CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)

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Project Number

J1323

Project Title

Which Building Materials Are Most Resistant to Mold Growth?

Abstract

Objectives/Goals

This experiment tested mold on various building materials in order to determine which substrates are least conducive to growth.

Methods/Materials

One of each of six building materials#brick, drywall, linoleum, masonite, tile, and wood#were placed in four large cardboard boxes. A different type of mold#Aspergillus, Penicillium, and Rhizopus#was applied to each substrate in its respective box, and one box, the control, had no mold applied. Each box was heated and kept moist with sponges. It was predicted that brick would have the least growth, due to the material#s low cellulose and moisture content, along with its high moisture storage capacity. Brick would be followed by linoleum, masonite, tile, wood, and finally, with the most growth, drywall.

Results

Over the next several days, the substrates were observed, with no growth present on the tops of the materials. But the bottoms of the drywall, masonite, and wood all showed progressive growth throughout the twelve days that the experiment was run.

Conclusions/Discussion

It was concluded that brick, linoleum, and tile were all free of mold, while drywall, wood, and finally masonite, with the most, had considerable growth. Therefore, the hypothesis is partially accepted, as the experiment determined which building materials are most resistant to mold growth.

Summary Statement

My experiment tested mold on various building materials in order to determine which substrates are most resistant to mold growth.

Help Received

Father helped tape pieces to board and provided project funding; Stephanie Wilkinson, mentor, provided advice and proofread report; Howard Berg, UCSB, devised heating device; Bruce Tiffany, UCSB, advised on project; Tim Cuellar, UCSB, supplied and cut materials