CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY

Name(s)
Stephanie N. Espinoza

Project Number
J1308

Project Title
Saccharomyces exiguus: Does Our Local Life Cycle Differ from San Francisco?

Abstract

Objectives/Goals
I hypothesized that our local wild yeast behavior would differ from what I considered the "norm," the San Francisco yeast, due to climate.

Methods/Materials
I used bread flour, straws, and various baking utentils and equipment. I prepared over 60 trials of sourdough culture. Straws were used to gather data on rise. While utilizing a microscope, I observed the cellular activity level.

Results
I found out that we do have wild yeast in our environment. However, they do not behave the same as the wild yeast in areas famous for sourdough breads. Specifically, data from culture days 1, 2, and 3 indicate that our wild yeast perform similarly to that of San Francisco. Day 4 and 5 data demonstrated a drastic difference: Day 4 local rise showed 62%, while San Francisco rise is at least 100%. Day 5 locally showed a rise of 68%, San Francisco rise ranges from 150-200%.

Conclusions/Discussion
In conclusion, our wild yeast did behave differently from the San Francisco variety, but my hypothesis may be only partly correct. I believe now that the climate difference between San Francisco and the Mojave Desert may change the bacterial strains that feed on the yeast more than the climate affects the yeast directly. I did learn that our yeast follow a pattern of behavior that is predicatable throughout the trials, even though it did not match the San Francisco studies.

Summary Statement
This investigation examines our wild yeast behavior, specifically life cycle, in comparison to the wild yeast that is famous for sourdough bread.

Help Received
My science teacher helped me.