



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Vahe S. Yacoubian	Project Number 34609
Project Title An Innovative Method of Reducing Cholesterol in Foods by Converting It into Vitamin D	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this study is to introduce a previously undescribed method of lowering cholesterol in food by converting it into Vitamin D. Seven out of ten Americans are living with Vitamin D deficiency. Simultaneously, we are faced with obesity and heart disease, largely due to the consumption of foods rich in cholesterol. Through this unique method, cholesterol is converted into Vitamin D by utilizing a natural enzyme reaction occurring in the Shitake Mushroom, where the enzymes tyrosinase and isozymes normally convert ergosterol into Vitamin D in the presence of UV light.</p> <p>Methods/Materials The experiment consisted of mixing equal amounts of ground mushroom gill (enzymes) and egg yolk (cholesterol). The experimental sample was exposed to sunlight while the control was kept in the dark. Both samples were periodically measured for levels of cholesterol before and after sunlight exposure or dark exposure (control).</p> <p>Results The results show at least a 40% decrease in the amount of cholesterol in the experimental sample versus control.</p> <p>Conclusions/Discussion Cholesterol is shown to decrease by being converted into Vitamin D by utilization of a mushroom enzyme reaction during exposure to sunlight. This experiment suggests that cholesterol can be successfully substituted for ergosterol in the natural mushroom enzymatic reaction to produce Vitamin D. The implications of this project are profound in the food and health industries.</p>	
Summary Statement This project introduces an innovative method of using mushroom enzymes to lower cholesterol in foods by converting it into Vitamin D.	
Help Received Parents provided all the necessary materials to conduct the experiment.	