



**CALIFORNIA STATE SCIENCE FAIR
2005 PROJECT SUMMARY**

Name(s) Jennifer E. Fox	Project Number J0803
Project Title Using Plants to Remove Pesticides from Storm Water Run-Off	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My project is Using Plants to Remove Pesticides From Storm Water Run-Off. The farmers in the Central Valley are required to control the run off water from their farms. The reason they need to do this is so pesticides in the runoff water will not get into the ground water.</p> <p>Methods/Materials</p> <ol style="list-style-type: none">1. Mix 10 gallons of Malathion at 12 1/2% of the recommend label strength.2. Divide the 10 gallons into 5 containers or 2 gallons in each container. Each container is 14 in wide by 23 in. long and 6in. deep.3. Add one type of plant to each container (Hard Stem Bullrush, Common Cattail, Parrotfeather, and Smooth Scouring Rush) -. Plants take up about 25% of the area of the container. One container with no plant in it is the control.4. Using 5 different cups, dip out a cupful of liquid from each container.5. Use a fish net catch a tadpole from the main container and place one in each cup.6. Record time of death for sample <p>Results The result of my investigation indicates that all 4 plants helped remove pesticides from water. All the plants worked better than the control. Hardstem Bulrush was over 100% better at removing pesticides than the control. The reason that I believe it works is that the plant adds oxygen to the water and soil. The oxygen helps organism such as algae, protozoa's, and fungi to break up chemicals in the water into there base elements.</p> <p>Conclusions/Discussion My Hypothesis was correct. My Hypothesis was that plants could help purify contaminated water from farm runoff. The best plant removed over 100% more Malathion than the control. The reason that it worked is because the roots or rhizome of the plants let oxygen into the water that allowed aerobic bacteria such as fungi, algae and protozoa to live. They help break up the Malathion into its base elements of Sulfur and Phosphorus.</p>	
Summary Statement Using plants to see if they could filter out storm water run-off from farms.	
Help Received Mom helped me put together my board and Mr. Jeff Halsted from the Kings River Conservation District helped me choose plants.	