

## CALIFORNIA STATE SCIENCE FAIR

## 2001 PROJECT SUMMARY

**Your Name** (List all student names if multiple authors.)**Dillon T. Hough****Science Fair Use Only****S1607****Project Title** (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9)**Does Evaporation Stand A Chance?****Division****\_ Junior (6-8) X Senior (9-12)****Preferred Category** (See page 5 for descriptions.)**16 - Plant Biology****Abstract** (Include Objective, Methods, Results, Conclusion. See samples on page 14.)

Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.

**Objective:** My project objective was to find out if a plant in an evaporative green house would grow as well or better than a plant in a regular hand watered greenhouse.**Materials and Methods:** I built a single plant green house for 2 plants of the same species. One green house was a five-gallon bucket which had an evaporative watering system. When the light hit the plant, it would cause evaporation, which would then condense on the semi-permeable membrane and flow to the center point where the water would then drip into the soil. The other plant was simply watered by hand every time it was observed. The method in which I used to test the growth of the variable (evaporative) and control (hand watered) plants was to place the plants in the separate growing systems and leave the timers on from 7:00 AM to 5:00 PM giving each plant ten hours of light. I then monitored the plants and measured their height on Monday and Friday for four weeks with the first project and three weeks with the second project.**Results:** The first time I ran this project I had sodium halide grow lights, which were 120 w. each. The end results in growth were that both plants were severely burned from too high of a temperature. The next time I ran this project I changed the bulbs to 65 w. and the end result in growth was that the plant in the evaporative greenhouse that I built sustained a higher level health than the plant in the hand watered greenhouse.

My hypothesis was incorrect for the first run of the project. I had guessed that the evaporative greenhouse would sustain a higher level of health but it did not. It became burned, and then moldy. When I changed the wattage of the lights I kept my hypothesis the same because I felt a lower wattage would lower the heat level, thus lowering the overall burning. The second time that I ran this project the plants did not get burned. In the second run of the project the variable plant grew much higher and sustained a higher level of leaf health.

**Conclusion:** My conclusion is that my data supports my hypothesis. Adjusting the variable of the wattage made my test more accurate. If I were to run the project a third time it would be to reinforce my conclusion of the results.**Summary Statement** (In one sentence, state what your project is about.)

My project was to find out if a plant in an evaporative green house would grow as well or better than a plant in a regular hand watered greenhouse.

**Help Received in Doing Project** (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4.

Mom helped edit