The Effects of Chemotherapeutics on Fish Pathogen Levels in Pond Water

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Purpose The purpose of this project is to use chemicals to reduce pathogen levels in any aquaculture environment. Procedure 1. Pond water will be inoculated with fish pathogens. 2. Formalin, copper sulfate, and potassium per manganite will be added to the test water at three concentrations.] 4. The concentration of the pathogen in chemically treated water will be compared to the concentration of the pathogen in untreated water. Results Rifamycin mutants I developed by successive passage on media containing increasing doses of rifamycin. During the initial transfer all isolates grew up to 60 micrograms per mil. Partial growth was observed at 80 while no growth was observed passed 80 micrograms. Conclusion In conclusion I demonstrated the adaptation of bacteria to antibiotics. These mutants became completely resistant to rifamycin by slowly increasing the concentration of the antibiotic. The mutants were used to test the effects of chemicals in pond water. This allowed me to grow my target bacteria on media that prevented growth of all other bacteria. Potassium permanganate and formalin have been proven effective at high concentration, but are not practical nor safe for any aquatic life.

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