



LIVING LAB - ATLANTIC

Effects of soil building practices on plant endophytes associated with individual rotation crops

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Introduction

Manure application can carry both pathogenic and non-pathogenic microorganisms, some of which may be endophytes to crops and carried over for many cropping cycles.

This study aimed to understand the carry-over effect of endophytic microbiomes from different cover crops to potato crops following manure and no manure applications in a rotation cropping system.

Methods

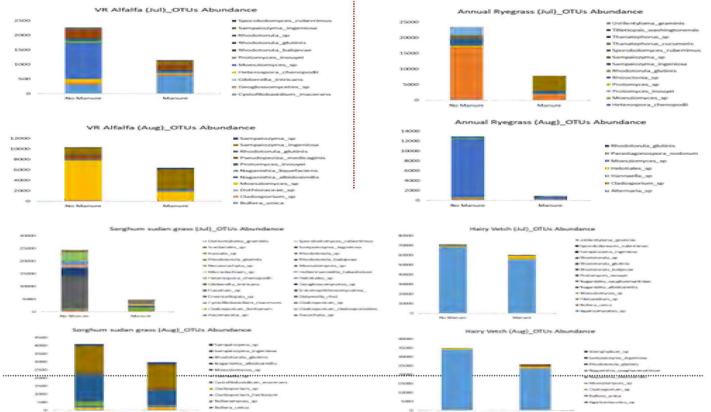
- ☐ 72 experimental plots
 - ☐ Manure vs no manure
 - ☐ 10 cover crops
 - ☐ 4 replications
- ☐ 3 year-field sampling completed
 - ☐ Two sampling times per year
 - ☐ DNA extraction
 - ☐ Metagenomics library preparation and sequencing
 - ☐ ITS1 and ITS2 metagenomics
 - ☐ 16S metagenomics
- ☐ Ion Torrent PGM & Ion S5 sequencing and Ion suites

Ion Torrent PGM & Ion S5 sequencers

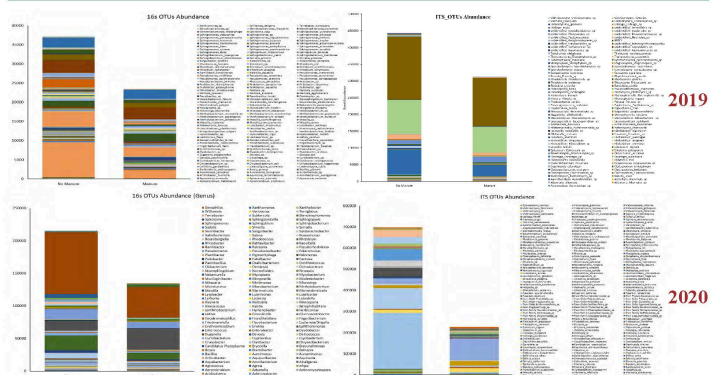


- ☐ Seasonal variations in abundance and diversity of fungal and bacterial endophytes
- ☐ Variations between cover crops
- ☐ Carry over of endophytic microbiomes to potato crop
- ☐ Evaluation of beneficial endophytes in potato crop is underway

Variations between cover crops



Manure vs no Manure on endophytes abundance



Carry over of endophytes to potato crop

