

Objectives/Goals
Soil may look like a bunch of dirt, but good quality soil is actually a complex mixture of dirt, nutrients, microorganisms, insects and worms. What type of benefit do these microorganisms offer a growing plant? I tested this by baking and freezing soil to try and sterilize it and kill the microorganisms. I hypothesized that, "If I plant 8 radish seeds in soil that has microorganisms and is unsterile, and 8 radish seeds in two other containers where the soil has been sterilized, then I predict that the radish seeds planted in the unsterilized soil will grow better because of the microorganisms in the soil."

Methods/Materials
I baked a sample of soil in 300 degrees for 2 hours. I froze soil in my freezer for 2 hours as well. I planted the radish seeds in each of the three different soils; baked, frozen and non sterile soil.

Results
The soil that was untouched and full of microogganisms did much better then the two sterilized soils. The plants grew faster, were fuller, taller and healthier.

Conclusions/Discussion
I proved my hypothesis correct and learned that caring for soil and preparing it with nutrients and additives to keep the microorganisms thriving and healthy, is very important!

Summary Statement
Determining if soil microorganisms are crucial to the health of a growing, thriving plant.

Help Received
Mother helped type and edit report.