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Effect of Calcium on the Concentration of Vitamin C in Orange Juice
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INTRODUCTION,
PURPOSE,
HYPOTHESIS,
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Vitamin C has been the wonder vitamin ever since Linus Pauling published Vitamin C and the Common Cold. Vitamin C has been recommended to combat nearly everything from cancer to bee stings. Studies have shown that calcium reduces Vitamin C in the body. There are a few brands of orange juice labeled, "Calcium-Fortified". The question of this study was, "Will the addition of calcium to orange juice change the concentration of Vitamin C in orange juice? The purpose of the study was to determine if added calcium decreases the concentration of ascorbic acid. The hypothesis was that if calcium is added to orange juice, then the concentration of ascorbic acid will decrease.

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METHOD or
PROCEDURE

A 10% pure ascorbic acid solution (control) and a 0.1% concentration of 2, 6 dichloroindophenol indicator were prepared. Calcium-Fortified and regular orange juice samples (liquid and frozen) were filtered to remove the pulp. The control and samples of orange juice were tested for the presence of ascorbic acid using the "Dropping Pipette Method" and the "Burette Method" of titration with the indicator. Readings were taken when the blue color of the indicator cleared. The concentration of the ascorbic acid was then determined for each sample and trial.

RESULTS &
CONCLUSION

The results rejected the hypothesis, since the highest concentration of ascorbic acid was in the Tropicana Calcium-Fortified juice, while the lowest was in the regular juice. A conclusion could not definitely be stated since pH readings contradicted the results. Further tests need to be considered. If ascorbic acid is actually reduced by calcium, consumers need to be aware that while the supplement of calcium is beneficial, they may not be getting the amount of Vitamin C listed on the nutritional label of the container.

NO ACKNOWLEDGEMENTS!

NO NAMES!

NO INSTITUTIONS!

6 - QUESTIONS
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