

- Stress conditions

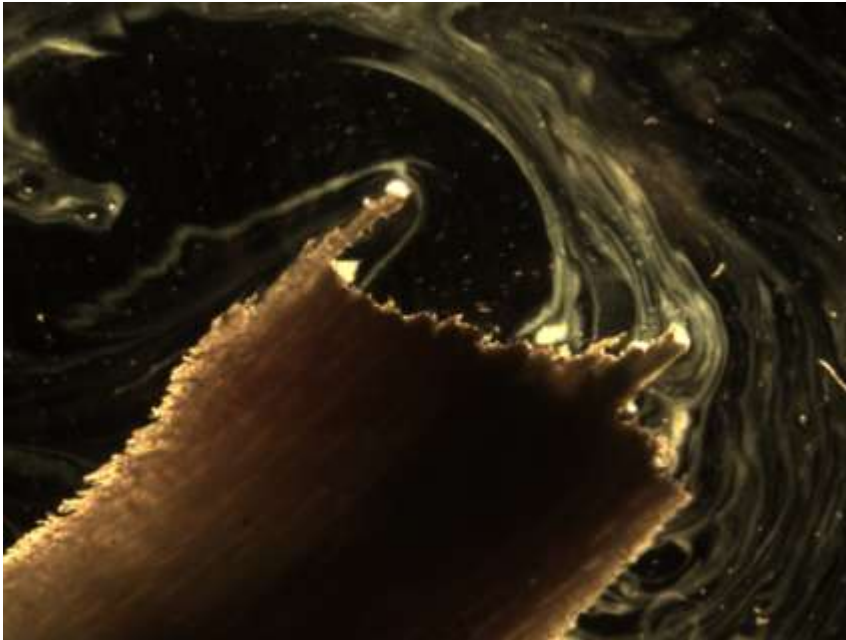
- Physical (Winter injury, wounding, water stress)
- Biological (Insect feeding)

