



CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

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Project Title
What Is the Effect of Various Concentration of Aloe Vera Gel on the Regeneratiion of Planaria?

Abstract

Objectives/Goals
My objective was to learn if a higher concentration of Aloe Vera gel is applied to wounded planaria, the planaria will regenerate fully in a shorter period of time than those of lower concentration or with no Aloe Vera gel.

Methods/Materials
material
 24 planarias;Spring water;Single-edged razor blades;Pipettes;Mortar (making concentration);5 Petri dishes;Permanent marking pen;Ice (slow down planaria for cutting);Fresh Aloe Vera leave;Gloves
method:
1. Obtain 24 black planaria and petri dishes to keep them.
2. Using a razor blade cut each panaria transverly at approximately same spot.
3. Place six of wounded planaria in one of petri dish, and fill the dish with spring water.
4. Place six of wounded planaria to another dish , and fill the dish with a 5% Aloe extract solution.
5. Place six of wounded planaria to another dish , and fill the dish with a 15% Aloe extract solution.
6. Place six of wounded planaria to another dish , and fill the dish with a 30% Aloe extract solution.
7. Keep the temperature the same, and place the dishes in a dark place.
8. Observe the planaria every school day for 15 days, recording the degree of regeneration of each planaria. (Planaria usually take 11-15 days to regenerate.)

Results
The data for both the #head half# and the #tail half# of the Planaria show that the 5% Aloe Vera solutio had little effect on the number of Planaria completely regenerated. The numbers at this concentration an for the control lay in the 1-2 Planaria regenerated range. The 15% solution, in both cases, increased th complete regeneration rate by 1-2 Planaria, and the 30% by another 1-2 Planaria

Conclusions/Discussion
It was hypothesized that if a greater concentration is applied, then regeneration of Planaria will be complete in a shorter period of time. The results showed that there was a significant difference between the control groups and experimental groups. Thelowest concentration of Aloe Vera had little effect on th Planaria regeneration, but the higher concentrations did increase the number of Planaria completely regenerated over the experimental time period. This means that they did regenerate more quickly with the 15% and 30% concentrations of Aloe Vera solution, and that the 30% concentration speeded the regeneration even more than the 15% concentration. This may be due to a fungicidal effect of one or more

Summary Statement
This experiment was designed to test the effects of various concentration of Aloe Vera gel on the regeneration of Planaria

Help Received
Dr. huq helped find mentor, guidance and equipment ; Katy helped with equipment and idea; Vickery grammers and typing and ideas; Mark Okuda packet on microbial, thin-layer chromatography, and digital image computer data analysis;francine's idea;Jan schanchez helped withgrammers, Barbra lambro helped