

## CWSF 2018 - Ottawa, Ontario



### Rhiannon Evans

#### Groundless Growth

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Central Okanagan

**City:** Kelowna, BC

**School:** KLO Middle School

**Abstract:** In 2009, the first non-circulating method of hydroponics was developed, but the materials used were synthetic and rare. The high nitrogen concentration in its nutrient solution created the potential for algae growth, pH drops, and environmental harm. This project adjusts the method to use an alternative nutrient solution and easily sourced materials to create better accessibility and sustainability, useful in developing nations and urban settings.

#### Biography

I am a grade nine student at KLO Middle School. This is my first science fair and I am very excited to be attending. I am interested in learning new languages, public speaking, and medical sciences. My studies are very important to me and I try to take every opportunity I come across. I enjoy cooking, reading, and volunteering at my local nursing home. I plan to go into either neurology or biomechanical engineering. I came up with the idea for my project after completing an essay on world hunger. Researching the essay, I learned not only about the horrific physical side effects of undernutrition, but the economic and developmental consequences as well. Feeding individuals who struggle to feed themselves and developing solutions to mitigate the symptoms of their poor nutrition are both helpful, but helping develop the conditions for self-sustainability is much more beneficial in the long run. Because of this, I wanted to create a solution that would be highly affordable but not environmentally damaging in the process.

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