CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
J1617

Project Title
Grow, Grow, Grow with Hydroponics

Abstract

Objectives/Goals
There are two main different ways to grow plants, but which is best for growth efficiency, soil-grown or hydroponics? It is hypothesized that hydroponics is the best method due to the facts that the roots will be more contained with the resources at their fingertips, and because their will be nothing bad (such as bugs) to interrupt the growing process. The Purpose of the experiment I am working on is to see how the growth efficiency of hydroponically grown plants differs to soil grown plants.

Methods/Materials
Pot of soil of Miricl-Gro all purpose plant food, hydroponics pot system, Nutrients (I used FloraMicro, which provides rapidly growing plants with Nitrogen, Potassium, and Calcium as well as a unique combination of chelated micronutrients and trace elements plus pH buffers and has a purple color. I also used FloraGro, which promotes vigorous foliar and structural growth and is green. Lastly, I used FloraBloom, which is pink and promotes vigorous flower and fruit development), and some plants such as Calla Lilies bulbs, flowering plants like snapdragons, and fruit plants like Sequoia strawberries. Procedure 1. Gather all materials 2. Plant the plants 3. Give the hydroponics nutrients every week and refill water 4. Water the soil pot twice every day 5. Take pictures every week and notes 6. In conclusion, note the differences in growth

Results
The hydroponic plants were not very strong because they went into a state of shock when the dirt was washed off. But they grew fruit and flowers unlike the soil grown. The soil grown ones look healthier and have more leaves. The bulbs are doing outstandingly for the hydroponics.

Conclusions/Discussion
1. The soil grown snapdragon was very leafy and healthy but had no flowers 2. The hydroponics snapdragon had lowers but had droopy leaves and didn#t look very healthy 3. The soil grown strawberries looked healthy and leafy but had no fruit growing 4. The hydroponics strawberries grew well but were not very healthy or leafy 5. The soil grown bulbs did not grow at all 6. The hydroponics bulbs grew very well and were healthy. The hydroponics plants were not very healthy but the bulbs did very well. The soil grown, were very healthy and leafy but they grew no flowers or fruit and the bulbs didn#t grow at all. Based off my hypothesis I would say that it would have been true if the plants hadn#t gone into shock. Other than that the bulbs show the diffrence in growth.

Summary Statement
My project is about the difference of hydroponics compared to soil-grown plants.

Help Received
My dad helped me with setting up the plants and etcetera and my teacher helped me with the understanding of all the work.