CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)

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Project Number

36032

Project Title

Just Say NO to Erosion!

Abstract

Objectives/Goals

The purpose of the project was to find out which erosion control method works best at preventing hillside erosion caused by rainfall.

Methods/Materials

Four soil-filled Styrofoam bins. One as a control, one using Geo Fabric, one with a mix of wild grasses (Blue Lupine, California Brome annual, California Brome perennial, Blue Wild Rye, California Poppy), and one planted with ground cover plants (French Thyme and Creeping Speedwell). Plants were grown for a 30 day period in order for roots to establish. Three trials were performed. The boxes were set at 45 degree angles to simulate hillsides. Equal amounts of water were used to mimic rainfall. Runoff water and eroded soil were measured.

Results

When the Geo Fabric, French Thyme, Creeping Speedwell, and mixed grasses were applied to each box filled with soil, the French Thyme and Creeping Speedwell boxes proved to be the best soil erosion preventers, and had the least amount of runoff water. In all three trials, the results were consistent.

Conclusions/Discussion

My results were different than my expectations. I thought that the box with Geo Fabric would#ve shown the least amount of erosion, but it was the box planted with Creeping Speedwell and French Thyme that showed the least amount of erosion and runoff water. I believe these plants were successful due to their strong and intricate root systems and low-lying, densely compacted foliage.

Summary Statement

This project proved that Creeping Speedwell and French Thyme are effective in the control of erosion caused by rainfall.

Help Received

The trials and materials were set up by me. My mother helped with purchasing supplies and conducting trials.

Preliminary