



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

Name(s) Carley G. Millian	Project Number S0808
Project Title PCR Detection in Genetically Modified Foods	
Objectives/Goals Abstract This year I am running PCRs and gels to try and detect the transgene for Roundup Ready resistance. This gene is inserted into the DNA and it make the plant resistant to Roundup(Glyphosphate). This is a very controversial issue in the agriculture society, because the GMOs(Genetically modified organisms) have already crossbread with weeds(G. soya) in Japan. There are more weed that could possibly cross breed with theses plants in Asia, but non have been found in Europe or the United States. Some people have other concerns about this rampant transgene. Since it is used in many of our crops, we fear that the gene will have more than one effect(this is called pleiotropy) and it will create a disease and kill off all the Roundup Ready Resistant plants. With our food supply gone the world would starve. Another concern people have about these genetically modified foods is the safety of them. Monsanto, the company that makes Roundup, claims that it is, but they tend to slip through the cracks when it comes to safety precautions. I am going to look for this transgene in many different soy products to see which ones have them in this time of worry.	
Methods/Materials Extraction of the Genomic DNA I used a Qiagen kit and I followed the intrusctions. PCR Make a mix with the solutions needed. Add 1xBuffer Add the primers and the DNA. Hot start and add taq. Run the samples for 40 cycles. Gel Electrophoresis Make a gel using the right concentrations, and add the samples. Turn it on and let it run to the plus side. Observe your results.	
Results All of them came out positive for my control which was lectin. The only two that came out positive were the soy milk and the soy flour. The soy beans turned out with a band for roundup ready resistance at about 1600bp when it should be at 256bp. The rest of the samples came out negative for this specific roundup ready resistance gene.	
Summary Statement Finding a transgene in soy products by PCR detection.	
Help Received I worked at UCI under the supervision of David Gardiner.	