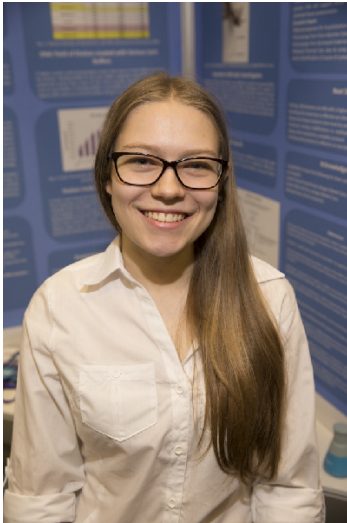


## CWSF 2016 - Montreal, Quebec



### Ashley Spence

#### Improving the Methods of Detection and DNA Isolation of Bacteria in Milk

**Challenge:** Health

**Category:** Senior

**Region:** Niagara

**City:** St Catharines, ON

**School:** Sir Winston Churchill

**Abstract:** Milk is one of the most consumed animal products worldwide. Currently, 3% of North Americans consume raw (unpasteurized) milk and this percentage continues to grow. This project modified an existing method of DNA isolation for bacteria in milk to develop an effective and faster method to detect bacteria in unpasteurized milk from various sources and prevent food-borne illnesses.

#### Biography

I have always had an interest in biology, particularly genetics. Because of this, I applied to the Gene Researcher For A Week program and was selected to work in a university lab to further my skills and help decide if I would like to pursue a career in this area. Immediately, I became very passionate about genetic research. Upon my return, I finished taking all of the science classes available and secured a co-op position at Norgen Biotek, a biotechnology company that creates kits for DNA isolation. I began my Mentorship and decided that I wanted to do my research on a human health issue. As the legalization of raw milk is a growing topic in the news, I wanted to develop a rapid and effective method to detect harmful bacteria in unpasteurized milk. I improved Norgen's milk bacterial DNA isolation kit with my project research and next, I would like to expand my research to include other types of milk such as goat milk or human breast milk, as well as milk with higher fat contents. To any students considering doing a project, I highly recommend pursuing it. The skills you gain will be invaluable in your future endeavors.