



**CALIFORNIA STATE SCIENCE FAIR
2003 PROJECT SUMMARY**

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Project Title A Three Year Study of Water Disturbance Involving Different Variables Affecting Mosquito Development	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective is to investigate an alternative to chemical mosquito control and further study how motion disturbance of water affects the development of mosquito larvae into adult mosquitos.</p> <p>Methods/Materials I tested Culex quinquefasciatus #2 mosquito larvae because I know that the larvae naturally surface to breathe, remain there, and then swim downward if they are disturbed by something like light or movement. Containers were set up with the same water at room temperature with an electric fan positioned to fan on the surface of the water. Containers were also set up with a bubbler beneath the water surface. I put twelve larvae in each container for each run and counted how many larvae developed to the next stage, pupae, and then on to adult mosquitos. I also set up a container with larvae without a fan or bubbler as a control.</p> <p>Results In the preliminary test, 2 out of 24 "bubbler container" larvae matured to pupae and to adults. In the "fan container" larvae, 2 out of 24 matured to pupae and to adults also. Fewer larvae in the bubbler container matured to the next stage pupae.</p> <p>Conclusions/Discussion The development of larvae to pupae to adult was affected by both the bubbler (below water surface disturbance) and the fan (water surface disturbance). I think that the fan slowed development of the mosquito larvae. The bubbler damaged more of the larvae stage. The bubbler is more interfering because fewer larvae survived. They died before they became pupae. I think that disturbance to the water environment where larvae live is a negative influence on the development of the mosquito.</p>	
Summary Statement I investigated motion disturbance in the mosquito larva's water environment to see if it affects development into an adult mosquito.	
Help Received I used the fan and set up at school, with help from Mr. Whittington; Mom helped with board; Kearney Mosquito Lab supplied me with larvae.	