CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
S1922

Project Title
Certain Colors = More Dust Mites?

Abstract

Objectives/Goals
To see if certain colors attract more dust mites more than others. I know that dust mites usually attract to areas where there is dust, bacteria, mould, or other materials that they feed on, but do they prefer certain colored areas to another? Before beginning my experimentation, I hypothesized that they would attract to black more than any other color because black absorbs more solar energy more than any other color, and dust mites tend to thrive in warm places.

Methods/Materials
To test my problem, I placed a set of six different colored felts (black, white, red, pink, orange, yellow, and white) in six different locations where dust mites are ideally found (pillowcase, carpet, couch, rugs). Since I was testing if certain colors attract dust mites more than others, the pillowcase, carpet, rugs, and etc. had to be of a solid color so that I could have a controlled experiment. I would let the pieces of felt sit on the areas, and I would observe each sheet under a light microscope (100, 400X) for 4 minutes each. In each location, I would rank the different colored sheets according to the number of dust mites I saw on them. Every other day, I would repeat this procedure.

Results
After I did 60 tests, I graphed and tallied all of my data and saw that yellow attracted more dust mites than the other five colors. Orange came in second with pink behind it. White came in after pink, then the darker colors red and black. The differences between the attraction of dust mites to these different colors were noticeable, but not drastic.

Conclusions/Discussion
As one could see, my hypothesis is actually the opposite of the results, for black came in last. I expected dust mites to thrive in darker regions of the color spectrum because darker colors absorb more solar energy. White#s results were scattered throughout the experiment, and it was not the color that attracted dust mites consistently because it reflects off too much light. Therefore, the mid-ranged colors of the color spectrum (yellow, orange, and pink) attracted the most dust mites because they absorb the adequate amount of solar light for dust mites to thrive on. In conclusion, dust mites attract to the middle-ranged colors of the color spectrum more than darker and lighter regions.

Summary Statement
To see if certain colors attract dust mites more than others.

Help Received
Borrowed microscope from school