

Genomic Sequencing of Soil Rhizosphere eDNA

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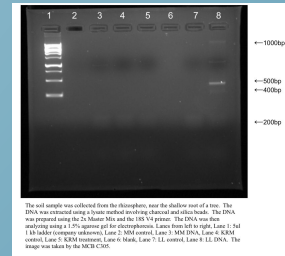
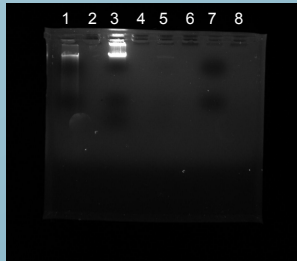
Introduction

Objective: The purpose of this lab is to sequence eDNA strands collected from the soil in the oak tree's rhizosphere on Baylor's campus.

- Background Information regarding Oak Trees, oak wilt, soil rhizosphere
- What our results mean in regards to the community profile and soil ciliate biodiversity

Overview

1. Soil Collection
2. Ciliate Isolation and DNA Extraction
3. Gel Electrophoresis
4. PCR Amplification
5. Next- Generation Sequencing
6. Analysis of Sequence



Methods

- Soil Collection
- Cell Isolation
- DNA Extraction
- PCR/Gel electrophoresis validation-sequencing primers in the V4 ribosomal small subunit
- metabarcoding-(high throughput amplification sequencing)
- Analysis of DNA

Results

Sequencing
Agarose Gels
Nanodrop Data

Soil Metadata :	MNH Sample	KRM Sample	MAA Sample
% Water Content	4.494%	16.47%	15.38%
pH	7.0	6.5	6.5
Soil Texture	Sandy Loam		Sandy clay
Ciliate Cultures	2	2	1

Discussion/Conclusions

- Biodiversity of ecosystem
- Sequencing
- Results of Mass standard and ladder have a low concentration so it didn't show
- More detail will be added as more information becomes available throughout the next lab meetings

References

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