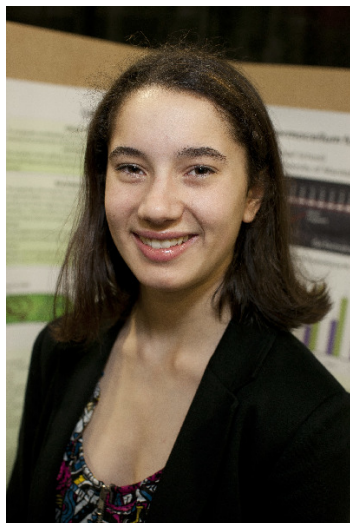


CWSF 2011 - Toronto, Ontario



Ella Thomson

Genetic Modification of Clostridium thermocellum for Improved Biofuels Production

Challenge: Energy

Category: Intermediate

Region: Manitoba Schools Science Symposium

City: Winnipeg, MB

School: Balmoral Hall School

Abstract: Biofuel production in Clostridium thermocellum was enhanced by genetic modification. Plasmids were extracted from E-coli, PFL gene was knocked out of plasmids. The plasmids were reintroduced into E-coli and were transferred into Clostridium thermocellum by conjugation. The ethanol, formate, lactate and acetate production was measured. The gene increased the amount of ethanol produced and can be used for enhanced biofuels production in Clostridium thermocellum.

Biography

My name is Ella Thomson. I am 15 years old and live in Winnipeg, Manitoba. For as long as I can remember I have had a keen interest in science. I began participating in science fairs at the age of 11. Since then, I have entered numerous competitions, such as the Manitoba Schools Science Symposium and the Biotechnology Challenge. I received a scholarship awarded to the student who has contributed the most to the science program. Recently, I discovered my fascination with the field of biotechnology and its applications in sustainability. For the past 3 years I have been working with mentors in the Biotechnology department labs at the University of Manitoba. I have been thoroughly enjoying the experience, and having the opportunity to work with advanced equipment and knowledgeable graduate students and professors. This past summer, I also held a job at the University of Manitoba and worked as a lab assistant in the Microbiology and Biotechnology labs. My goals for the future are to obtain a degree in medicine, and then move on to become a biomedical researcher. Apart from science, I partake in several other activities including debate and public speaking, piano, tennis and highland dance.

Awards

Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	\$300
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
Total	\$1 300