



**CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY**

Name(s) Dennis B. Lui	Project Number S1714
Project Title Inhibiting the Growth of Aspergillus	
Abstract Objectives/Goals This investigation aimed to examine the relationship between the amount of growth of mold on a piece of paper and the pH of the water used to saturate the paper. Specifically, this investigation sought to find what pH would inhibit the growth of mold. Methods/Materials The key materials in this investigation were a glass tank, a humidifier, Hydrochloric acid (HCl), Sodium Hydroxide (NaOH) and standard computer paper. The preparation for the trials had two parts. The first involved creating 5 solutions with a pH 4, 6, 7, 8, and 10 by diluting appropriate amounts of HCl and NaOH into distilled water. The second involved growing an initial mold sample by saturating a sheet of paper, putting it in a glass tank, humidifying the tank and sealing it. The trials were conducted by saturating several pieces of gridded paper in the various solutions, placing them in the glass tanking, putting an initial mold sample with the paper, humidifying the glass tank and sealing it. The growth of mold was recorded over a 20 day period. Results Overall, the paper saturated with water of a lower pH generally had more growth than the paper saturated with water of a neutral or basic pH. In general, the most growth was found on the paper that was saturated with water whose pH was 4, with the second most on the paper saturated with water whose pH was 6. The trials where the paper was saturated with water of pH 7 and 8 had similar amounts of growth. The least growth was found on the paper saturated with water of pH 10. Conclusions/Discussion The data from this investigation seems to show that as the pH of the water used to saturate the paper increased, the amount of mold growth decreased. This supports the idea that the mold examined thrives in more acidic conditions. Thus, it would seem that basic pHs inhibit mold growth.	
Summary Statement This investigation focuses on finding whether one could inhibiting the growth of mold by varying the pH of the water that saturated the paper on which mold grows.	
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