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|  | **Abstract**  Since before 2000 BC, mankind has utilized the yeast Saccharomyces cerevisiae as an agent to ferment sugars and produce food products from bread to wine to beer. These products depend on the action of these yeasts to produce chemicals such as carbon dioxide and ethanol alcohol to make these products possible. Bread requires yeast to allow it to rise with the creation of carbon dioxide gas. Beverages such as wine and beer require the fermentation of sugars in their grapes or in their barley and hops to create the ethanol component and carbon dioxide gasto carbonate them.  Our test attempted to determine the fermentation action of the Saccharomyces cerevisiae under different levels of pressure and under different gases. This experiment was chosen as an extension of an experiment conducted by Dr. Koki Horikoshi who attempted to determine what changes occur within the cell of the yeast S. cerevisiae when under pressure. Horikoshi determined that the cytoplasm of the yeast turned acidic when under increasing levels of hydrostatic pressure. Our experiment took it a step higher by observing the yeast samples under varying pressures and varying gases (carbon dioxide and nitrogen) over an extended amount of time and tested the increase in the pressure inside the containers to test how the yeast samples were fermenting while under these pressures. Controls were set at 0 psig (pounds per square inch gauge). Controls for carbon dioxide were set at 70 and 135 psig to see how much the carbon dioxide would compress in the honey water mixture.  The pressures inside the sealed aerosol containers were measured daily with a pressure gauge. In all tests, the samples showed extensive growth over the first three days of the experiment and then leveledoff  This Page is Best Viewed with Thousands of Colors  For More Information about these Projects, Please Contact [Eric Thiel.](mailto:ethiel@pleasanton.k12.ca.us) |