CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY

Name(s)
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Project Number
J0919

Project Title
Which Lettuce is Clean, Cleaner, Cleanest II

Abstract

Objectives/Goals
I predict that lettuce grown hydroponically using recycled soapy water will grow taller, greener, and have fewer surface bacteria; than lettuce gronw hydroponically using either ground or rain water.

Methods/Materials
3 American Hydroponics kits, pH test kits,Agar plates, chemical test kits,6L of each: ground water, rain water, recycled saopy water. Ten lettuce planets were grown hydroponically in eahc of the three waters. Each water was tested for pH, nitrogen, copper, amonium, phosphate and iron. After 30 days the plant heights were measured in cm. Each plant was cultured for bacteria. Bacteria growth was measured at 24, 48 and 72 hours.

Results
Of the hydroponically grown lettuce, the lettuce grown with recycled water had the least amount of surface bacteria ,and the lettuce grown with ground water had the most bacteria. When rain water was used, the bacteria count was less than with grownd water, but much more than with the recycled water; however, this lettuce grew the tallest.

Conclusions/Discussion
My hypothesis was correct the lettuce grown hydroponically with recycled water had the least surface bacteria, while still growing to a good height and appering green and full.

Summary Statement
Which type of water is best for growing lettuce with the least amount of surface bacteria.

Help Received
Parents helped with the ordering and purchasing of some materials for the project