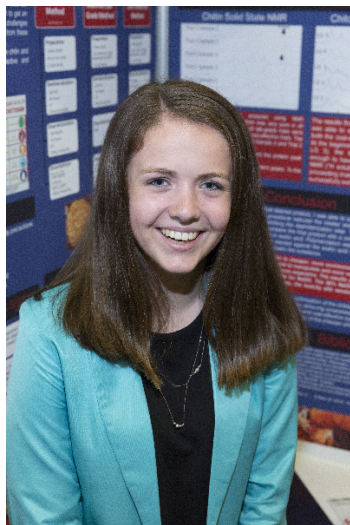


CWSF 2018 - Ottawa, Ontario



Neleah Lavoie

Cost-Effective Extraction of Chitin and Chitosan from Lobster Shells

Challenge: Resources

Category: Intermediate

Region: 4-H Canada

City: Hunter River, PE

School: Gulf Shore Consolidated School

Abstract: Every year 7 millions tonnes of lobster shell waste is produced, filling landfills and compost facilities worldwide. Lobster shells contain two valuable substances: chitin and chitosan, both with applications in medicine, agriculture, and engineering. Due to extraction costs, these resources are ignored. My project developed a cost-effective method to extract chitin and chitosan, replacing lab-grade chemicals with household products. Samples were analyzed using NMR spectrometry.

Biography

My name is Neleah Lavoie and I'm fourteen years old. This is my third time at the CWSF and I am very excited to be back. My main interest is competitive soccer, but I also participate in many school sports, band, Destination Imagination and 4-H. In the future, I want to go to med. school and become a surgeon. This year's project began last year where my inspiration came from reading an article in my local newspaper about a resource called chitin that can be found in lobster shells. Seeing that I live in a small fishing village and I have a keen interest in science this project has been a perfect fit. The complexity and the cost of chitin and chitosan extraction is a topic that really interests me. The advice I would give to students who are considering doing a project is: choose a topic you're interested in and let yourself make mistakes because it is through our mistakes that we improve.

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