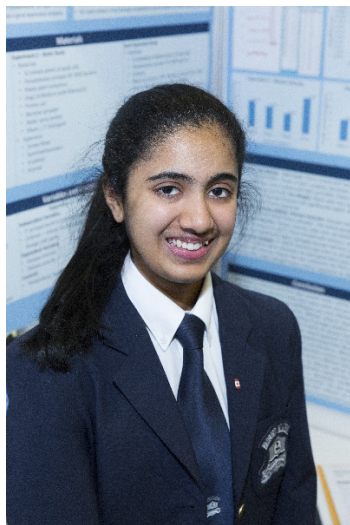


# CWSF 2018 - Ottawa, Ontario



## Janani Venkat

### Effect of Chitosan on Plants under Abiotic and Biotic Stress

**Challenge:** Resources

**Category:** Intermediate

**Region:** Halifax

**City:** Bedford, NS

**School:** Bedford Academy

**Abstract:** Soil salinity (abiotic) and pathogenic (biotic) stresses lower crop yields. Two experiments tested the efficacy of different concentrations of chitosan, an environmentally sustainable biopolymer, on plants under these stresses. Plants treated with chitosan did better on several dependent measures under both stresses. Gene expression analysis revealed that chitosan induced down regulation of a pathogenic response gene. Results support use of chitosan to increase food production.

#### Biography

Hello! My name is Janani Venkat and I'm a grade 9 student at Bedford Academy in Bedford, Nova Scotia. I like to read, write, draw, and dance in my free time. I dance both ballet and bharatanatyam, an Indian classical dance, for a total of 6 hours each week. I was inspired to do this project when I heard about the global food deficiency: by 2050, we need to increase food production by 70% to support our growing population. I become intensely passionate about this topic and this led to my science fair project, which has applications in the agriculture industry and may help increase crop yields in the future. My accomplishments include several Medals of Excellence and special awards at my regional science fair over the past three years, second place at the Atlantic Sanofi Biogenius Canada competition, and a gold medal at CWSF 2017. I also received the Youth Discovery Award this past November for my scientific achievements. I enjoy many different subjects at school, but science is definitely my favourite. I have a passion for learning and plan to pursue a career in microbiology, genetics, or neuroscience. Can't wait for CWSF 2018!

#### Awards

#### Value

Excellence Award - Intermediate - Gold Medal Sponsor: Youth Science Canada	
Challenge Award - Resources - Intermediate Sponsor: Youth Science Canada	
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
<b>Total</b>	<b>\$4 000</b>