



**CALIFORNIA STATE SCIENCE FAIR  
2004 PROJECT SUMMARY**

<b>Name(s)</b> <b>Christine Haas</b>	<b>Project Number</b> <b>S1407</b>
<b>Project Title</b> <b>Buckeye's Biggest Battle: The Effects of a Natural Toxin on Adult Mosquitoes</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The purpose of this experiment was to determine the effects of a natural toxin from buckeye seeds on adult mosquitoes. I live in Wonder Valley, which is open range, where mosquitoes are a problem, and which has no mosquito abatement. In addition, this experiment was conducted to determine if the buckeye toxin would be an effect treatment for mosquito nets. <b>Methods/Materials</b> I used buckeye because it's native to Wonder Valley; the livestock tends to leave it alone. After creating the buckeye toxin, I measured different strengths for my experiments. In Experiment #1, Impregnated Filter Paper Assay, I made 3 samples for each strength and the Control. I used 20 mosquitoes in each sample. For Experiment #2, the buckeye spray, I used 6 samples to create the 100% and the Control. <b>Results</b> Experiment #1 # Impregnated Filter Paper Assay The 50%, 75%, 100% toxins had no effect on the adult mosquitoes. Experiment #2 # Spraying Buckeye Toxin In 1 hr, 85% of the mosquitoes in the 100% containers were dead. Within 24 hrs, 92% of the mosquitoes were dead. <b>Conclusions/Discussion</b> In conclusion, the results from the Impregnated Filter Paper Assay show that buckeye will not be effective for uses such as mosquito netting. However, my second experiment shows buckeye has potential as an adulticide spray.	
<b>Summary Statement</b> The use of buckeye seeds to "naturally" replace chemical pesticides in the fight against adult mosquitoes.	
<b>Help Received</b> Used lab equipment at Clovis East High School (under supervision of Ms. Akondo) and at U.C. Kearny Research Mosquito Lab (under supervision of Mrs. Christiansen). Mother helped assemble board.	