

# CWSF 2019 - Fredericton, New Brunswick



## Emily Robb

### Grow Big or Grow Home: The Roots to Hydroponic Success

**Challenge:** Environment

**Category:** Intermediate

**Region:** Western Manitoba

**City:** Brandon, MB

**School:** Vincent Massey

**Abstract:** The goal of this experiment was to test and see if there was a specific concentration of a hydroponic fertilizer brand that would allow arugula to statistically produce more biomass, or yield. Hydroponic agriculture is often more justifiable than conventional agriculture. Allowing beneficial crops to consistently produce more biomass in a sustainable manner can aid rehabilitating the environment and working towards stronger food security.

#### Biography

My name is Emily Robb and I am in grade 10 attending Vincent Massey High School in Brandon, Manitoba. My interests include plant pathology, agricultural endeavours, soil physiology, environmental stewardship, and sustainability. Involving some of these are my hobbies, which mainly encompass experimenting with flora and working with agricultural matters, seeing that I am a Global Youth Institute recipient this year. I've also been playing ringette for 10 years, along with softball and curling for less time. This year, I focused on devising a solution for food insecurity that we face today. I also cared to be sustainable in doing this, so I used hydroponics, which grows plants without soil usage. I tested various hydroponic fertilizer brands in different concentrations, and statistically verified if the biomass each produced was somewhat significant. Moving forward, I would like to take this year's results to help formulate a highly effective hydroponic fertilizer for biomass production. This is my third year attending CWSF, and my tenth participating in science fair. Each year is incredible; countless brilliant ideas start here, and I look forward to it every year. I would insist that others join so that they can participate in life changing experiences as well.

#### Awards

#### Value

Nutrients for Life Foundation Award - Intermediate Sponsor: Nutrients for Life Foundation Canada	\$750
Excellence Award - Intermediate - Gold Medal Sponsor: Youth Science Canada	
Challenge Award - Environment - Intermediate Sponsor: Youth Science Canada	
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
<b>Total</b>	<b>\$4 750</b>