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|  | **Over View:**  During the course of this investigation, much has been learned by the team. Many of the lessons were learned because of mishaps in our laboratory procedures or mistakes in assumptions. Several environmental conditions were not originally considered: (1) not adequately controlling the temperature, (2) not providing a consistent humidity for the environment, (3) not adequately protecting the samplings from very hungry ants, and (4) not monitoring the pH of the mediums.  With these considerations being noted, we continued the experiment. The results were not what were expected. The original hypothesis of bean cutlings re-generating roots when introduced into an enriched fruit based culture was not substantiated. Several growing cultures were used: apple and pear extract, coconut milk, and carbon filtered water. Actually the recorded results refuted the original hypothesis.  **Review of methodology:**  The experiment utilized twenty plants. The twenty plants were segregated into four equal groups of five cutlings. Each cutling was placed into a 20-ml clear test tube. Each test tube was labeled according to the medium being evaluated. Each set cultures were filled with either pear extract, apple extract, coconut milk and filtered water. They were then racked accordingly. The five filtered water test tube cutlings were used as a control group for this investigation.  Of the fifteen cutlings immersed in the fruit mediums, none of the cutlings exhibited any growth. Of the five cutlings used as the control group, those immersed in filtered water; two cutlings grew over the month of investigation.  The investigation team originally planned to use the CHI-SQUARE test to evaluate change of the 20 cutlings. Since there were only 2 cutlings that experienced minimal growth, and they were in the control group, it was determined that a CHI-SQUARE test was irrelevant.  **Final thoughts:**  The original thinking evolved around the concept that a fruit is actually an "ovary" of the fruit specimen. As such, this ovary contained concentrated nutrients, minerals and hormones to stimulate growth. The fruit was emulsified, and this emulsification was considered an extract of the fruit. Drops of this liquid was then placed into the test tubes and observed over time.  It was thought that the cutling stem cells would utilize the "ovary extract" to radically increase the growth of specialized cells i.e. roots for growth.  It is now felt that the investigating team did not truly extract only the needed nutrients and growth hormones from the fruit (ovaries). The stored sugars needed for growth of the selected fruit were also emulsified along with the selected hormones and other growth nutrients. Over the length of the experiment, it is felt that these complex sugars fermented and radically changed the pH balance of the growth medium, thereby potentially causing the demise of the cutlings.  Sugars ferment into complex alcohol. This chemical change from a water based extract to an alcohol based environment could possibly have affected the physiological cell structure of the cutlings via an osmosis shift of the cell's water out to the alcohol solution and dehydrated the cells.  If this experiment was to be retried, a method must first be developed to truly extract the various hormones, minerals and vitamins from the various fruits utilized. A method must be developed to remove all the complex sugars so as to prevent any fermentation of the required mediums. |

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