Understanding The Fungal Microbiome in Blueberry Roots

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Overview

The Blueberry Plant

- Northern Highbush Blueberry
- Ericaceae family
- grows in acidic soil
- mycorrhizae may improve performance
- composition of fungal community is poorly understood

Figure

Table

Treatments	Inoculation	Fertilization
Control	No	No
Commercial Inoculum	Yes	No
Native Inoculum	Yes	Yes

Table: Experimental Design

Molecular Characterization

A Molecular approach will be used to understand the composition of the fungal community. The Internal Transcribed Spacer ITS is located between the small and large subunit of the ribosomal RNA.

The ribosomal RNA is highly conserved in all fungal species but the ITS region varies and this variation will be used to distinguish species within samples.

Library Preparation

1st PCR and Cleanup

Amplify the ITS1 region with ITS forward and reverse primers then clean the PCR product with Ampure XP beads.

2nd PCR and cleanup

Add Index primers to adapter overhang to provide a unique identifier for each sample before pooling then clean with Ampure XP beads.

Pooling and Sequencing

Check quality of samples with Bioanalyzer trace, dilute final Library to 4nM then pool samples in a 2ml screw cap and submit for Illumina MiSeq Sequencing.

The End