

A Mathematical Model of Ethanol's Impact on Fecal Decaying Bacteria

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Using an accurate mathematical model would allow for the prediction and analysis of ethyl alcohol's impact on fecal decaying bacteria. This model would confirm that a high initial concentration of ethyl alcohol leads to a significantly high impact on the microorganisms. Because the fecal decaying bacteria are extremely pathogenic, the experiment required the use of a system of differential equations, similar to that of mixture problems taught in calculus. By utilizing computer software, the system of equations was solved and graphed, allowing for the accurate prediction of bacterial growth in the presence of an inhibitor.