



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

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| Name(s) Addison D. Williams | Project Number J0521 |
| Project Title Comparing the Effects of Cobalamin and alpha-Tocopherol on the Reproduction Rate and Longevity of Caenorhabditis elegans | |
| <div><div>Objectives/Goals<p>This project was conducted to determine if specific vitamins fed to C. elegans would effect their reproduction rate and longevity.</p></div><div>Methods/Materials<p>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.</p></div><div>Results<p>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.</p></div><div>Conclusions/Discussion<p>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.</p><p>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.</p></div></div> | |
| Summary Statement <p>This project is about feeding C. elegans two different kinds of vitamins and observing what happens with their reproduction rate and lifespan.</p> | |
| Help Received | |