# Crown Dissections



# Ralstonia Infections

**Streaming typical of Ralstonia**



**Wilting and sudden leaf drop**





Proper  
pruning is key  
to disease  
control

# Root Rot

---





# Crown Gall

*Agrobacterium*



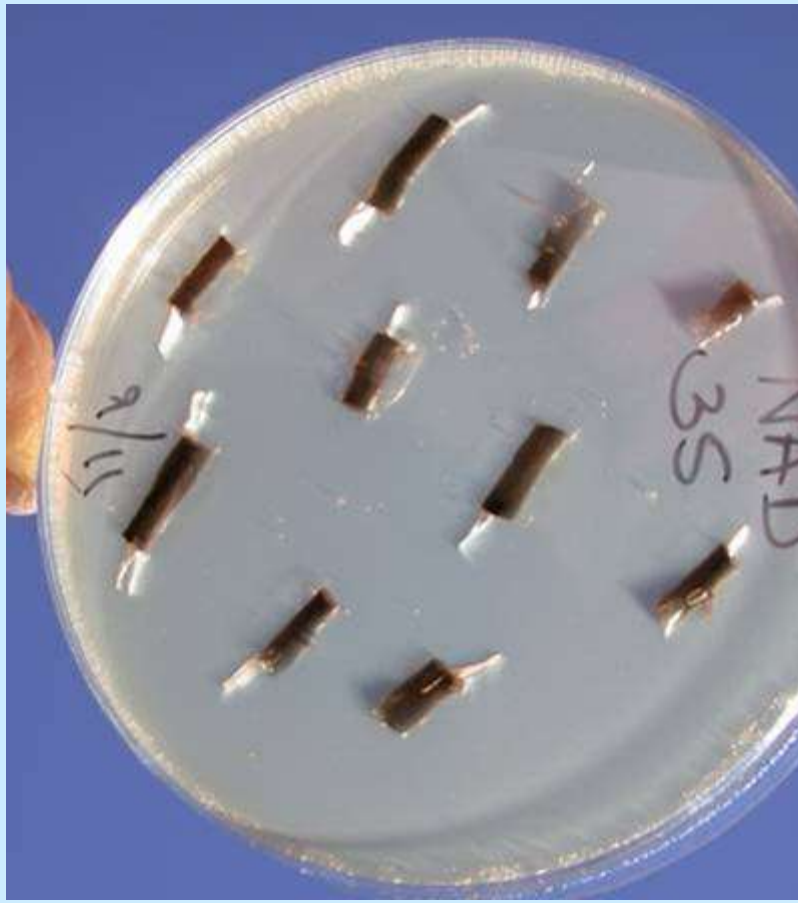


