



**CALIFORNIA STATE SCIENCE FAIR  
2015 PROJECT SUMMARY**

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<b>Project Title</b> <b>Comparing the Effects of Cobalamin and alpha-Tocopherol on the Reproduction Rate and Longevity of Caenorhabditis elegans</b>	
<b>Abstract</b> <b>Objectives/Goals</b> This project was conducted to determine if specific vitamins fed to C. elegans would affect their reproduction rate and longevity. <b>Methods/Materials</b> Melted Nematode Growth Agar was placed in ten petri dishes that were each divided into three sections. Once the melted growth agar set, a half inch cube of C. elegans was placed in each section of the 10 divided petri dishes. The first group was fed 5 drops of the alpha-Tocopherol oil with 5 ml of water. The second group was fed 5 Cobalamin tablets crushed with a mortar and pestle and mixed with 5 ml of water. The third section was fed no vitamins at all and fed on just the agar itself. This procedure was done 3 times for a total of 30 trials each. <b>Results</b> It was discovered that the alpha-Tocopherol water-based mixture fed to the C. Elegans sped up their reproduction rate. The C. elegans that were fed the Cobalamin water-based mixture had a slower reproduction rate but outlived the other two groups. <b>Conclusions/Discussion</b> The hypothesis that stated Cobalamin fed C. elegans will live longer and reproduce more than the control group was incorrect. They did live longer but had a slower reproduction rate than the control group. The hypothesis that stated alpha-Tocopherol fed C. elegans will live longer and reproduce more was incorrect also. Their reproduction rate increased as compared to the control group, but their longevity decreased.  The C. elegans that were fed Cobalamin did not have the fastest reproduction rate but lived longer than control group and the C. elegans that were fed alpha Tocopherol.	
<b>Summary Statement</b> This project is about feeding C. elegans two different kinds of vitamins and observing what happens with their reproduction rate and lifespan.	
<b>Help Received</b>	