



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Taru M. Flagan	Project Number S1608
Project Title Pollinating in the Rain	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of my experiment was to answer the following question. What happens to pollen when rain, fog, or dew wets its flower? This project explores the behavior of many types of pollen when immersed in water, in comparison to the type of flower they came from</p> <p>Methods/Materials I began by collecting my first plant sample, the rye grass, and immediately transferred the pollen from this plant onto a concave well on a microscope slide. I then placed the slide under the microscope. I replaced the eye piece of the microscope with the digital camera. Once I found an area of the slide which contained a clear view of the pollen, I photographed it at various magnifications using the digital camera. I then proceeded to add water to the slide using an eye dropper. I photographed the pollen with the water added. I photographed the pollen at various time intervals until the time of explosion. I repeated this experiment multiple times for each plant.</p> <p>Results The pollen from all of the different plants ruptured when immersed in water. Some of the samples formed tubes before rupturing, while others just exploded. Different flowers took different amounts of time to explode. The flowers were separated into different groups: the protected group, the group in which the flower closes at night, and the unprotected group. The pollen from flowers in the protected group ruptured in the shortest time. The pollen from the group of plants whose flowers close at night also ruptured quickly. The unprotected group, took the longest time period to the pollen to rupture.</p> <p>Conclusions/Discussion These results suggest an evolutionary factor in pollen rupture. Plants whose pollen ruptures quickly, may have reproduced better by developing flower structures that protect the pollen from water. Other ways they could protect the pollen are to hang upside down or close their petals during high humidity. The plants whose pollen took a long time to rupture didn't need to develop such mechanisms to protect the pollen from rupture.</p>	
Summary Statement The degree to which a flower's structure protects its pollen from rain correlates with the time it takes for pollen to rupture when immersed in water.	
Help Received Used equipment from Ramona Convent Secondary School.	