# Phytophthora root rot

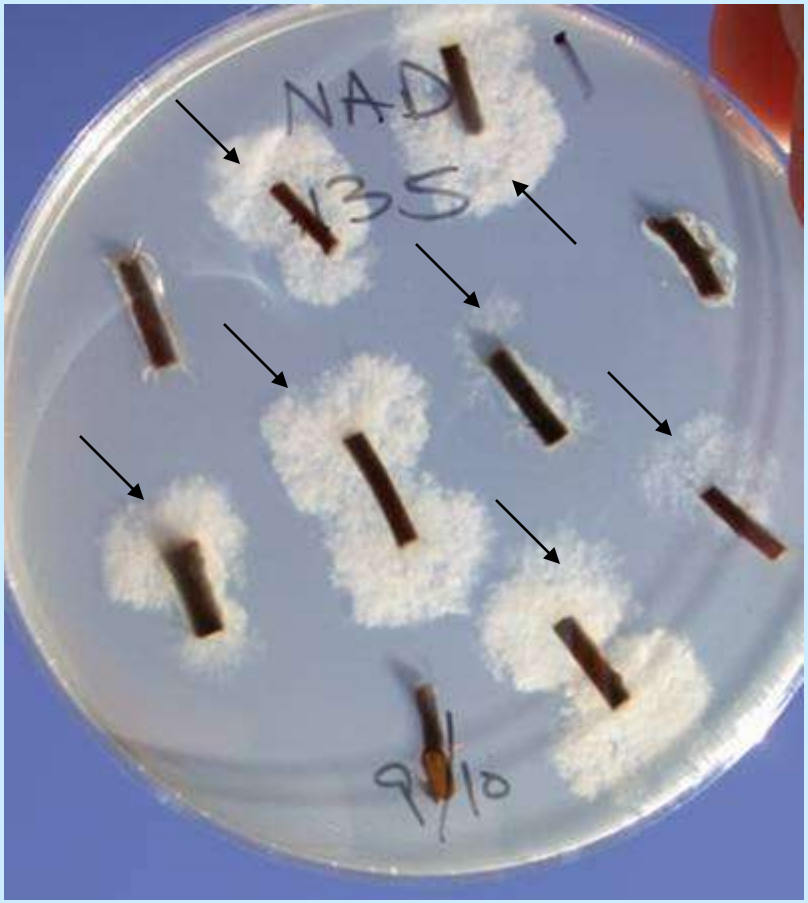


# Phytophthora isolation using PARPH selective medium

Negative



Positive





# Stubby root *Nematodes*

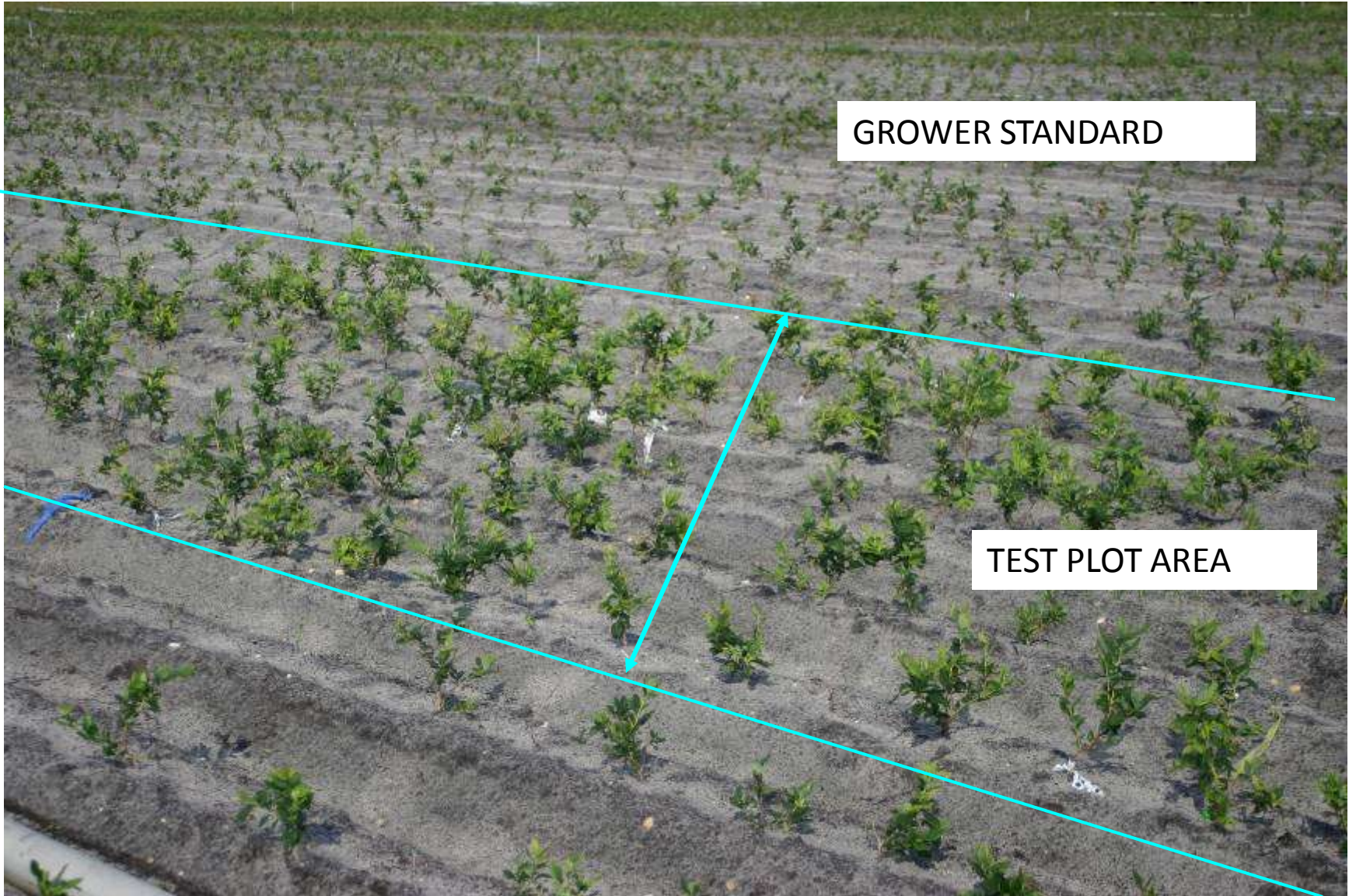


UNTREATED CONTROL



Vydate 8 pts, 2 applications





GROWER STANDARD

TEST PLOT AREA

