



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> <b>Sophie Parsa; Ruby Rorty</b>	<b>Project Number</b> <b>J0511</b>
<b>Project Title</b> <b>Genetically Modified? A Study of Santa Cruz Zucchini</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Our objective was to determine whether Santa Cruz zucchini carried the coat protein of the Watermelon Mosaic 2 Potyvirus, which would demonstrate that they were genetically modified.</p> <p><b>Methods/Materials</b> We isolated DNA from zucchini purchased at four different local grocery stores and used a UV spectrophotometer to examine its quality and determine its concentration. To amplify the DNA, we performed polymerase chain reactions, using primers specific to Watermelon Mosaic 2 Potyvirus and phloem.</p> <p><b>Results</b> The concentration of DNA we extracted from the four different sources of zucchinis ranged from 23.6 ng/<math>\mu</math>l to 48.8 ng/<math>\mu</math>l. For a positive control for PCR, we successfully amplified sequence from phloem, which is found in all plants. We also attempted to amplify sequence from the Watermelon Mosaic 2 Potyvirus, but this PCR was not successful, indicating that none of the zucchinis were genetically modified. Repeated attempts have been made to obtain positive control seeds of genetically modified zucchini from Monsanto, but so far the company has not fulfilled our request.</p> <p><b>Conclusions/Discussion</b> Our results suggest that the zucchinis we tested were not genetically modified. This led us to the conclusion that the genetically modified seeds were not widely adopted by farmers, supported by the fact that not all of the zucchini were grown in Santa Cruz County.</p>	
<b>Summary Statement</b> Our project examined genetic modification of organic and non-organic Santa Cruz zucchini.	
<b>Help Received</b> We used lab equipment at the Univeristy of California, Santa Cruz under the supervision of my mother Dr. Lindsay Hinck.	