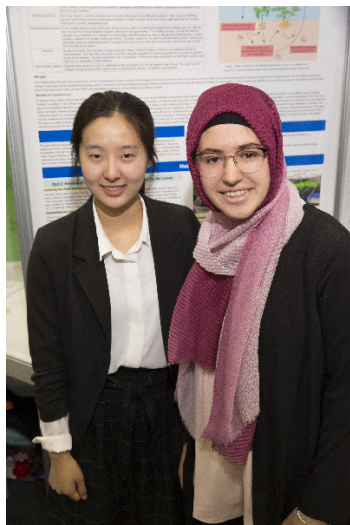


## CWSF 2019 - Fredericton, New Brunswick



### Sarah Choi, Neelah Hassanzadeh

#### BSFL Frass: Improving Plant Health While Minimizing Environmental Impact

**Challenge:** Environment

**Category:** Senior

**Region:** Fraser Valley

**City:** Langley, BC

**School:** Mountain Secondary

**Abstract:** Our project studies how Black Soldier Fly larvae frass can be used as an effective, sustainable, and inexpensive organic fertilizer. This method would address the problem of chemical fertilizers contributing to negative environment impact, such as waterway contamination and greenhouse gas emissions. The study shows how frass can increase plant growth, thereby helping alleviate problems with climate change and the global food crisis.

#### Biographies

Sarah - My name is Sarah Choi, and I am a grade 11 student at R.E. Mountain Secondary in Langley, BC. My inspiration for my project was to investigate how fertilizing methods can be improved to promote plant health while not contributing to groundwater contamination and greenhouse gas emissions, which cause negative environmental impacts. I used experimental data to figure out that Black Soldier Fly larvae frass is not just an effective feed for livestock, but also for defending against common plant pathogens due to its beneficial nutrients. BSFL frass contains important nutrients for plants to grow robustly, including growth hormones, nitrifying bac...

Neelah - Neelah Hassanzadeh is a grade 11 student who lives in Langley, British Columbia. Neelah hopes to attend university after graduating high school in the sciences. Her hobbies include tennis, baking and spending time with her family. With the help of her friend, Sarah Choi, they came up with their project after being introduced to Black Soldier Fly larvae and were amazed by the beneficial properties they possess. After completing this lab, Neelah would like to investigate more about the other beneficial properties of Black Soldier Fly larvae and investigate more about them. Neelah hopes to gain more experience in different fields of science to t...

#### Awards

#### Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of New Brunswick Canada-Wide Science Fair Scholarship Silver Medallist - \$2500 Entrance Scholarship Sponsor: University of New Brunswick	\$2 500
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$11 000</b>