# Black Shadow Research Progress

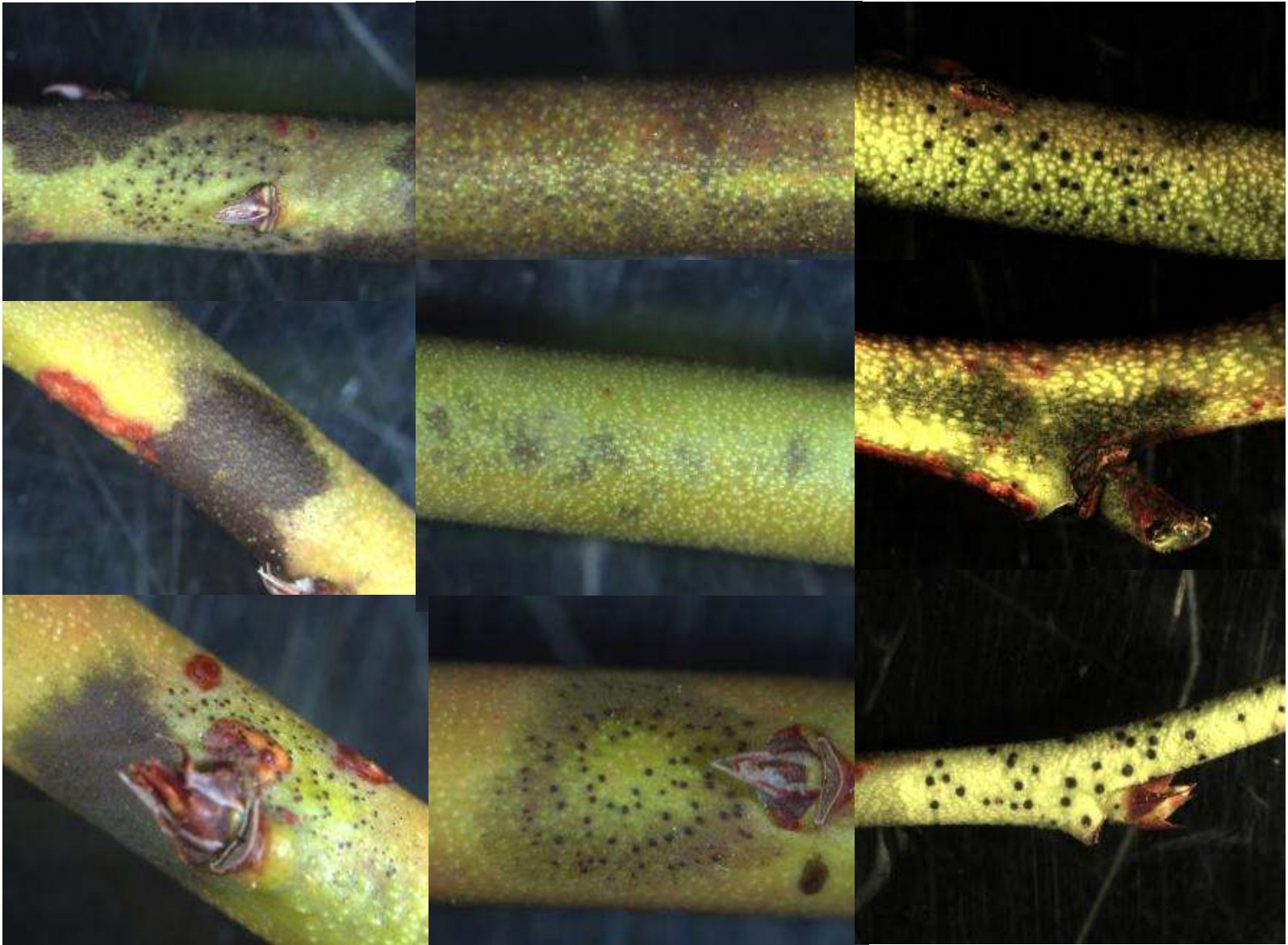
## Timothy J. Waller



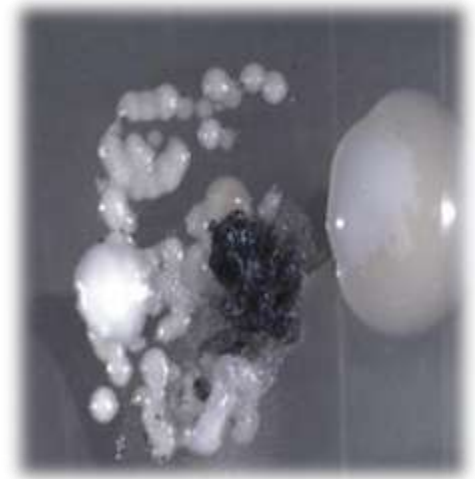




# Symptomatology

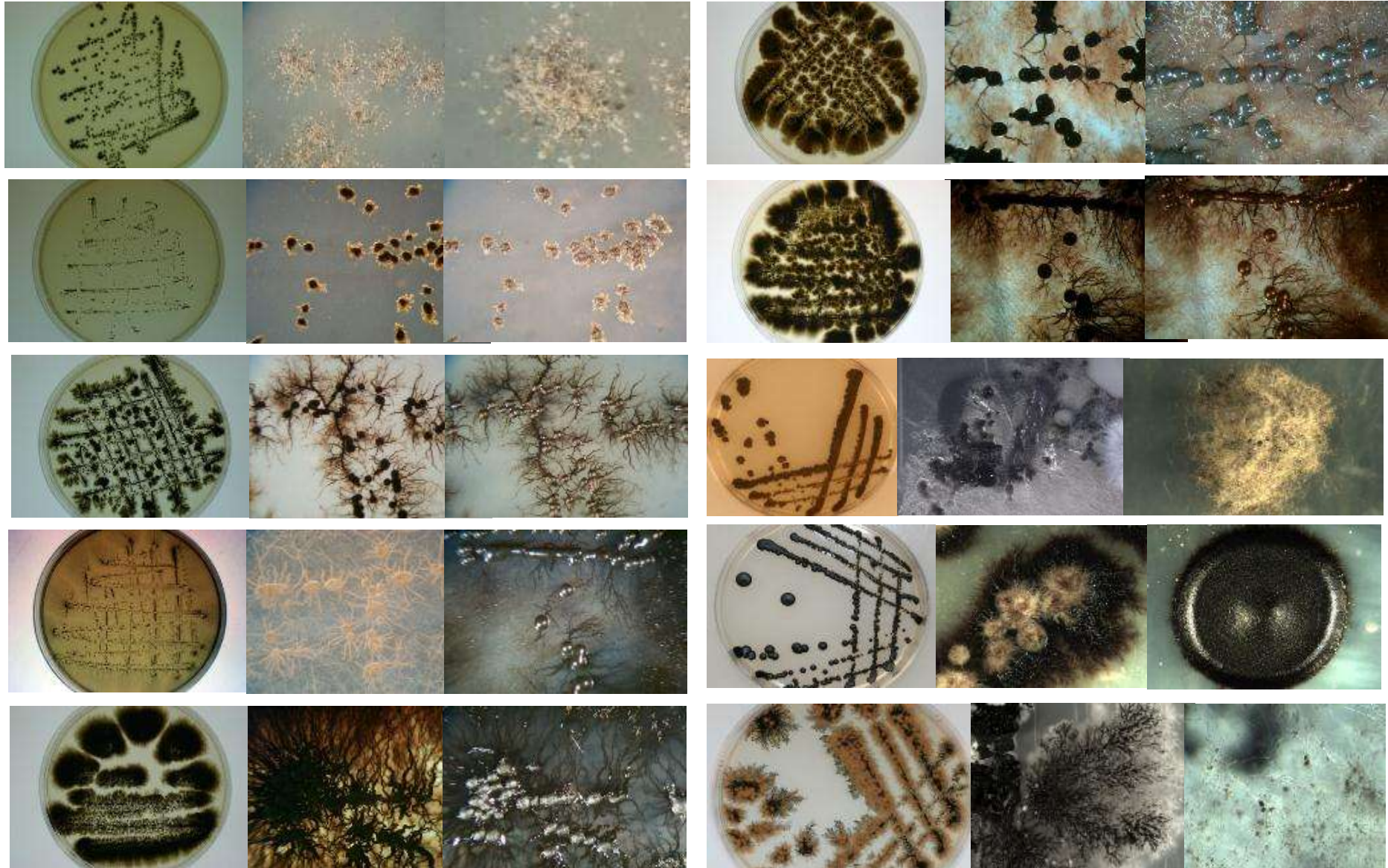


# Isolations

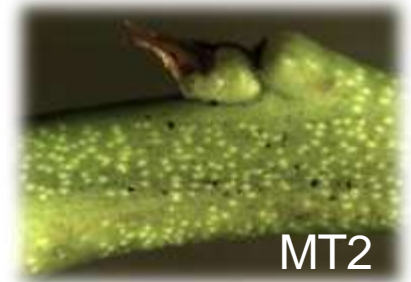
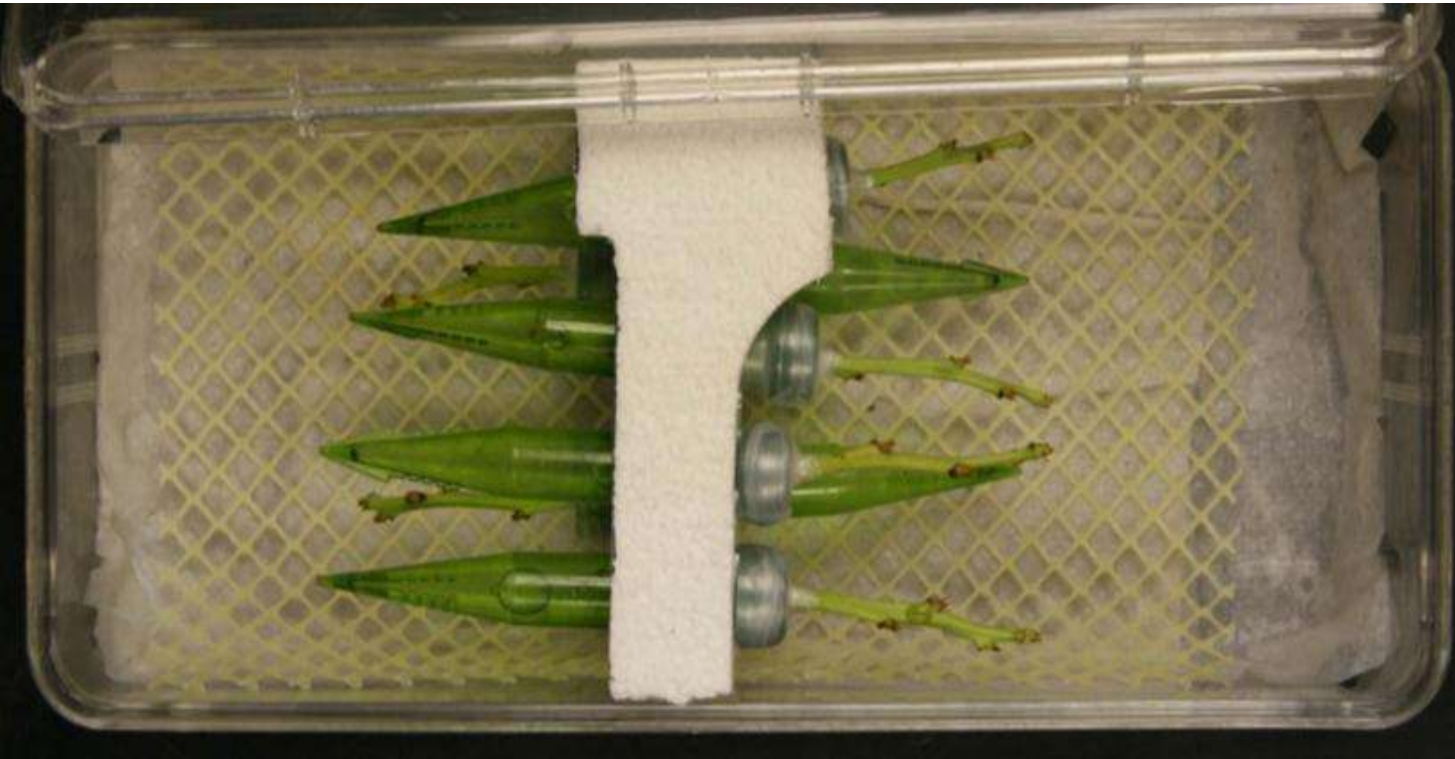


