CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)
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Project Number
J1904

Project Title
The Effect of Plant Density on Plant Growth

Abstract

Objectives/Goals
To determine the effect of plant density on plant growth.

Methods/Materials
Compass or other sharp tool
12 plastic pots
masking tape
permanent marker
potting soil, enough for 12 plastic cups
12 bean seeds, 12 radish seeds, 12 corn seeds
3 plastic trays
water
graduated cylinder
ruler

1. Fill 12 plastic pots each with 250 mL of potting soil.
2. Take 2 radish seeds and plant them separately in two different cups.
3. Then, plant five radish seeds each in each of the remaining two cups.
4. Follow steps 2 and 3 for bean and corn seeds
5.Put all 12 pots in the same location with the same amount of water every three days (10 mL)
6. Measure the heights of the plants in centimeters each day for two weeks at the dame time of day.

Results
The seeds planted in groups grew significantly taller than the seeds planted alone.The average height of the individual plants was 1.125 cm where as the average height for the grouped plants was 3.916.

Conclusions/Discussion
The main conclusion was that grouped plants grow much taller than single plants. It is very important to identify the sources of error in the experiment that could have caused this. First of all, the plants were grown from seeds. All the nutrition was inside the seed, therefore making the results less accurate than predicted. Also, the grouped plants could have been measured in a more accurate way (e.g. measuring all the seedlings' heights and averaging them, instead of just measuring the tallest seedling).

Summary Statement
My project is about the effect of plant density on plant growth.

Help Received
A friend helped me glue things on to my board.