



CALIFORNIA STATE SCIENCE FAIR 2017 PROJECT SUMMARY

Name(s) Joshua L. Brison	Project Number J2003
Project Title Terpenes vs. Mold	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals I started doing research on the bark beetle when I found out about the blue stain fungus. Then my father asked me what stops the blue stain fungus? The answer was terpenes. In a natural forest terpenes kill the fungus. This led me to the question is terpene more powerful than household mold killers? My goal was to try to see if we could use the results to benefit the trees.</p> <p>Methods/Materials I took nine mold killers and compared them to 100% pure terpene to see which chemical is the better mold killer. We took 10 petri dishes full of agar and mold then we let the mold grow for at least two weeks when the mold was covering the whole dish, I added the chemicals and observed the death. I found the area of the dish then subtracted the area of the dead mold.</p> <p>Results The result was that 100% turpentine was the most powerful mold killer. When the turpentine came in contact with the mold, death was immediate in the area where it was dropped and in a slight radius around it. In a period of 24 hours the death spread to the entire dish more effectively than any other mold killer we tested.</p> <p>Conclusions/Discussion In all six trials the results were conclusive and consistent. The results supported my Hypothesis that the trees natural defenses would beat the other products. The experiment help show me that the trees natural defenses are highly adapted at killing mold. All of this research has given me greater understanding of the war between the bark beetle and the pine tree.</p>	
Summary Statement I compared terpenes, the pine tree's natural defenses against bark beetles and blue stain fungus, to household products to see which is the most effective at killing molds and fungus.	
Help Received Terry Hampton my science teacher, Chris Fuller my mentor teacher, Maryanne Garamendi our science fair coordinator, Corrie Ross my teacher, Susan Kocher with the Forest Service talked with me by phone about the forest, Dr. Wood Head of Entomology at UC Berkeley spoke with my by phone about bark	