California Science Center

CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.)

Raul L. Hernandez

Science Fair Use Only

S1210

Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)

The Reproduction Rate of the protozoan Blepharisma in Acid Rain and the changes in pH as the population increased

Division

S Junior (6-8) S Senior (9-12)

Preferred Category (See page 5 for descriptions.)

12 - Microbiology

Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

The problem of my project was 1) to determine how different levels pH affects the reproduction rate of Blepharisma and also 2) to determine if the pH of the media changes due to the population changes. My hypothesis was that 1) as the acid levels increase, the reproduction rate would be lower. At the lowest pH levels I thought that there would be no reproduction at all. 2) I thought that the pH of the media will get more acidic as the Blepharisma reproduce. Experimental process: To test my hypothesis I chose to do my experiment with five different pH levels. At a pH of 7,6,5,4, and 3.5. I used three different cultures tubes of each level of pH for a total of 15 tubes. I added a Blepharisma to each culture tube, and every day I counted the total population in each culture tube and compared population growth and resulting changes in the pH levels. I determined that high acidic levels limited population growth and the population increase also caused the pH levels to become more acidic.

Summary Statement (In one sentence, state what your project is about.)

i studied the affects of acid pH on Blepharisma population growth and the changes in pH that population growth caused.

Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

I received help with media preparation and ordering cultures from my biology teacher