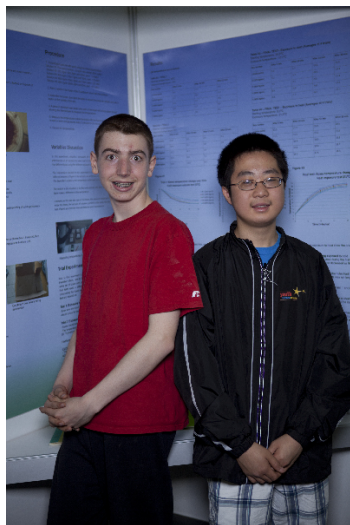# CWSF 2013 - Lethbridge, Alberta

Owen Bai, Callum Mitchell

Lignin: Thermal Insulation

Challenge: Innovation
Category: Intermediate
Region: Northwestern Ontario
City: Thunder Bay, ON
School: Sir Winston Churchill C.V.I.

Abstract: Our project investigates the insulation capabilities of lignin, a biopolymer. Cardboard boxes were coated with different lignin/paint solutions. The boxes were exposed to cold, and the internal temperature of the the boxes was measured at different time intervals. Boxes coated in more lignin were less affected by the exposure, suggesting that lignin is an effective thermal insulator.

Biographies

Owen - I was born in Winnipeg and moved to Thunder Bay when I was 5. I am currently in grade 9 attending Sir Winston Churchill high school in Thunder Bay. I have attended school for 3 months in China in 2009 to have a feel in the different education. Some of my achievements have been achieving the highest mark in Ontario for grade 5 Conservative piano in 2009, the newspaper carrier of the year in 2011 for the Chronicle Journal, and 2nd place in the Lakehead University math contest. I also volunteer at various places in the city, such as Boys and Girls Club. I have also participated in the regional science fair last year and I won 2 regional awards. ...

Callum - I'm a grade 10 IB student at Sir Winston Churchill High School in Thunder Bay, Ontario. I love math, science, and music. Owen and I took part in the science fair because it was required for school, but it has now become so much more than just a project. We plan to continue researching and developing our topic even after the fair is over, and will definitely be participating again. Someday, I want to become an engineer or applied scientist.

Awards	Value
Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	$100
Western University Scholarship Bronze Medallist - $1000 Entrance Scholarship Sponsor: Western University	$1 000
Total	$1 100

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