The Effect of Benzoquinone on the Growth of Staphylococcus epidermidis

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The purpose of this experiment is to determine the lowest concentration of benzoquinone that will inhibit the growth of the bacteria B. subtilis and S. epidermidis. 27 petri dishes were labeled: one as control, one as B. subtilis, one as S. epidermidis, and 12 dishes for both bacteria with four (A, B, C, and D) to each concentration (1%, 5%, and 10%). An incubator was heated to 37°C. 26 plates were streaked with bacteria. Three solutions benzoquinone and distilled water of varying concentration were made by mixing the correct proportion of chemical and water. The solution was applied to the plates, and the plates were incubated for one full day. Data was collected over the next three days. No bacteria grew in the control dish. In the bacteria only plates, thick lawns grew. All concentrations of benzoquinone inhibited bacteria growth. Against S. epidermidis, the higher concentration inhibited the most growth; however, in the B. subtilis the lowest concentration inhibited the most growth. B. subtilis averaged 4.5 lawns and 1.25 colonies with 1% solution, 6.75 lawns and no colonies with 5% solution, and 14.75 lawns and 76.5 colonies with 10% solution. S. epidermidis averaged 11.25 lawns and 324.75 colonies with 1% solution, 2.25 lawns and 10.25 colonies with 5% solution, and .25 lawns and no colonies with 10% solution. The hypothesis was supported because all concentrations inhibited bacterial growth, and the highest concentration inhibited the most growth in S. epidermidis although the highest concentration inhibited the least amount of growth in B. subtilis.

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