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The Effect Of Fermentation On Fruit

Can fruit produce ethanol and reduce our dependence on fossil fuels? This project was designed to determine if fruit with higher sugar content could produce more ethanol than a fruit of equal mass but lower sugar content. Ethanol is an organic compound that can be derived from plant materials, including fruits. Brazil has successfully reduced the automobile use of fossil fuel by 50% over the past 30 years using ethanol. The U.S. currently produces ethanol from corn. However there are concerns about having enough corn for livestock and human consumption. One method to extract ethanol from plant material involves the fermentation process. Fermentation occurs when yeast is introduced to the plant material. Yeast breaks down the sugars into carbon dioxide gas and ethanol. Various fruits mashes were fermented and the resulting carbon dioxide/ethanol measured over a period of time to determine if this method would produce ethanol and if there was a correlation between the amount of sugar content in the fruit and the amount of ethanol produced. The results showed that a fruit's sugar content is not a factor in the amount of ethanol it can produce in a given time frame. Both apples and bananas proved to produce the greatest amount of ethanol. Fruits may prove to be an alternative source of ethanol.