

CWSF 2017 - Regina, Saskatchewan



Evan Sharma

MMO Cow: How microbiome changes can lower methane emissions from livestock

Challenge: Environment

Category: Junior

Region: Frontenac, Lennox & Addington

City: Kingston, ON

School: Calvin Park P.S.

Abstract: Cow burping releases methane and carbon dioxide with accounts for 15% of greenhouse emissions. In this project I wanted to determine if an enzyme, called methane monooxygenase, can lower methane levels from a simulated cow rumen which I created by making kimchi and adding cow cud. I also tested the enzyme on brine shrimp to make sure that it was not toxic.

Biography

Evan Sharma is a grade 8 student from Calvin Park Challenge Program in Kingston, Ontario. Evan is an acclaimed impressionist artist whose work appears in documentaries and in private collections in LA, London, Toronto and NYC. Evan is an alpine ski racer who loves big mountain skiing, and a sailor and volleyball player. His is most at home in nature. Evan is very interested in how the microbiome can affect the human body and the environment. At last year's CWSF, Evan was able to show that fecal microbial transplant can alter the microbiome of a worm. The inspiration for this year's project came from reading an article about how cows are "the next SUV" as the methane that they release is the same as driving 70 miles in a truck. Interested in science, medicine and art history, Evan offers this advice to future scientists looking to do a research project, "Try to do a project that you are very interested in and one that solves a big problem."

Awards

Value

4-H Canada Sustainable Agriculture Award - Junior Sponsor: 4-H Canada	\$500
Challenge Award - Environment - Junior Sponsor: Youth Science Canada	
Excellence Award - Junior - Gold Medal Sponsor: Youth Science Canada	\$250
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
Total	\$4 750