



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

Name(s) Kyle T. Aidukas	Project Number J1801
Project Title Containers' Effects on Banana Ripening	
Abstract Objectives/Goals The purpose of this experiment is to determine which type of container will keep a banana freshest the longest. The banana peel's color would indicate ripeness. The hypothesis was that if a banana is in an air-tight container, then the banana ripening will slow. Methods/Materials Research shows that ethylene is responsible for the ripening of fruits. My research also said that CO ₂ is a blocker of the production of ethylene. In my study, I used a product called #Extralife# that has potassium permanganate in it, which is supposed to absorb ethylene, and put it in one of the closed Ziploc bags. I compared the ripening of 18 bananas, four of which were control bananas, in each of the trials. I also recorded the stage of ripeness over the course of seven days. Bananas were randomly placed in five different container types, which were further divided into fourteen experiments. They were photographed and evaluated twice a day for Trial 1 and for Trial II pictures were only taken in the morning. The ripeness was recorded every day. The independent variable was container types and the dependent variable was the speed of ripening as determined by the Chiquita Banana Ripeness Stage Scale. Results The major finding was that bananas in a closed, airtight container did not ripen as quickly as bananas exposed to air. The bananas in the closed Sterilite container, the closed Sterilite with the CO ₂ , and Ziploc bag with the potassium permanganate product in it kept those bananas at Stage 3 of ripeness, which is a peel more green than yellow. The bananas with Stage 7 of ripeness, which is a peel that is yellow flecked with brown, were a control, a small closed paper bag, a large paper bag with holes, and a Rubbermaid container with vent holes. In Trial II, weights were recorded before and after the trial and they showed a correlation between weight loss and ripeness stage. The greenest bananas lost the least weight and the ripest bananas lost the most weight. Conclusions/Discussion Both Trials supported my hypothesis that a closed, air-tight container will keep bananas from ripening quickly.	
Summary Statement The purpose of this experiment is to determine which type of container will keep a banana freshest the longest.	
Help Received Mother helped type report and Father helped with display.	