CWSF 2019 - Fredericton, New Brunswick

Caio de Figueiroa

Appealing Limonene

Challenge: Resources
Category: Intermediate
Region: Fraser Valley
City: Abbotsford, BC
School: W J Mouat Secondary
Abstract: My project is mainly focused on how to extract the essential oil of citrus fruit called limonene. Limonene has many uses, as a cleaning product, disinfectant, plastic solvent, immune system booster, prevent and slow cancer growth and even function as a fuel like gasoline. My goal was to create a steam distillery system that could be used anywhere where people have citrus fruits.

Biography

I have always been interested in science, from making inventions at home to starting a science club in elementary school. I enjoy doing science fairs and am so appreciative to have won the UFV Chemistry Award, BC Game Developers Innovation Award, Ted Rogers Innovation Award, and Abbotsford/Sumas Rotary Club Award this year. While researching science ideas, I discovered that citrus peels could be used to create limonene and saw this as a win-win for reducing orange peel waste in our environment and creating a useful product for our everyday lives. Limonene has so many uses, from melting Styrofoam to cleaning surfaces. I wanted to create a limonene distillery that could be made by anyone in any part of the world. I like the idea of having distilleries as part of households worldwide and/or having distillery centres available in communities where waste can be turned into useful products like limonene. Currently, studies are being done on using limonene as jet fuel, and I would like to investigate its use in cars. If you plan on doing a science fair project, do it on a subject that fascinates you and that you think can help positively impact people and the world.