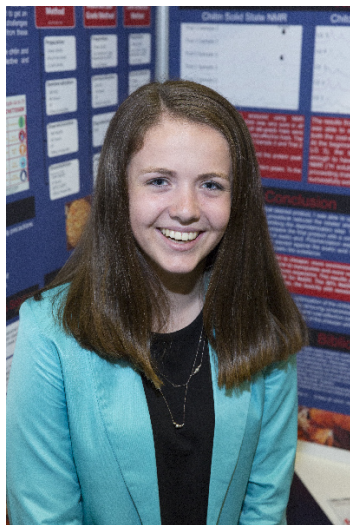


# CWSF 2018 - Ottawa, Ontario



## 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