

# CWSF 2015 - Fredericton, New Brunswick



## Dennis Drewnik

### Identification of Plant Defense Genes in the Arabidopsis-Sclerotinia Pathosystem

**Challenge:** Discovery

**Category:** Senior

**Region:** Winnipeg Schools

**City:** Winnipeg, MB

**School:** Sisler High School

**Abstract:** Sclerotinia sclerotiorum is the number one fungal pathogen affecting canola in Canada and causes millions of dollars in damage to growers each year. Comprehensive bioinformatics and functional characterization of the plant defense response genes were carried out in a closely related model organism, Arabidopsis. We identified DORN1 as an integral plant defense response hub that has the potential to improve plant performance under disease conditions.

#### Biography

Dennis Drewnik is a grade 11 student at Sisler High School in Winnipeg, Manitoba with a passion for science and technology. Dennis has been working in the lab of Dr. Mark Belmonte at the University of Manitoba and a participant in local and provincial science fairs for four years focusing on finding solutions to real world problem facing canola growers on the Canadian prairies and around the globe. Dennis's interest in plant molecular biology and bioinformatics has led to the identification of novel plant defense response genes that hold the promise of protecting canola from devastating fungal pathogens that cause millions of dollars in damage to the Canadian economy each year. Beyond the lab, Dennis also enjoys sports and is part of the Cross-Country and Track and Field teams at Sisler High School. An avid fan of puzzles, Dennis enjoys playing chess, solving the Rubik's cube, and optical illusions. It is Dennis' dream to solve important agricultural and biological problems to help bolster and protect the World's food systems.

#### Awards

#### Value

4-H Canada Award - Senior Sponsor: 4-H Canada	\$1 000
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>\$12 000</b>