



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Meghan A. Gorman	Project Number J1412
Project Title Can Methanol Protect Plants in a Drought Situation?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of this project was to investigate whether methanol treated plants could maintain a greater mass, than untreated plants when both are placed into a drought situation.</p> <p>Methods/Materials Three types of plants, leaf lettuce, Romaine lettuce and snapdragons were used in the experiment. Twenty four plants of each type were selected and then divided randomly into 3 groups of eight plants each. Eight plants were used at the beginning of the experiment to determine an average starting weight. Eight plants of each type were used as a control (no methanol or fertilizers, just water and sunlight). The final eight plants were treated with a 1.0% methanol solution, water and sunlight. The control and mathanol treated plants were grown in a temperature controlled greenhouse for six weeks. The methanol treated plants were sprayed three times per week for the six week growing period. The plants in both groups were then placed into a drought situatuion by not watering them for a period of four days.</p> <p>Results In leaf lettuce, both the control and methanol groups lost weight from the beginning average weight, but the methanol group maintained a slightly greater mass. In Romaine, there was no difference between the two groups tested. In snapdragons the methanol treated group retained a mass that was twice that of the control group.</p> <p>Conclusions/Discussion In the two out of three groups tested(leaf lettuce and snapdragons), the methanol treated plants were able to maintain a greater mass in a drought situation. The results of my experiment show that for some plants, methanol may be useful as a drought protecting device. Treating plants with methanol could be beneficial to people growing crops in arid climates with limited water resources.</p>	
Summary Statement The purpose of this project was to compare methanol treated plants with untreated plants and to determine which would maintain a greater mass in a drought situation.	
Help Received Mother helped type report. Used laboratory glassware ,balance, stir plate and greenhouse space at SunWorld International Inc., under supervision by Debra Gorman and Sharon Rosenthal. This experiment was done independently and is not associated with any research at SunWorld Inc.	