



CALIFORNIA STATE SCIENCE FAIR 2013 PROJECT SUMMARY

Name(s) Andres S. Gonzalez	Project Number 33887
Project Title Which Household Product Will Preserve a Carved Pumpkin from Developing Mold and Dehydration?	
Objectives/Goals The purpose of this experiment is to determine which household product will preserve a carved pumpkin from developing mold and dehydration. The main concern with carved pumpkins is to fight off the inevitable mold that begins to grow on the pumpkin flesh and destroys the pumpkin from the inside. Abstract Methods/Materials I decided to conduct my experiment in two parts. During the preliminary test I tested 20 household products and compared them to my control which had no product added. These products included: water; soapy water; Clorox Bathroom Cleaner; Windex; vinegar; hairspray; alcohol; Lotrimin, vegetable oil; Neosporin, Clorox Antifungal Cleaner, lemon; lime; white glue; hydrogen peroxide; Tinactin; sealer; Polysporin; vaseline; and bleach. Once the product was applied I measure the loss of mass and the area of the top square on the pumpkin cube daily for seven days. From the preliminary test I identified five products that worked best. I then used these products in a final test where the pumpkin cubes were cut larger than the preliminary test and were measured the same way for a total of 21 days. Results My hypothesis was that Clorox Antifungal Cleaner would best preserve the pumpkin flesh from dehydration and mold growth by maintaining the highest mass and the highest area of the top square on the pumpkin cube. My hypothesis was not supported by the data from this experiment. The data showed that Polysporin preserved the pumpkin flesh the best. This product maintained the highest mass and the largest area from the top square on the pumpkin cube. By day twenty-one Polysporin lost an average mass of only 4.40 grams while the Clorox Antifungal Cleaner lost an average mass of 13.4 grams. By day twenty-one Polysporin lost an average area of only 0.700 cm ² , while Clorox Antifungal Cleaner lost 4.70 cm ² of its average area. Conclusions/Discussion If a pumpkin needs to be preserved for over 3 weeks Polysporin does an amazing job. The only drawback to this product is that it is expensive. A tube of Polysporin that contains 14 grams and can cost close to five dollars. Theme parks and other businesses that profit from customers would likely be willing to spend the cost of coating their carved pumpkins with Polysporin, but your average family is better off soaking the pumpkin daily in water and 1% Clorox Antifungal Cleaner.	
Summary Statement To determine which household product will preserve a carved pumpkin from developing mold and dehydration.	
Help Received My mom helped me cut the pumpkin cubes so they were the same size. My dad helped me add electrical lights to my board.	