CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY

Name(s)
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Project Number
J0598

Project Title
I'd Rather Die Than Use Die

Abstract

Objectives/Goals
The goal of the experiment was how the different quantities of Red40 dye affect the Carbon Dioxide rise produced in yeast.By predicting that the highest quantity, of 1.5 grams of Red40 would make the most CO#ü rise, than the other quantities (.5,1,1.5).The hyperactivity and hypersensitivity levels already in Red40 have been shown in recent studies that they cause significant health issues.

Methods/Materials
First I set the 5 fermentation tubes up side by side with timers.Next I used yeast 2 #ù teaspoons (one packet) and then measured 2tbs of sugar into another separate cup.I then boiled water in a pot burner until it reached between 40¡Æ-45¡ÆC using a thermometer and I measured 1 cup mixing it with the sugar and yeast,mixing with a spoon.For the dye messurements I used a scale (g),to get the right amount of Red40:.5,1,1.5.When the delutions were done, I poured them quickly in a cylinder to fill each fermentation tube.Following, I used my thumb and tilted the tubes over until it stuck to the top of the measuring portion. I started the timer right away; one after another until all five were being clocked,marking at each minute of mL fermented in 15min.

Results
The data collected, 1.5 grams of Red40 combined into the yeast mixture did have the most carbon dioxide rise. There were 5 trials tested,each mixture tested (0 grams, .5 grams, 1.0 grams, and 1.5 grams), were measured at the time intervals of 5, 10, 15 minutes.The 0 grams of Red40 had the average of 1.24 mL fermented at 5 minutes,10 minutes the average was 3.34 mL, and finally the average volume fermented was 4.82mL at 15 minutes. The averages for.5 grams of Red40 was 1.5 mL at 5 minutes, 3.8 mL at 10, and at 15 minutes 5.38 mL. The 1.0 gram of Red40 had of 1.58 mL fermented at 5 minutes, 10 minutes averaged 2.9 mL and then 4.04 mL at 15 minutes.1.5 grams of Red40 at 5 minutes was 2.72 mL fermented, 10 minutes averaged 5.14 mL, and 15 minutes averaged to 7.46 mL fermented.

Conclusions/Discussion
In conclusion, the data I collected proves my hypothesis to be correct;because looking at the averages and all of the trials tested, the 1.5 grams fermented the quickest/most within the time period(5,10,15min). In the end the experiment connects to the real world by people needing to watch what we eat, because this dye might cause dramatic affects to the body that people need to look out for.

Summary Statement
My project is about how testing the different quantities of Red40 dye affect the Carbon Dioxide rise withen yeast, this then can determine if greater quantities can lead to major health risks due to the many products we consume daily.

Help Received
Ms.FIsher: Helping me organize/get me started, Mrs.DIaz: help me type my report, My mom:helping organize my board, SummerH,Julia M,JadaT&Caroline C:helping take pictures/help me clean up after testing