

CWSF 2013 - Lethbridge, Alberta



Naima Raza

Efficient Wastewater Denitrification using Simultaneous Bacterial Degradation

Challenge: Environment

Category: Intermediate

Region: Lambton County

City: Sarnia, ON

School: Northern C.I. & V.S.

Abstract: Cellulose and hemicellulose were proposed to be ideal carbon sources for wastewater nitrogen removal since they can be simultaneously degraded into sugars and used for bacterial denitrification, eliminating potential secondary pollution. In this project, hemicellulose was identified as the ideal carbon source for denitrification by comparing the degradation of cotton and corn stover using the bacterial strain *Bacillus circulans*.

Biography

Scientific research is one of my biggest hobbies and I enjoy doing original projects in biology that have environmental applications. This year, I spread my interest for research amongst my peers by serving as a Director of School Outreach for Science Expo. Additionally, I passionately volunteer for a local non-profit organization called the Bluewater Sustainability Initiative and recently established a local youth committee. I also love creative writing, participate in several contests and won Gold and Silver Keys in the Scholastic Art and Writing Awards. Lastly, I love playing sports including badminton - I was on my school team and play with my local club. In the future, I would like to pursue a double major in microbiology and world issues.

Awards

Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 300