

CWSF 2017 - Regina, Saskatchewan



Salma McCallum

Toxicity: Is Less Really More?

Challenge: Discovery

Category: Junior

Region: Prince Edward Island

City: Charlottetown, PE

School: Queen Charlotte Intermediate School

Abstract: I have discovered hops (*Humulus lupulus*) a plant commonly used in beer, and kalonji (*Nigella sativa*) a spice used in the Middle East have cytotoxic (cancer fighting) properties. Last year I tested crude extracts against brine shrimp, a simple cancer cell model, finding toxicity. This year I fractionated the crude extracts, on silica gel, testing them again to determine the active compound.

Biography

I'm Salma McCallum, a 13 year old Gr 8 student (I'm a year ahead) at Queen Charlotte Intermediate School. I enjoy reading books, art, music, drama, writing and video games. I've participated in the Science Fair since I was in the 5th grade. I'm still unsure of what career I'll pursue; I've considered going into medicine, entomology and research. Cancer has touched my life personally; I lost my paternal great-grandfathers to it. I like the thought of finding a medicine to help. We have great conversations at the dinner table. My father grew up on a farm. He discusses plants, often talking about research done on hops; my mother, a first generation Canadian, speaks about the benefits of herbs and spices like kalonji. Intrigued, I thought treating cancer with spices and plants was an interesting project idea. Now that I've done some testing, I want to identify and find out more about the chemicals I've discovered that have cytotoxicity. If you're thinking about doing a project, I say go for it. And if it doesn't turn out the way you thought it would, think of a way to retry so it might work better.

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