The Effect of Fungicide on Fungal Communities Associated with Glycine max Roots

Orris, Kylie (School: Southeastern Junior/Senior High School)

The purpose of this project was to compare fungal communities associated with soybean roots both before and after fungicide to identify unknown fungi that responds to fungicide application. It was hypothesized that this fungus belongs to a group of Dark Septate Fungi that are commonly overlooked in these studies. Using OTU 44 sequence, a specific primer was designed using Primer 3 Plus software. Polymerase chain reaction was performed and gel electrophoresis was done to quantify PCR product. The PCR product was sent to Genewiz for sanger sequencing. Using BLAST, the closest relatives of OTU 44 were determined. Phylogenetic analyses were also run and compared to Genbank. The results support the hypothesis which states that this fungus belongs to a group of Dark Septate Fungi that are commonly overlooked in environmental studies. Thus, the hypothesis was accepted and preliminary results indicate that OTU 44 belongs to the fungal order Pleosporales.

Awards Won: