

Egg Whites



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And 2 players to be named later

Eggs




- Common uses of eggs...
 - Food: bakery, omelets, Royal Red Robin Burger
 - Beer Brewing: Lysozyme (found in egg whites) is to help in fermenting alcohol by suppressing bacterial growth





Eggs

- Uncommon uses of eggs...
 - Stain removers
 - Fast healing without scarring
 - Heartburn relief
 - Facial cleansers
 - Hair cleansers






Yeast



- Baker's Yeast (used in experiment)
- Candida Albicans (yeast infections)
 - They are NOT the same!
- Question to ponder:
 - If lysozyme (a component found in egg white) were to be added to beer while its brewing to suppress bacterial growth would it make sense that it stops alcoholic fermentation? Hmmm...



Background / Reasoning

- Egg white is believed to be a home remedy for yeast infections
- Known for having some antimicrobial properties
- We propose that egg white may inhibit alcoholic fermentation by baker's yeast



Question/Hypothesis

- Questions
 - How does the addition of egg white affect the rate of fermentation?
 - If egg white decreases the rate of fermentation then what is the minimum conc. needed to stop alcoholic fermentation?
- Hypothesis
 - If egg white is added to yeast then the rate of fermentation will decrease.

Materials and Methods

- Experimental Design

- Treatment
- Variable
- Controls



Materials and Methods

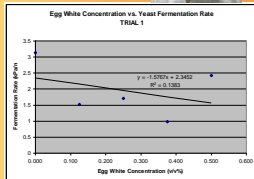
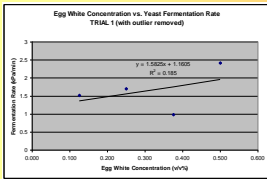
- Procedure
- Volume Measurements

Water (ml)	Egg white (ml)
0.0	6.0
1.5	4.5
3.0	3.0
4.5	1.5
6.0	0.0

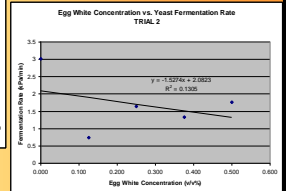
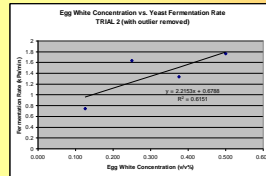


*Amounts of sucrose and yeast solution were held constant at 3.0 mL

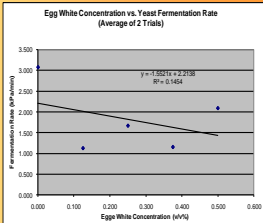
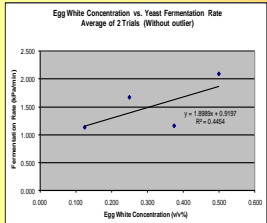
Results (Trial 1)



Results (Trial 2)



Results (Average of the 2 Trials)



What does the data show



No easy answer...

- With outlier in graph
 - Seems to suggest that egg white causes decrease in fermentation rate (perhaps it is simply preventing the yeast from reaching sucrose due to its thickness; or maybe it actually disrupts fermentation activity)
- Without outlier in graph
 - Seems to suggest that egg white causes increase in fermentation rate (perhaps it halts bacterial activity)
- Problems with either...
 - Not enough data to strongly support either case
 - Weak correlation between independent variable and dependent variable (R² value is fairly low, so statistically insignificant)



