



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Ryan M. Fay	Project Number J2204
Project Title How Thick Is Your Shell?	
Abstract Objectives/Goals My objective during my project was to see if feeding chickens different calcium enhanced foods would effect their eggshell thickness. Methods/Materials I took three chickens of the same breed and age and fed them the different calcium rich foods for eight to twelve days at a time. The calcium enhanced foods were oyster shells, eggshells, and 17% Lay Crumble(control). I then collected all of the eggs and cracked them. Next i measured the edge of each cracked egg with a micrometer. Results The results to my project were that the eggshells and oyster shells both increased the eggshell thickness by about 20% making the shell stronger. Conclusions/Discussion The results of the testing show that the chicken eggshell mix and the oyster shell mix did affect the thickness of the eggshells laid when added to the 17% Lay Crumble. The thickness of the eggshells was increased about the same with both of the manipulated variables. These results validate my hypothesis. Because the baked eggshells and the oyster shells yielded about the same results, I would recommend to use the product that is the most accessable. Despite Lay Crumble producing a thinner eggshell containing less calcium than the chicken eggshells and oyster shells, it is a substantial food to give to chickens to provide adequate eggshell thickness.	
Summary Statement The central focus about my project was to see what calcium enhanced food would increase my chicken's eggshell thickness the most.	
Help Received Mom glued a couple papers on board.	