CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)
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Project Number
J1012

Project Title
Nyctinastic vs. Succulent: The Battle for the Green Roof

Abstract

Objectives/Goals
The purpose of our experiment is to find the best plant for using on green roofs. Our hypothesis is that Oxalis will keep a house cooler than grass or a succulent plant, whilst cutting down on the water needed. Some plants are more notorious for being used on green roofs, namely grass and succulent plants. Succulent plants are used because supposedly provide cooling whilst consuming little water. Grass is used out of convenience. However, another plant seem statistically better: Oxalis.

Methods/Materials
We built a model of a flat roofed house, about a foot cubed. It is a wooden box with a sunken in roof, in which we put a controlled amount and type of soil. We gave the plants a standard amount of water only in the beginning to see how well they conserved it. We measured the moisture of the soil and temperature inside the house.

Results
The results showed that oxalis maintains the most moisture whilst still providing a cooler temperature inside the house, which fully supports our hypothesis. The succulent plants didn#t do quite as well, but grass was not effective at all.

Conclusions/Discussion
Our results showed that oxalis requires minimal water and keeps it cool, as our hypothesis stated. This proves that oxalis are better plants for a green roof then standard green roof plants.

Summary Statement
Our project identified the best plant for a green roof.

Help Received
Mother help with poster preparation.