



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Yousef Joseph; Nicholas Mah	Project Number S1718
Project Title The Varying Concentrations of Glyphosate on the Annelid tubifex	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of our project was to test the effects of roundup on tubifex worms and to see how it affected them at varying concentrations. We hoped to get results that would give us a good estimation about its effects on environment.</p> <p>Methods/Materials We subjected the worms to roundup by placing them in petri dishes filled with roundup in varying concentrations and observed them until they showed characteristics of death and recorded the time it took for all of the worms to die. We us Remuda glypphosate-based herbicide, 30 petri dishes, 2 gallons of spring water, 1 pipette, a 1 liter volumetric flask, 10-500ml. beakers, 1-50ml. beaker, 300+ tubifiex worms, 1 drawing brush, and 1 timer.</p> <p>Results At the end of our project all of the worms exposed to roundup were killed, except for the worms in a 25ppm dilution of it. the times for the worms to die decreased with the increase in concentration in an exponential manner.</p> <p>Conclusions/Discussion From our results, we were able to conclude that roundup has a very significant effect on the environment. However, we believe that the concentrations we used in the experiment was too high to be based off of real life runoff and environmental conditions.</p>	
Summary Statement Our project is about the how roundup kills tubifex worms and in what ratios and speed.	
Help Received Mom helped with board, Teacher helped with materials	