



**CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY**

Name(s) Paige N. Dubin	Project Number S1414
Project Title Can a Flavonoid, Quercetin, Be an Effective Topical Acne Medication?	
Abstract Objectives/Goals To determine if topical Quercetin solution is anti-inflammatory and antimicrobial on acne lesions Methods/Materials Methods: Over a ten month period of time have ten human subjects who have acne apply my topical solution of Quercetin (bioflavonoid plant pigment) to their facial skin, another ten subjects apply only the vehicle two times a day for twenty-one days to facial acne. Photos of subjects' faces were taken and swabs of their facial acne with sterile Q-tips were then applied to Blood Agar plates, which were then incubated to determine bacterial counts. Photos will show if there is a decrease in the inflammation of face papules and the Petri dishes will depict if the antimicrobial count is diminished- all due to my topical Quercetin solution. Materials: Quercetin solution consisting of: 134 mg of Quercetin, 5 ounces of distilled water, 2 ounces of alcohol, and one ounce of acetone; 20 Sheeps Blood Agar Petri dishes; 20 human subjects with facial acne Results My Quercetin solution group showed a tremendous decrease in facial inflammation due to acne and also a decrease in facial bacterial counts compared to the control group. My vehicle only group showed results similar to my control group, in not improving the facial acne nor decreasing the bacterial colony count. Conclusions/Discussion My topical Quercetin solution for acne proved to be a tremendous success in decreasing inflammatory acne lesions and decreasing the bacterial count on facial skin of all my acne subjects. This proved that my Quercetin solution was both anti-inflammatory and antimicrobial.	
Summary Statement I tried to determine if my Quercetin topical solution was anti-inflammatory and antimicrobial on acne inflamed facial skin, thus being effective as a topical acne medication.	
Help Received Tony- director of Unilab at Northridge C.A. supplied Petri dishes and information regarding bacterial growth; Dr. Jankowski- agreed to safety of my project and allowed disposal of my Petri dishes in her biohazardous waste	