

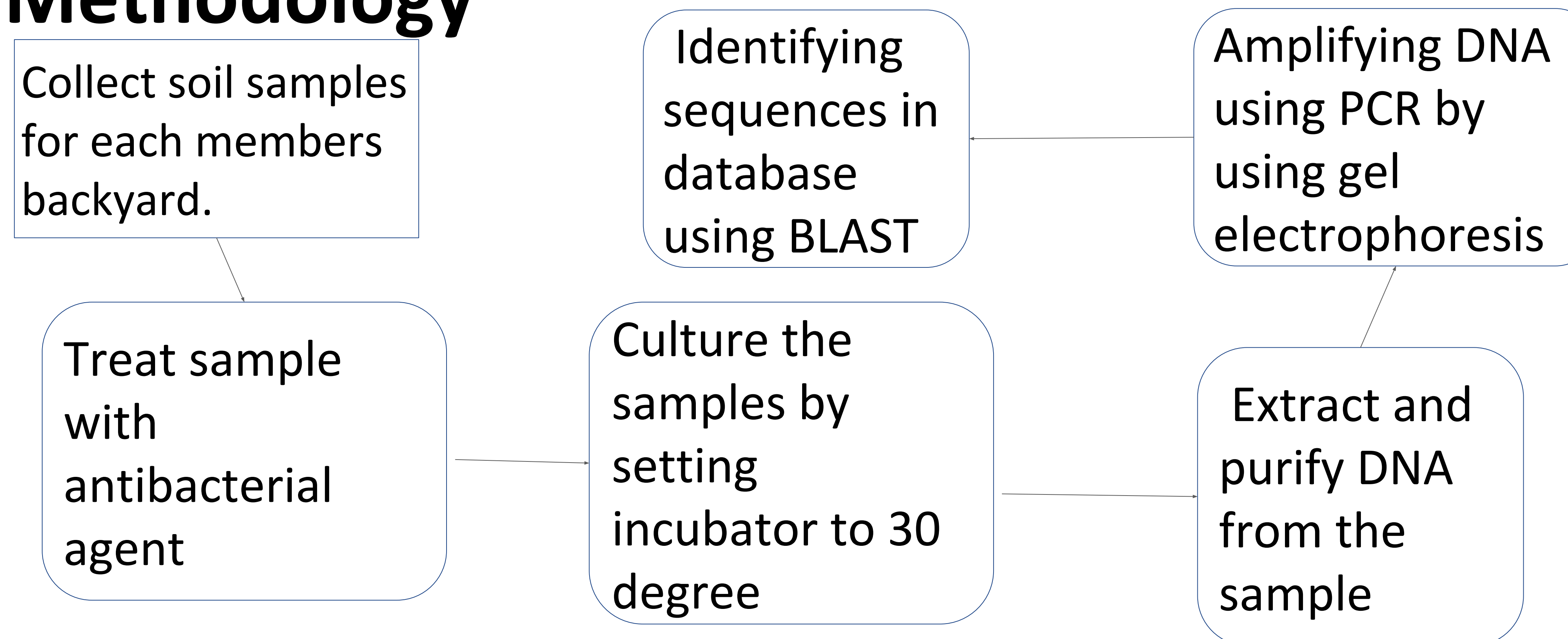
Abstract

The aim of this investigation is to perceive how utilizing distinctive common spices like *Allium sativum*, *Zingiber officinale*, and *Cinnamomum verum* would help eradicate organisms found in the dirt of the part's terrace. The anti-infection emergency is the manner by which microbes have gotten impervious to practically the entirety of the anti-infection agents utilized on it. Using natural antibiotics would help kill microbes found in the soil of the member's backyard. Seeing how the various spices work to execute the microbes will prompt help fight the anti-bacterial crisis. Going back to past remedies used may be the key to developing new treatments to help lessen the antibiotic crisis. From past examinations garlic focus was seen as a fruitful antimicrobial to forestall infections just as ginger, and cinnamon. This will be done by diluting both the soil and herb samples, and following the protocol of the DNA.

