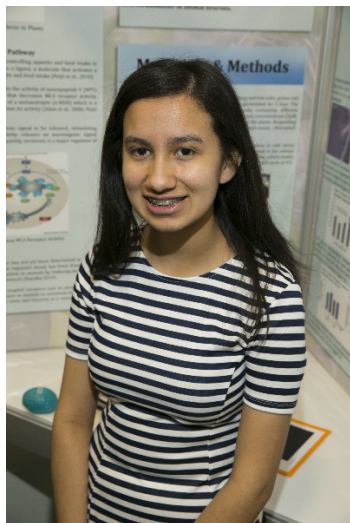


CWSF 2017 - Regina, Saskatchewan



Monica Lopez

Serotonin controls mood-like responses in plants

Challenge: Discovery

Category: Intermediate

Region: Calgary Youth

City: Calgary, AB

School: Westmount Charter School

Abstract: Serotonin is a mood regulator in animals, controlling appetite and stress regulation. These roles of serotonin were studied in plants. By changing different concentrations of serotonin in Arabidopsis plants it resulted in mood-like responses, notably carbohydrate intake and cold stress. Lack of serotonin in plants increased carbohydrate uptake and stress tolerance. Manipulation of serotonin content in plants has implications in plant growth and productivity.

Biography

My name is Monica Aida Lopez Quiroz, I am in Grade 9 and I was born in Ashford, Kent, England. I go to Westmount Charter School and play piano and badminton. I have participated in CYSF every year since Grade 5 and have won The Chemical Institute of Canada Calgary Award, The Haskayne School of Business Elementary Consumer Science Award and The Alberta Teachers' Association Award (Secondary). In the future I would like to become a biochemist. The inspiration behind my project was to determine if plants had mood. While researching about serotonin, I found that there wasn't a determined role of serotonin in plants or investigation into the affects of serotonin in plants. Therefore my project became investigating the affects of serotonin in plants and studying if plants showed mood-like responses. I would like to continue my project by examining the other roles of serotonin in plants as well as using more advanced techniques to determine the results. I would tell other students that no matter how many failures you endure, you need to keep trying and working to be successful in your experiment. Never give up on your goals just because they aren't easy to accomplish.

Awards

Value

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