



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Jenny L. Frutchey	Project Number 22819
Project Title The Effect of Ethyl Alcohol on Seed Germination	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of my project was to determine the effect of ethyl alcohol on seed germination. I wanted to see if ethyl alcohol would have a similar effect on seed germination as it does on human fetuses.</p> <p>Methods/Materials Five groups of Red Hard Winter Wheat seeds were tested upon, using vodka instead of straight ethl alcohol. One group received 100% water while another received 100% vodka. Other mixtures were ust to test a range of concentrations of water and vodka. Each day any stem growth was measured and at the end of the ten days my experiment lasted for, the roots of each individual seed were measured.</p> <p>Results The more vodka the wheat seeds recieved, the more retarded the growth of the roots appeared to be (no groups that recieved any vodka at all grew any stems). Throughout the ten days, all of the groups excepting the group receiving all vodka had visable root development.</p> <p>Conclusions/Discussion I can conclude that yes, ethyl alcohol does have a similar effect on seed germination as it does on human fetuses. The growth of the roots was slowed by the ethyl alcohol in vodka; no seeds receiving ethyl alcohol grew any stems at all during the ten days. I still would like to continue seeing the effect of ethyl alcohol on plants, in general, in case it would still be similar in certain circumstances, to ethyl alcohol effect on humans.</p>	
Summary Statement The impact of various concentrations of ethyl alcohol and water on seed germination.	
Help Received Used an alcoholic substance, vodka, under supervision of my mother.	