- 1. Forty symptomatic stem samples were collected**
- 2. Scraped the cuticle tissue and plated onto clarified V8 agar amended with ampicillin and streptomycin.**
- 3. The four most common morphotypes were selected for further characterization.**

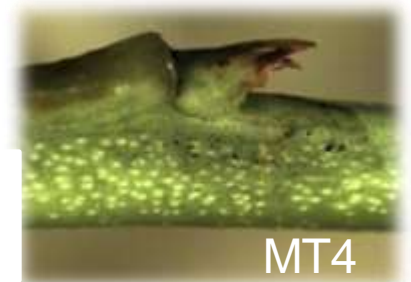
# High degree of morphotype variability



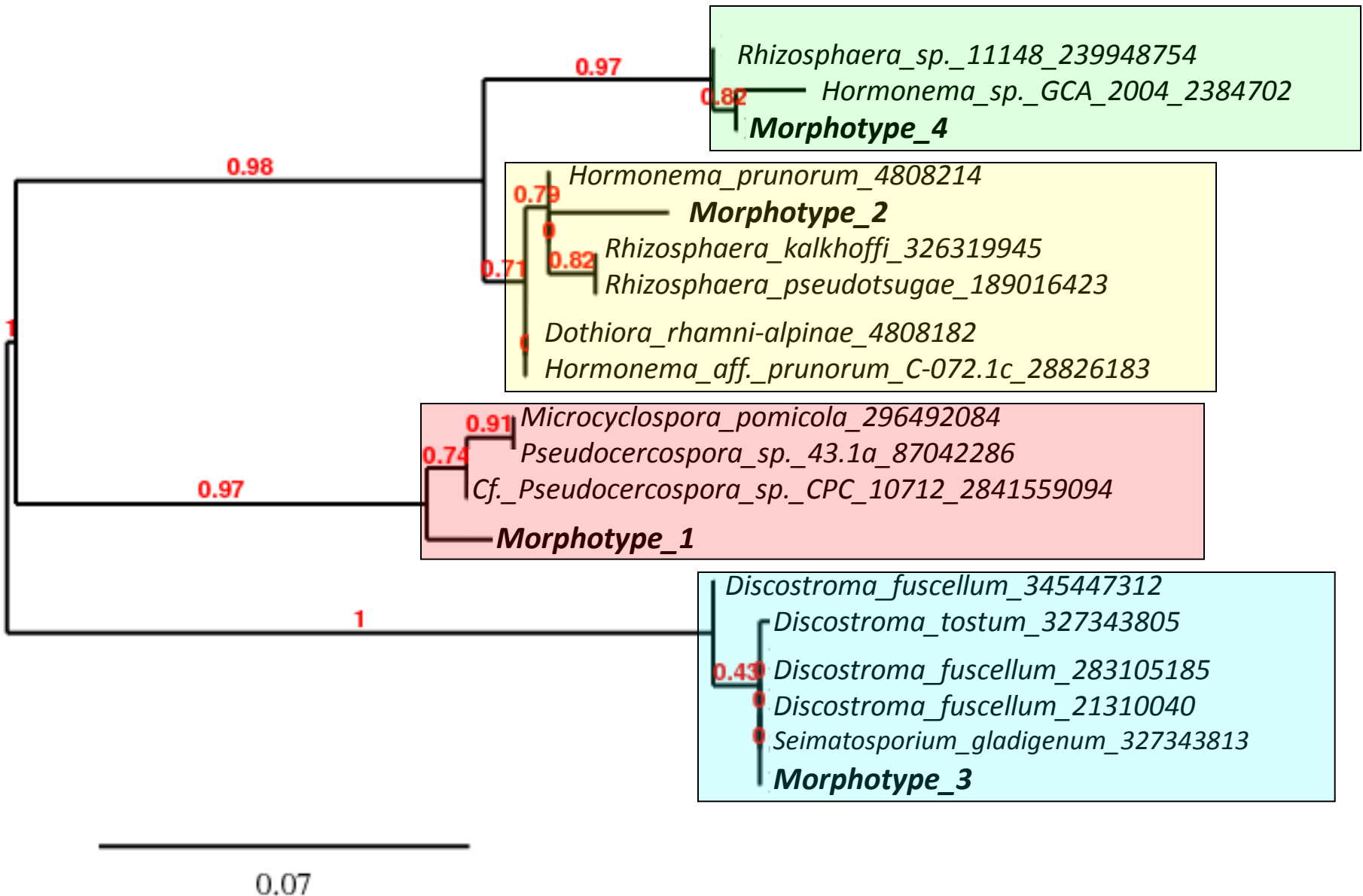
# Water-pick re-infectivity studies



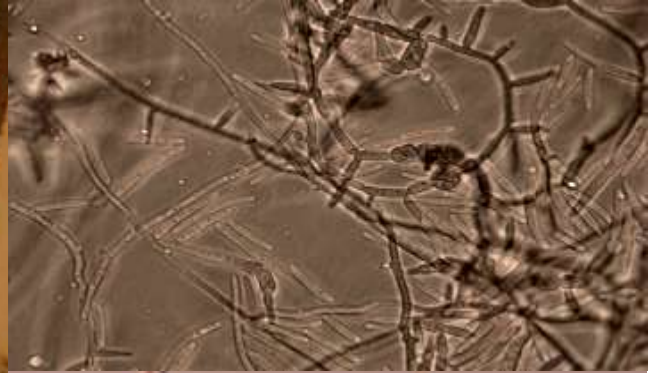
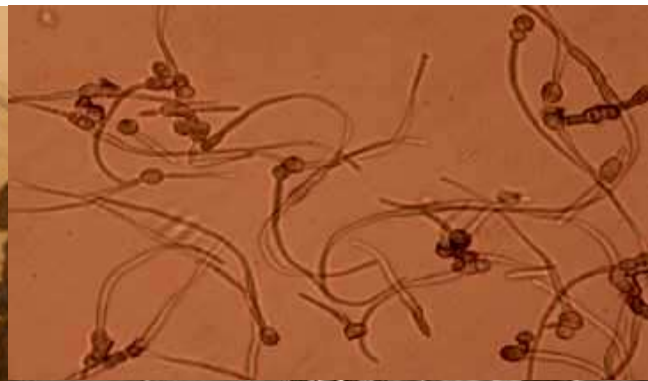
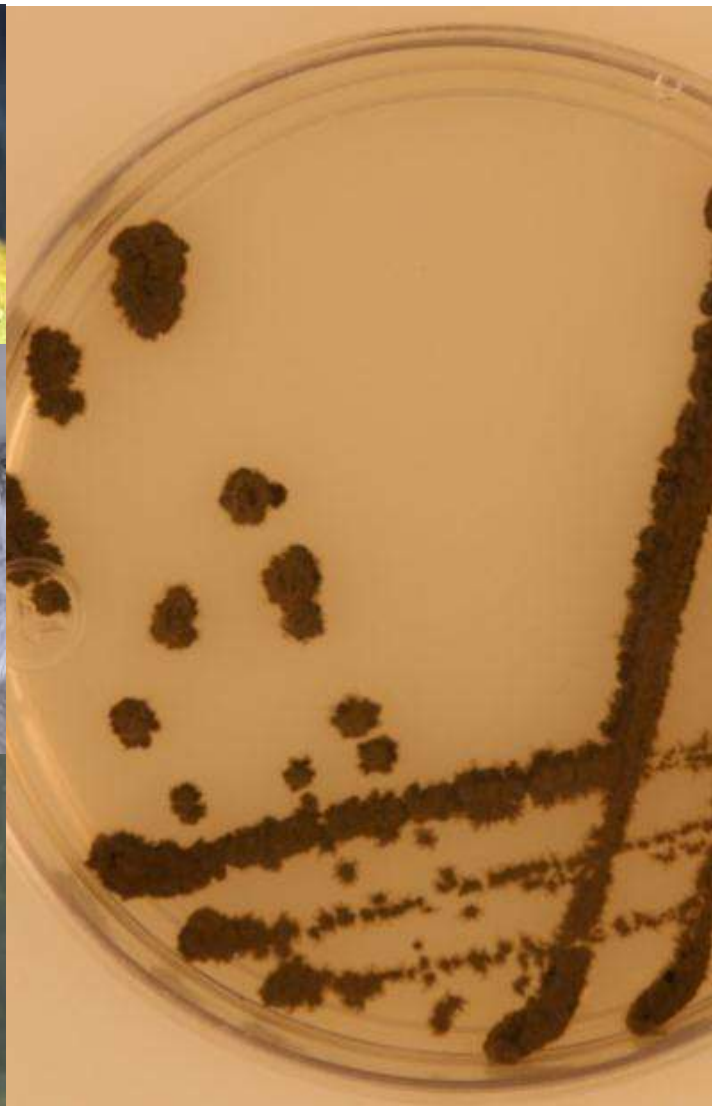
CONTROLS



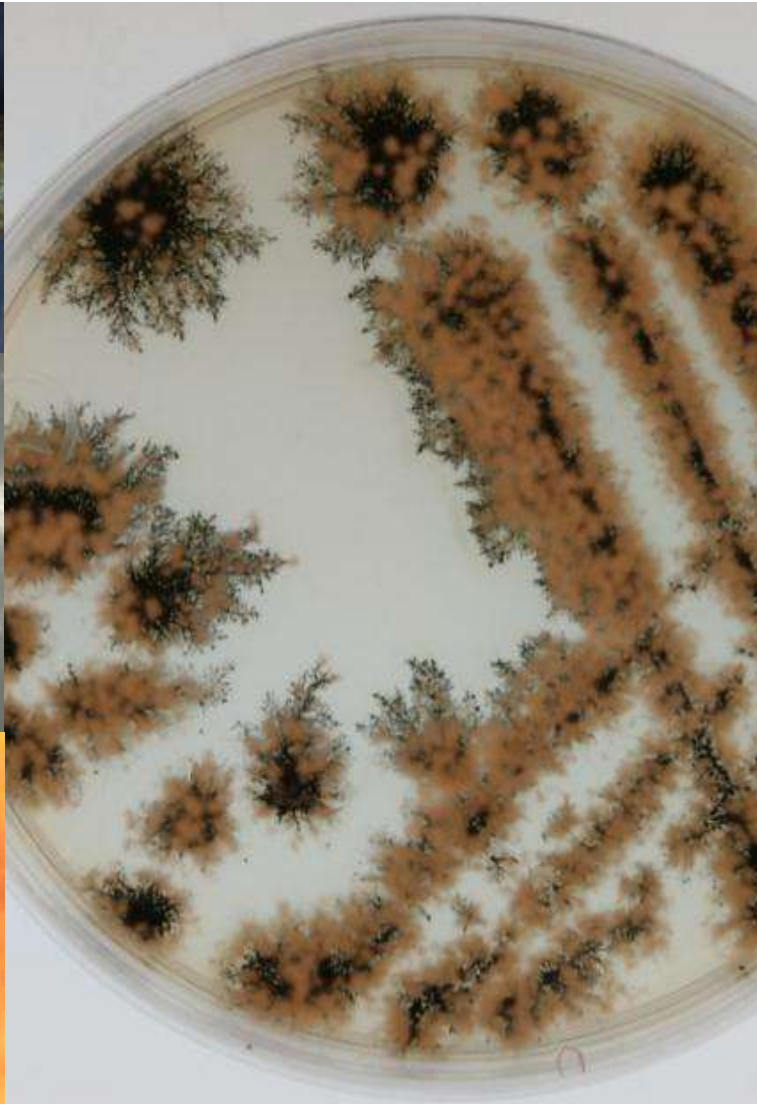
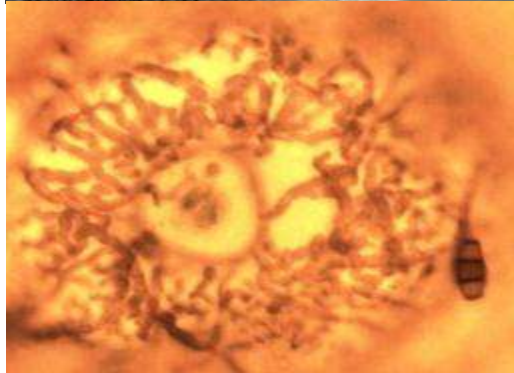
# ITS rDNA sequencing



