CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)
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Project Number
J0932

Project Title
Chemical Disinfections and Sanitization of Recycled Water

Abstract

Objectives/Goals
The objective is to compare the bactericidal effects of chlorine versus iodine disinfectants on the recycled wastewater.

Methods/Materials
Water sample from septic wastewater S, septic water treated with chlorine solution C1 and chlorine solution C2 (10% of chlorine 1), septic water treated with iodine solution I1 and iodine solution I2, (10% of Iodine 1), were plated aseptically to each nutrient agar plate. The numbers of bacterial colonies were counted after twenty- four hours of incubation period. The procedure was repeated for two more trials. Then, the average numbers of bacterial growth versus different concentration of disinfectants and septic water were graphed. The morphology of the bacteria was studied under the microscope after the bacteria was heat-fixed on the glass slides and stained with gram stain.

Results
The slope of chlorine disinfectants is steeper than the slope of iodine for bacterial growth. Thus, the bactericidal effects of iodine is more than chlorine.

Conclusions/Discussion
Chlorine is less effective than iodine in sanitization of recycled water.

Summary Statement
The disinfection effects of tincture iodine versus chlorine is compared in the sanitization of the recycled water.

Help Received
Sincere thanks to Mrs. Griego for her invaluable help of presenting the information needed. Secondly, I appreciate Suzie Khoo for giving me access to microbiology equipment. Thirdly, special gratitude to San San Wong for visual displays of the science board. Lastly, I give recognition to David Wong for editing.