



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Jan M. Humphrey</b>	<b>Project Number</b> <b>S0412</b>
<b>Project Title</b> <b>Inebriation as Seen Through the TV</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> At the conclusion of last year's study, it was found that radiation did have an effect on the genetics of Drosophila, and did cause certain visible genetic mutations. After extensive research, a gene was found in Drosophila known as the amnesiac gene, which controls the Drosophila's reaction to alcohol. The purpose of this year's project is to determine if radiation has an effect on the gene that controls Drosophila's sensitivity to the effects of alcohol, and therefore, effects the amount of time needed for a wild type fruit fly to become unconscious after being exposed to ethanol vapor.</p> <p><b>Methods/Materials</b> Crosses were made between Wild type Drosophila at varying distances in front of a television. The F(1) progeny were exposed to ethanol vapor until unconscious. Data was recorded, calculations were made, and conclusions were stated.</p> <p><b>Results</b> Initial examination of the control group, placed randomly at distances of 6 # 24 inches from the television, which was left off, and then exposed to ethanol vapor in an inebriometer, exhibited unconsciousness in 24-32 minutes. Drosophila located six inches from the source of radiation for 48 hours of exposure demonstrated 100% fatality. Drosophila located 12 inches from the source of radiation for 48 hours of exposure demonstrated 100% sterility, there were no eggs or viable offspring produced. Drosophila located 18 inches from the source of radiation for 48 hours of exposure and then exposed to ethanol vapor in an inebriometer, took 15-21 minutes for all the Drosophila to become completely unconscious. Drosophila located 24 inches from the source of radiation for 48 hours of exposure and then exposed to ethanol vapor in an inebriometer, took 22-29 minutes for all the Drosophila to become completely unconscious.</p> <p><b>Conclusions/Discussion</b> Through experimentation and observation, my data and conclusions disprove my hypothesis. Varying amounts of radiation from a household television did have an affect on the amount of time needed for wild type fruit flies to become unconscious from ethanol vapors, and therefore, did have an effect on the amnesiac gene.</p>	
<b>Summary Statement</b> Radiation has an effect on the gene that controls Drosophila's sensitivity to the effects of alcohol, and therefore, effects the amount of time needed for a wild type fruit fly to become unconscious after exposure to ethanol vapor.	
<b>Help Received</b>	