Abstract

Project Title: The Effects of Invertase on Different Forms of Sugar
Project ID: 227

Abstract

A brief explanation of your project. Enables judges to receive a base understanding of your project and work.

High blood sugar, with negative health effects, affects about 9% of the US population. Medications such as insulin can be given but these come with a cost of side effects such as hypoglycemia. The typical method for measuring sugar in the blood is using a glucometer to measure the amount of glucose (a type of sugar) in milligrams per deciliter. In this project invertase was used to imitate the breaking down of sugars in the body. Invertase is a natural digestive enzyme that breaks down sucrose (a type of sugar) into its parts of glucose and fructose. The hypothesis being tested, was that sucrose containing foods would most effectively raise the blood sugar, as invertase can only break down sucrose. In this experiment different types of sugars were tested when mixed with invertase, along with the effects of various factors such as pH and alcohol. These were tested to mimic a drink or food a hypoglycemic patient would ingest with dealing with low blood sugar. Results showed that alcohol did slow down the production of glucose, so something containing alcohol would not be the ideal thing to consume during times of hypoglycemia.

Items to Include:

Introduction: Why did you do this project and why is it important? How will this effect people and why is it needed. Inspire the reader to continue learning more about your research and read your report.

Problem Statement and Engineering Goal / Hypothesis: What is the problem you were solving and what was your engineering goal or hypothesis.

Procedures: How did you solve the problem and or test your hypothesis. Don't go into details, provide a broad, conceptual view of what you did. For engineering, what was your design criteria.

Results: What was the outcome? Use your data and numbers to describe your result.

Conclusion: Was your hypothesis supported or the engineering goal met?