CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY

Name(s)

James Dodson; Jason Khan

Project Number

J2206

Project Title

How Does Wood Ash Affect Plant Growth?

Abstract

Objectives/Goals

The purpose of this project is to answer a question that has special significance this year in California. Fires, like the Sobranes, have swept the state, leaving behind burnt residue and ash. Could this ash actually improve the growth of plants?

Methods/Materials

The hypothesis of this project is, if beans are planted in soil augmented with ash mixed in, ash on the surface, and normal soil, and are given the same amount of water and sunlight, at the same time, then the ash mixed in will outperform normal soil, and ash on the surface. The plants were given 75 ml of water every other day. Then they were measured in mm, and the average plant height for each category was calculated.

Results

After about three and a half weeks of testing, we found that the normal dirt had the highest average height. The ash on the surface grew next to fastest, and the ash mixed in grew slowest. In comparison, the compost soil grew slower than the normal soil and the ash on the surface, but it outperformed the ash mixed in.

Conclusions/Discussion

The results show that our hypothesis should be: if beans are planted in soil augmented with ash mixed in, ash on the surface, and a different natural fertilizer, compost, and they are given the same amount of water and sunlight, at the same time, normal soil will outperform ash on the surface, and ash mixed in. Upon reviewing this project, it could be expanded on and improved by extending the amount of time the plants are given to grow, growing plants indoors under plant growing lamps, and planting more of each plant. This would eliminate some of the randomity that comes with growing living things, and make for more reliable results.

Summary Statement

By measuring bean plants grown in soil with ash, we found the ash has a negative affect on the growth of plants.

Help Received

Mr. Hofsteen, our 7th grade teacher mentored us through the entire project. And looked over all writing samples and gave great feedback. Mr. Dodson and Mrs. Broz, James parents, helped bring plants inside during bad weather, and helped write down data as it was recorded. Mr. and Mrs. Khan helped gather dirt