



CALIFORNIA STATE SCIENCE FAIR 2017 PROJECT SUMMARY

Name(s) Michael P. Bedrosian	Project Number J0304
Project Title Comparing the Strength of Reclaimed Wood to New Wood	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective of this study is to determine which type of wood is stronger. My goal is to determine if reclaimed wood is stronger than new wood. Reclaimed wood would give builders a recyclable option for their building materials.</p> <p>Methods/Materials Fabricated 10 32" by 1 1/2" length wood planks of each new and reclaimed Douglas fir and Redwood types (40 planks). Used rope, cement blocks, scale, trough, sand and various weights. Stacked cement blocks 16" apart side by side and placed wood on top. Wood planks are center between blocks. Rope tied to plank of wood and trough. Trough gradually filled with weights and sand till board breaks and weighed. Procedure repeated 10 times for new and reclaimed Douglas fir and Redwood wood types. Results are recorded and a strength average is given for each wood type.</p> <p>Results The results of my investigation on comparing the strengths of new and reclaimed wood shows that reclaimed wood is stronger than new wood. On the two types of wood tested, new Douglas fir had a strength average of 157 lbs. vs. 164 lbs. reclaimed Douglas fir. The reclaimed Douglas fir is 5% stronger than new Douglas fir. New Redwood had a strength average of 130 lbs. vs. 190 lbs. reclaimed Redwood. Reclaimed Redwood tested way higher with a 33% strength average difference over new Redwood. This further proves that reclaimed wood is stronger than new wood.</p> <p>Conclusions/Discussion I found that my hypothesis for reclaimed wood being stronger was correct. The reclaimed Douglas fir was slightly stronger than new Douglas fir which was not significant. However reclaimed Redwood was much stronger than new Redwood which was very significant. The tests supported the research that reclaimed wood is stronger than new wood. People can make important building decisions as to which what type of wood to use for strength and durability if they knew which wood is stronger. Better quality and more sustainability, is a win win for our environment. It is not always true when we say, "In with the new and out with the old."</p>	
Summary Statement I compared the strength average of reclaimed wood to new wood, and reclaimed wood was stronger in both types of wood.	
Help Received The following employees of National Raisin Co. did the fabrication of the wood planks; Frank Reyna, James Vance, and Phat Phan. Marc Mandel owner of Crossroads Lumber the selection of reclaimed wood.	