

# CWSF 2015 - Fredericton, New Brunswick



## Austin Sawyer

### Low Cost Solutions to Improve Tie Longevity

**Challenge:** Innovation

**Category:** Senior

**Region:** Vancouver Island

**City:** Victoria, BC

**School:** Lambrick Park Secondary

**Abstract:** I developed and investigated inexpensive treatments designed to increase wood railway tie longevity. Treatments were chosen to reduce radial splitting, maintain low moisture contents and reduce wood abrasion caused by moving grit in miniature ballast boxes. Ties endured freeze/thaw/heat/soak cycles and the repeated forces of 5 000 trains. Mechanical strength testing showed that three treatments had minimal strength loss and might improve tie longevity.

#### Biography

CWSF has led me into the best experiences of my life making science become my ultimate passion. Innovation will always be something I love and will be what inspires me to achieve. I plan to go into Biomedical Engineering at UVIC.

#### Awards

#### Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$2 000

