



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Thomas G. Kwong</b>	<b>Project Number</b> <b>S0410</b>
<b>Project Title</b> <b>The Prevalence of Genetically Modified Organisms (GMO) in Everyday Plant Products</b>	
<b>Objectives/Goals</b> The purpose of this experiment is to test a handful of produce from a local grocery store to see how commonly prevalent genetically modified foods are. I predict that the majority of plant products not labeled GMO-free will not show signs of genetically modified DNA. This type of experiment has value because the science of genetically modified foods is still in its infancy and thus all the factors have not fully been researched. This experiment is illustrating a similar situation, but due to lack of resources demonstrates only a handful of plant products.	
<b>Abstract</b> To do this, deoxyribonucleic acid (DNA) is extracted from each food sample tested in my experiment. The most frequently used DNA promoter and terminator in GMO insertions are then amplified in a polymerase chain reaction (PCR) and displayed using electrophoreses.	
<b>Methods/Materials</b> To do this, deoxyribonucleic acid (DNA) is extracted from each food sample tested in my experiment. The most frequently used DNA promoter and terminator in GMO insertions are then amplified in a polymerase chain reaction (PCR) and displayed using electrophoreses.	
<b>Results</b> After conducting the experiment the results showed a complete and total lack of genetically modified DNA in all of my samples.	
<b>Conclusions/Discussion</b> I predicted that approximately half of my samples would show GMO presence, but unfortunately this was not true at all. After performing electrophoreses, none of my samples showed GMO positive bands. Also, all my samples showed the presence of plant DNA and both my positive and negative control showed their respective positive and negative GMO bands, indicating to me that my technical process functioned correctly and thus that my results were trustworthy. Thus, my hypothesis was proven incorrect. Despite the successful execution of my experiment and the clear results, I am inclined to doubt the accuracy of my results because approximately 60% of all plants grown today have at least some trace of genetically modified DNA material. My results would mean that all five samples fell under the 40% of non-GMO plants; furthermore, I tested four soy products, and approximately 81% of the current global soybean crop is genetically modified, decreasing the likelihood that all my soy samples would be GMO-negative.	
<b>Summary Statement</b> My project is about testing for the presence for genetically modified DNA in plant products.	
<b>Help Received</b> Mother helped borrow lab equipment.	