



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

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

Sarah Ramirez

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

**UV-C Light Effects on Yeast (*Saccharomyces cerevisiae*)
Growth and Morphology**

Science Fair Use Only

S1217

Division

Junior (6-8) 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 growth and mutation rate of the yeast (*Saccharomyces cerevisiae*) exposed to UV-C rays for varying times was studied. The depletion of the ozone is of great importance because the ozone absorbs the most dangerous form of Ultraviolet light, UV-C rays. Thus it is important to study the effects this hazardous form of Ultraviolet light will have on our own cells. Because of the many similarities between yeast cells and human cells, the results from the experiment can be applied to human cells. One group of yeast plates was exposed to the UV-C light immediately after being streaked, while a second set was exposed to UV-C light two days after being streaked. Within the variable groups each plate within the groups was exposed to the UV-C light source for a range of 1 to 4 hours. The control involved the growth of yeast in the absence of UV-C irradiation. In observing the first variable group they had a dramatically slower growth rate and very different morphology than both the second variable and control. The second variable group grew at a slower rate than the control group but at a faster rate than the first variable group, maintaining the same morphology as that of the control. As the time exposure within the plates of the two variable groups decreased the more colonies of yeast were able to grow. Overall, the data shows that the UV-C rays caused some mutation and growth rate inhibition in the yeast colonies studied.

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

The effects of UV-C light radiation on the yeast (*Saccharomyces cerevisiae*).

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.

Biology teacher assisted in parts of procedure, and used lab at Viewpoint school for parts of the procedure.