

## CWSF 2007 - Truro, Nova Scotia



### Josh Segeren

#### Soy Solution: Initial Moisture Effects on the Injury Resistance of Soybeans

**Division:** Biotechnology / None

**Category:** Intermediate

**Region:** Chatham-Kent

**City:** Chatham, ON

**School:** John McGregor S.S.

**Abstract:** This experiment determined the effect of pre-imbibitional moisture levels on the ability of a soybean seed to resist imbibitional chilling injury and dehydration injury. Based on germination, electrolyte leakage and carbon dioxide respiration rates, seeds with higher initial moistures (12% and 14%) exhibited the lowest sensitivity to environmental stresses and demonstrated high viability under ideal conditions, presenting a practical solution to relatively significant agricultural issues.

#### Biography

My name is Josh Segeren and I am a 15-year-old, grade nine student at John McGregor Secondary School in Chatham, Ontario, where I am a dedicated member of the Student Council and School Band. I live on a farm in this largely rural community with my caring parents and older brother, and our dog. Since 2004, I have been involved in science fairs, with my first trip to the CWSF in Vancouver, British Columbia in 2005. Last year, in Saguenay, Quebec, I was honoured to receive a silver medal and the Agriculture and Agri-Food Canada award for my research in soybean production. I enjoy volunteering for the Heart and Stroke Foundation, the Physician Recruitment Campaign, and the Brain Injury Association of Chatham-Kent and working part-time as a computer associate at Staples Business Depot. Music and sports are also significant in my life, especially piano and hockey, both of which I have played since the age of five. Recently, I have started to learn the French horn and the trumpet. My hobbies also include reading, computer gaming, watching movies, playing badminton and running track. In the future, I plan to attain honours degrees in both Science and Business Administration.

#### Awards

#### Value

The University of Western Ontario Scholarship	\$2 000
Gold Medallist - \$2000 Entrance Scholarship	
Sponsor: University of Western Ontario	
Gold Medal - Biotechnology & Pharmaceutical Sciences - Intermediate	\$1 500
Sponsor: Rx&D Health Research Foundation	
EnCana Platinum Award - Best Intermediate Project	\$5 000
Sponsor: Encana Corporation	
<b>Total</b>	<b>\$8 500</b>