

CALIFORNIA STATE SCIENCE FAIR 2002 PROJECT SUMMARY

Name(s) **Project Number** Ramina J. Nouri 22145 **Project Title**

Does Beta-Carotene Prevent Cancer in Plants?

Objectives/Goals

The objective is to find out if beta-carotene will prevent the cancer caused by the carcinogenx agrobacterium tumefaciens in plants, which plant is it more affective in Mammeth Sunflower or Lemon Queen Sunflower. My hypothesis what that beta-carotene would prevent cancer in the plants and be mox affective in mammoth than in lemon queen sunflowers.

Abstract

Methods/Materials

Needed to obtain, 1 packet of mammoth sunflower seeds and lemon sueen sunflower seeds, 12 flowert pots, tap water, beta-carotene (vitamin A) solution (5 caplets to 1 pint of water), disinfectant, inoculating needle, Agrobacterium tumefaciens (a plant carcinogen)

Purchase sunflowers at Home Depot. Purchase beta-carotene from drug tore. Divide seeds into threex equal groups A, B, and C. Group C is control. Germinate group b in bota-carotene solution and A, C, in water. Plant the seeds. Wait for Lemon Queen to grow 10cm and Mammoth to turn 18cm then injectt group A and B with agrobacterium tumefaciens. Water group B biveekly with beta-carotene solution water groups A and C biweekly with water. Observe for pext 2 weeks.

The four sunflowers that have been watered with Reta-carotene and nothing else and have been injectex with agrobacterium tumefaciens seem to be health. The plants that were watered with tap water at injected with Agrobacterium tumefaciens have slowly wilted. They have turned brown and are sagging.x It turned out that the Mammoth sunflowers grew taller than the Lemon Queen sunflowers. The Lemot Queens did not rot as fast as Mammoth sunflowers. They were smaller but much stronger. My hypothesis proved half correct and kall incorrect. The Beta-carotene did cure the cancer in the plants but the Lemon Queen was stronger and did no rot as far in Agrobacterium tumefaciens.

Conclusions/Discussion

My hypothesis proved partially correct. The Retz-carotene did cure the cancer in the sunflowers. Tx part that was incorrect was that the para-carote would work better in Mammoth sunflowers. It proved t work better in Lemon Queen.

Summary Statement

carotene would prevent the cancer caused by the plant carcinogen agrobacterium tumefaciens in manmoth and lemon queen sunflowers, I also wanted to see which sunflower it would be more affective in

Help Received

My mother supervized the while i injected the plants and helped pot them, my teacher Mr.Keith Newell purchased the agrobacterium tumefaciens for me, my father helped pot the sunflowers and look for stores to buy the plant carcinogen from.