



**CALIFORNIA STATE SCIENCE FAIR
2013 PROJECT SUMMARY**

Name(s) Emma R. Schaefer-Whittall	Project Number J2214
Project Title What's on the Menu?	
Abstract Objectives/Goals My objective was to test whether ladybugs prefer to eat aphids, pollen, powdery mildew, or scale insects. Some gardening resources suggest that ladybugs eat pollen which would decrease plant reproduction. Methods/Materials To test what the ladybugs preferred to eat, I compared aphids to three other food choices (pollen, scale insects, and powdery mildew). For each experiment I put 10-20 aphids on one side of a tupperware in a corner. In the closest corner to the aphids, I placed one of the three different food choices. After I sealed the tupperware with saran wrap and a rubber band, I recorded every time a ladybug ate an aphid or the other food item for ten minutes. I released the ladybugs in my garden and repeated each experiment 2 more times. Results In the three aphids vs. sour grass pollen experiments, the ladybugs chose pollen an average of 18.8% of the time, but preferred aphids 81.3% of the time. In the three aphids vs. scale insects trials, the ladybugs chose scale insects 44.4% of the time, but preferred aphids 55.6% of the time. In the three aphids vs. powdery mildew tests, the ladybugs chose the powdery mildew 31% of the time, but preferred aphids 59% of the time. Conclusions/Discussion My question was, what do ladybugs prefer to eat: aphids, pollen, powdery mildew, or scale insects? I predicted that ladybugs would prefer aphids and my hypothesis was supported by my experiments. The second most preferred food was the scale insects and the least preferred was the pollen. The results of these experiments suggest that if you have aphids in your yard, ladybugs will take care of your problem. I was surprised to discover that ladybugs also eat scale insects at about the same rate as aphids. All in all, ladybugs are an excellent insect pest controller, but they will not help remove powdery mildew. Contrary to some reports, ladybugs rarely eat pollen and thus are flower friendly.	
Summary Statement My project is about whether ladybugs prefer pollen or pests.	
Help Received My dad helped proofread my report and supervised the ladybugs.	