CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)

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Project Number

35385

Project Title

The Effects of Leaching on Different Types of Soil

Abstract

Objectives/Goals

The goal of my project is to determine if flooding affects the nutrients found in different types of soils, which can also affect the growth of plants.

Methods/Materials

Materials: Gardner's Top Soil All Purpose Soil and Sanger soil with Amend by Kellogg added, Water, Boxes with screen, and "Mosser Lee" Soil Test Kit

Methods: I built boxes with screens to leach the soil with. I tested each soil with the testing kit to check for pH, potassium, nitrogen, and phosphorous. I put soil in the boxes and flooded it with water, which drained through the screen into a plastic box. Then I left it to leach for 24 hours. Then I lifted out the soil and set it out to dry for 6 days. Then I tested the soil. I repeated this process 4 more times.

Results

The pH level did not change with flooding, Nitrogen levels decreased when the soil was not as nutrient rich, phosphorous levels increased when the soil was not as nutrient rich, and the potassium level increased when the soil was not as nutrient rich. The Gardner's Top Soil did not change with flooding. The nutrients remained rich through all trials.

Conclusions/Discussion

My investigation showed that when a soil was already rich in nutrients, the soil did not change with flooding. When the soil was amended, the soil changed after being flooded (leached).

Summary Statement

My project is about the affects of flooding on the nutrients in different types of soils.

Help Received

Parents helped with the sawing of the wood and nailing on the wire mesh for the leaching boxes.

Preliminary