



CALIFORNIA STATE SCIENCE FAIR 2016 PROJECT SUMMARY

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Project Title The New and Affordable Alternative! Will Turmeric Treat Powdery Mildew?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Powdery Mildew is regarded as a pathogen that attacks plant leaf regions, potentially leading to its mortality. The purpose of this experiment was to test the effect of a turmeric extract solution on plants that are affected by Powdery Mildew. The turmeric solution method would be a #non-chemical# derived treatment that would be a potentially fast, affordable and benign method of Powdery Mildew control.</p> <p>We conducted a series of five experiments using Turmeric on infected pumpkin leaves. Before we began treatment, we traced the leaves to calculate the surface area and to document the Powdery Mildew evident on the leaf to observe improvement occurring through the various trials.</p> <p>Methods/Materials Examine Powdery Mildew on the leaves of the Pumpkin Plant in garden. Trace each leaf on the tracing pad, making sure to get a close to accurate depiction. Using a sheet protector and a white board marker, plot points according to the different places evident of Powdery Mildew. After, carefully paste the tracing paper on the 1 by 1 cm graph notebook to calculate surface area. Take out organic Turmeric powder and pour an amount of 4.5 grams and 20mL of water into the beaker which is placed on top of the electronic scale. Take a picture before and after experimentation. Using a swab, apply Turmeric extract powder directly on infected leaf spores. After, use a paintbrush and apply another coat of the mixture on top of the Pumpkin leaves.</p> <p>Results The Turmeric treatment applied to thirteen Pumpkin plant leaves that were infected with Powdery Mildew. The average of the fungal disease suppression was 1.6%. Our hypothesis was partially supported by our collected data.</p> <p>Conclusions/Discussion To conduct this experiment, we first calculated the leaf surface area and the number of Powdery Mildew colonies were traced onto graph paper which was used to create a grid system that was observed for 2 weeks.</p> <p>The average leaf area covered in Powdery Mildew spore colonies that were suppressed was approximately 1.6%, our hypothesis was partially supported.</p>	
Summary Statement Throughout this experiment, we measured the treatment of Powdery Mildew by using Turmeric on the leaf spores of a Pumpkin plant, experiencing partial significant changes to our findings.	
Help Received We independently conducted our experimentation of fungal removal on a plant on our school's garden. Our teacher gave us the notion of experimenting on the Pumpkin plants in our school, instead of experimenting in another environment or field.	