Enzyme lab

Hypothesis: If a potato is soaked in 120o F water, then the catalase will become inactive because it will break down the enzyme.

Procedure:

To complete this lab the following procedure was conducted. Heat a 50ml of water in a 100ml beaker to 120o F by using a hot plate. Monitor the temperature with a thermometer. Repeat previous direction but heat the water to 100o F. Place two 50ml test tubes in a test tube rack. Label one test tube 120o F and the other 100o F. Cut a potato into one cm cubes. Place one potato cube in the 120o F test tube and another potato cube in the 100o F test tube. Pour 25mls of the 120o F water in to the appropriate test tube. Pour 25ml of 100o F water in the other test tube. Wait five minutes. Pour the water out of each test tube carefully. Add 10mls of hydrogen peroxide to each test tube. Measure the amount of foam produced by the reaction using a cm ruler.

Data table:

Effect of water temperature on catalase reaction rate

Temperature of water Height of bubbles in column

100o F 4 cm

120o F 0 cm

Fermentation lab

Hypothesis: If non-caloric sweetener is used instead of sucrose (table sugar) then no carbon dioxide gas will be produced because the yeast will not be able to go through fermentation.

To complete this lab the following procedure was conducted. Get a plastic bag. Weigh out 3 grams of yeast by slowly adding the yeast to a clean empty beaker on the scale. Place the yeast in the plastic bag. Observe the yeast granules and record your observation. Repeat previous step again so that you have two plastic bags containing 3 grams of yeast. **Caution:**  In this step you will be working with 90o Fwater, handle the beaker carefully. Take your graduated cylinder to the water bath. Carefully remove a beaker of 90o F water and measure 20mL of water into the graduated cylinder. Return to your table and add the warm water from the graduated cylinder to the bag. Make sure the bag is sealed. Gently knead the bag with your fingers to mix water and yeast. Observe the appearance of the yeast and record. Weigh out 5 g of sugar. Add the sugar to the bag. Squeeze any excess air out of the bag and seal. Knead to mix together. Place the bag in the beaker at your station. Add 500mL of 90o F water. Record the amount of water in beaker. Observe for 10 minutes or until it has fully filled with gas. Record your observations.After 10 minutes, note the water level and record the number of mL. Subtract 500 mL from that number and Record. This indicates the volume of Carbon Dioxide produced.

Repeat the above but use 5g of non-caloric sweetener.

Data Table

Effect of sweetener on fermentation rate of yeast

Type of sugar Amount of gas formed

Non-caloric sweetener 0 ml

Sucrose 50 ml