

CWSF 2015 - Fredericton, New Brunswick



Elena Frie

Ancient Solutions

Challenge: Environment

Category: Intermediate

Region: Greater Vancouver

City: Vancouver, BC

School: Prince of Wales Secondary

Abstract: This experiment evaluates efficacy of Cyanobacteria genera Tolypothrix, Gloeotrichia and Cylandrospermum in reducing aquatic acidity caused by rising atmospheric CO₂ and concomitant increase of carbonic acid in water. The results suggest that the three genera are extremely effective. Due to differing physical structures, Cylandrospermum was most effective followed by Gloeotrichia and Tolypothrix. Results confirm that Cyanobacteria should be further studied to address rising atmospheric CO₂.

Biography

Elena Frie is a grade 9 student attending Prince of Wales Mini School in Vancouver, BC. Elena was born and raised in Manhattan, NYC before moving to Vancouver. Now in Vancouver, she spends her time competitively skiing and playing soccer. In contrast, during the summer, she windsurfs. With a passion for astronomy, Elena enjoys the outdoors immensely, and through looking into freshwater phytoremediation she came across the large issue of water body acidity. Using a photosynthetic bacteria, cyanobacteria, Elena found ways of countering this acidity using 3 different genera. Cyanobacteria are the most abundant of bacteria on earth and thus, moving forward, Elena would like to test other cyanobacteria genera. With the goal of countering acidity in water bodies, Elena enjoyed her science fair immensely and would recommend to others that they should find a topic that they are passionate about.

Awards

Value

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