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*The Effects of Ginger and Garlic on BL21-Codon Plus E. coli Inhibition at Different Concentrations*

E. coli is a very common food borne illness, wasting billions of dollars economically, agriculturally, and medically each and every year. Current alternative measures to suppress E. coli contamination are too costly, impractical, and simply ineffective. Chemical sprays leave residue on the food which we eat, which can be potentially harmful to us. Instead of using harmful chemicals to combat bacteria, why not use an organic alternative. Herbs such as ginger or garlic are known to have medical properties known to be used as antibiotics towards various types of bacterial infections. The primary goal of this research is to study whether or not these herbs can inhibit BL21-codon plus E. coli bacteria and which will inhibit the bacteria the best. After performing the experiment, the E. coli mixed with the garlic inhibited E. coli the best at the dilution of 1:16. The performance of ginger was best at the dilution of 1:2. This means that at a lower dilution we were able to decrease growth the most, with garlic. However throughout the whole experiment ginger seemed to grow more E. coli but both herbs weren't able to grow less E. coli than the controls. Even though these results were not promising, this experiment opens the door for further experimentation to find a viable alternative.