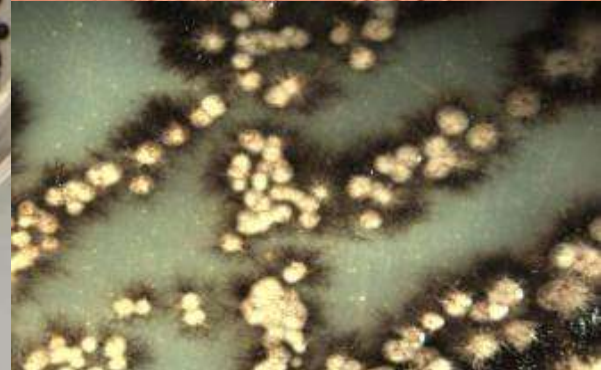
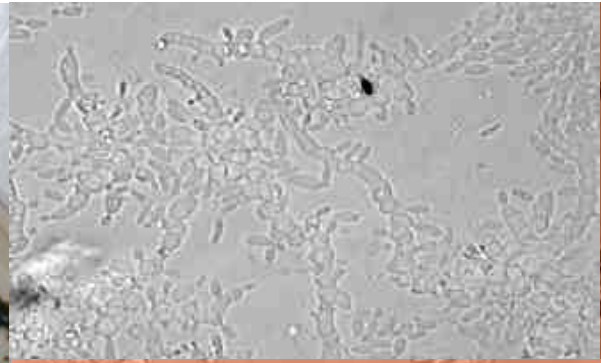
# Morphotype 1 related to *Pseudocercospora*



# Morphotype 3 related to *Discostroma*

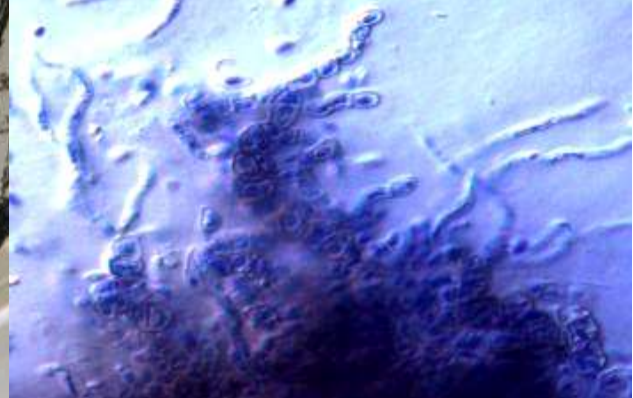
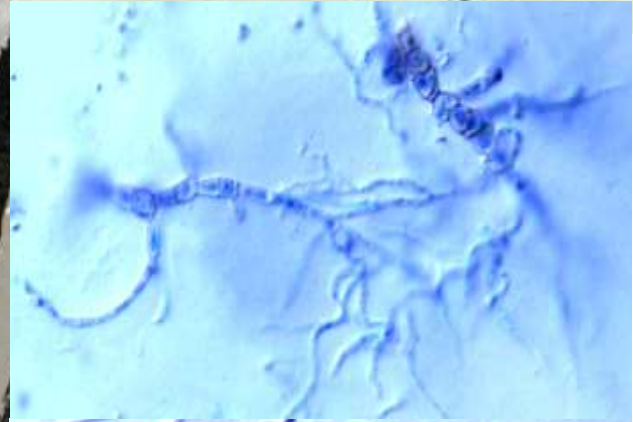
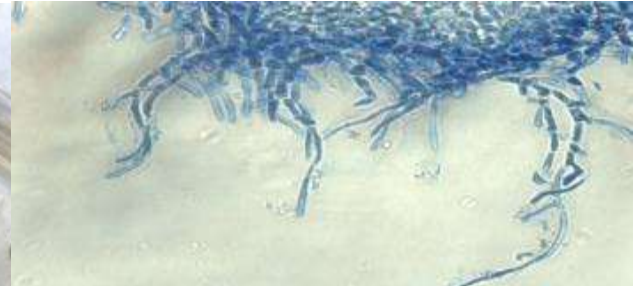
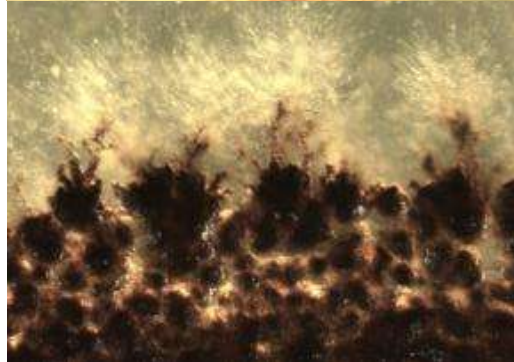


