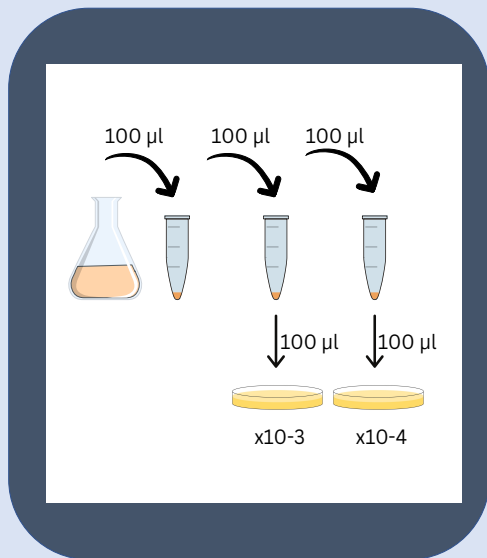




Composting is a proactive approach to reusing cardboard. This alternative method, uses less energy and water and emits far less greenhouse gasses.

Additionally, vermicompost has many agricultural benefits. Within the diverse array of microbes present in compost, they share a symbiotic relationship with plants that aid in plant growth, yield, nutrient uptake and nutrient cycling.



METHODS:

To isolate that bacteria, a serial dilution of each compost sample was made and spread plated onto nutrient agar and potato dextrose agar.

Gram staining was performed for isolated colonies from the NA plates to determine the microscopic morphology

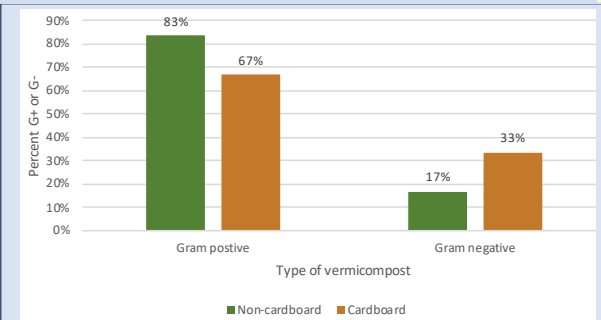
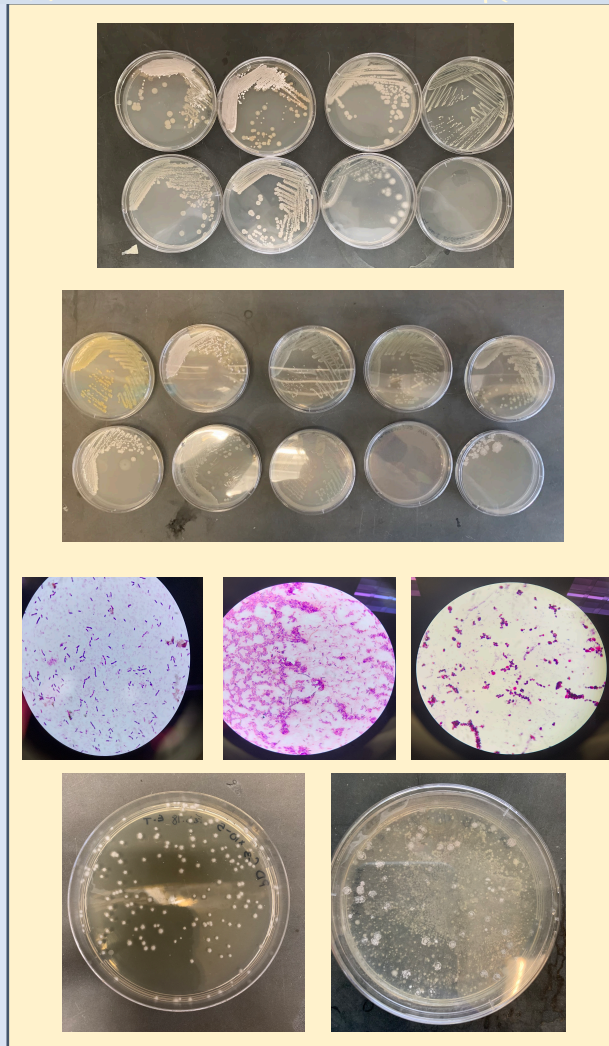


Figure 3. Percent abundance of Gram positive negative bacteria in cardboard and non-cardboard samples.

| | Simpson's Diversity Index (D) | Shannon's Diversity Index (H') | Richness |
|---------------|-------------------------------|--------------------------------|----------|
| Non-cardboard | 0.59 | 1.2 | 7 |
| Cardboard | 0.68 | 33.6 | 10 |

Bray Curtis's Dissimilarity (BCd)
0.76

DISCUSSION:

In conclusion, both vermicompost conditions contained a diverse mixture of bacteria. Although, it is found that the bacterial community composition does differ between the two conditions.

Future Work:

To further confirm the results of this project, metagenomics of both the cardboard and non-cardboard samples will be done. This will allow for a more accurate interpretation of the microbial community composition.