Introduction

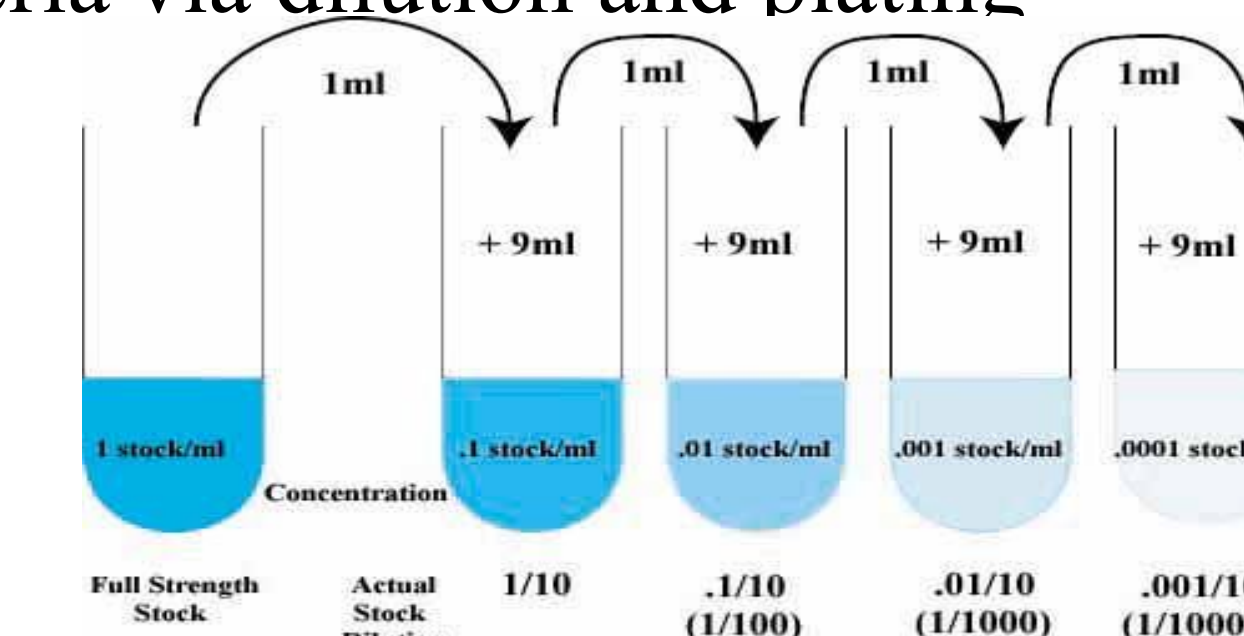
The Antibiotic resistance crisis is an increasing issue that needs to be addressed. Antibiotics kill and stop the growth of bacteria by disrupting the formation of the cell wall. Bacteria have become resistant to almost all of the antibiotics being used. The purpose of this study is to observe the many spices on the microbiome of soil in the backyard of the member's house. A study performed studied the antimicrobial activities of many herbs and "herbal remedies are an important source for the discovery of new antibiotics and numerous studies have identified compounds within herbal plants that are effective antibiotics" (Journal of Pharmaceutical Sciences and Research). Using natural remedies will be effective in aiding in the fight against the antibiotic crisis. The spices: *Allium sativum*, *Zingiber officinale*, and *Cinnamomum verum* has many antibacterial properties that help with the digestive system and kill many bacteria within foods. These spices can potentially fight the antibiotic resistance crisis.

Methodology



Results

- The main application is the identification of culturable microorganisms inside a specific soil. The evaluation of the quantity of soil microscopic organisms gives a sign of soil wellbeing. A 5-g sample of soil with a moisture content of 20% on a dry weight basis is analyzed for viable culturable bacteria via dilution and plating techniques.



Tables & Figures

Below is the table of the most effective spice: Ginger

Mixture: Ginger solution #_1st_ + Soil Sample #__	Date of Soil collected	Location of the Soil Sample Collected	Bacteria sequenced that survived after treatment
Controlled group Soil sample 15	03/02/2020	backyard	Kpg- 022: bacterium Bacterians Kpg-023 Bacillus thuringiensi kpg-024:Bacillus thuringiensis kpg-025:Bacillus thuringiensis
Ginger 1st solution + Soil sample #15	03/02/2020	backyard	Kpg-026:Bacillus cereus Kpg-027: uncultured bacterium Kpg-028: Bacillus thuringiensis Kpg-029: Bacillus sp. A1062
Ginger 5th solution + Soil sample #15	03/02/2020	backyard	Kpg-030: Bacillus thuringiensis Kpg-031: Bacillus cereus Kpg-032 Bacillus cereus Kpg-033: Bacillus cereus

Discussion

The data collected does not support the original hypothesis. It was hypothesized that the spices will have no effect on the microbiome of the soil. The 5th spice sample did have a positive effect on the Ginger spice. within the *cinnamomum verum* solutions, there was a bacteria colony that was present and many others that concluded that the cinnamon sample did not kill much of the bacteria. There were also high numbers of uncontrolled bacteria found. The garlic didn't seem to control the growth of the bacteria. The most effective spice: Ginger, It was found that the spice exhibited the highest antibacterial capacity. the 5th ginger solution was able to kill most of the bacteria present within the soil, In conclusion, ginger is a good natural source of antibacterial agents to fight against antibiotic-resistant bacteria, with potential applications as natural food preservatives and natural alternatives to antibiotics in animal feeding.



References

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