# Morphotype 2 *Rhizosphaera* and *Hormonema*?

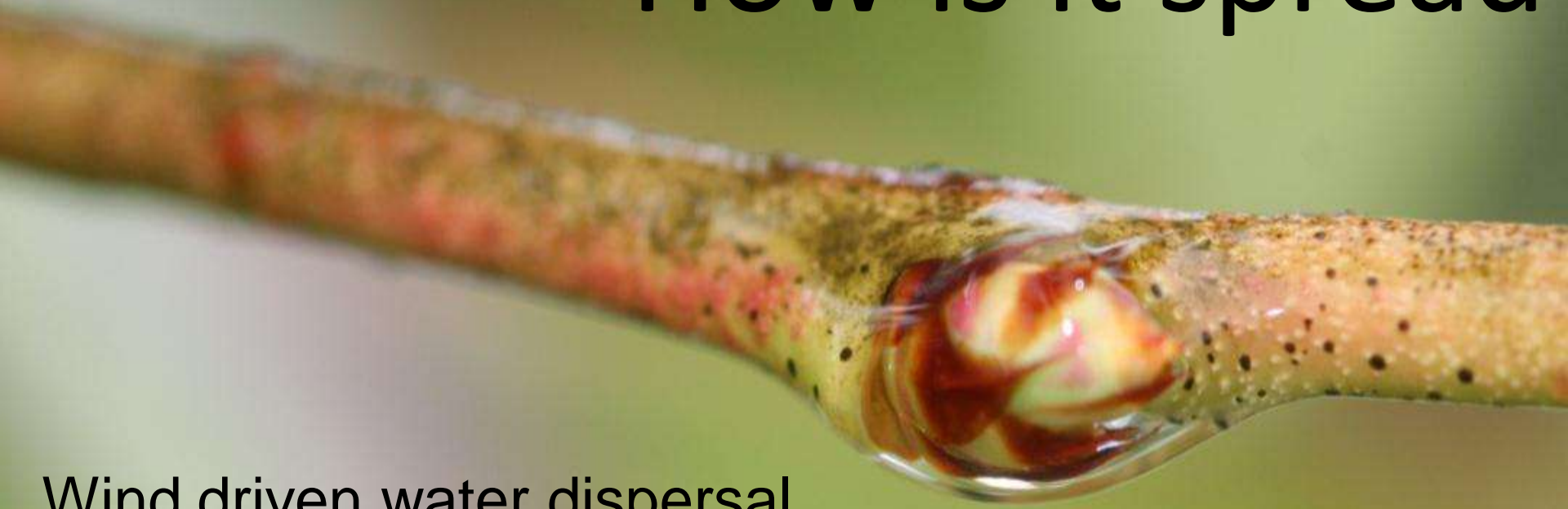




# Morphotype 4 *Rhizosphaera* and *Hormonema*?

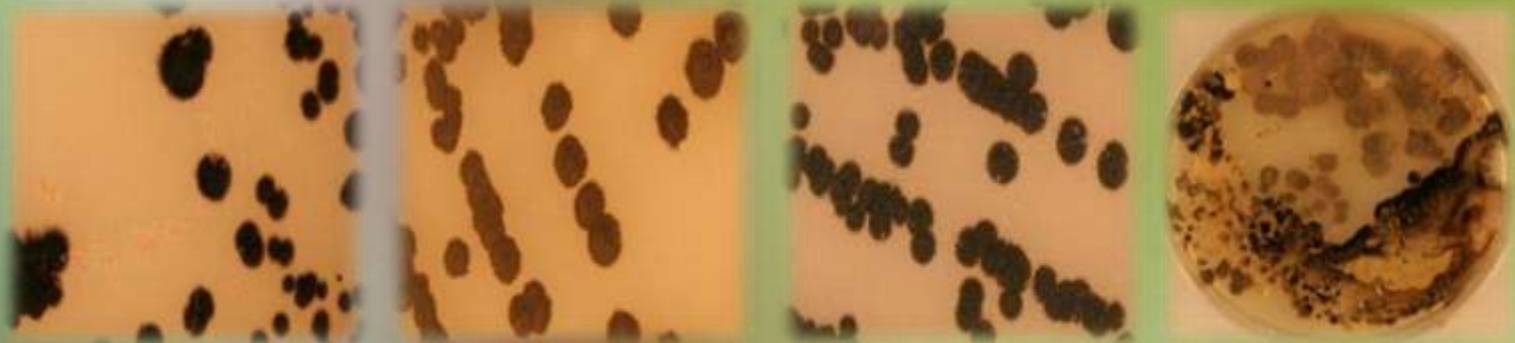


# How is it spread?



Wind driven water dispersal

Rain droplet analysis





## **CRANBASSADOR PROGRAM**

Experiential learning experience for middle and high school students.



## **CRANBASSADOR PROGRAM**

Experiencing the industry past,  
present and future



## **CRANBASSADOR PROGRAM**

Learning about the cranberry industry and what it takes to grow and harvest cranberries.

# CRANBASSADOR PROGRAM

Teaching others about the cranberry industry



# CRANBASSADOR PROGRAM

Meet the people who make up the industry including growers, specialists, scientists and naturalists..

