Survey of *Phytophthora* species in Alabama and Mississippi

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Introduction:

- The pathogen *Phytophthora ramorum* was found in 1995 in California
- *P. ramorum* is responsible for the sudden death of the oak and is the cause of many diseases in different types of plants
- During this research, water samples were taken from several streams that contained waters from nurseries that have been identified earlier with a possibility of having *Phyphthora* species in them
- *Phytophthora* species produce several types of structures that are specialized for survival, dispersal, or infection

Proposed Disease Cycle for *Phytophthora ramorum* in Forests*

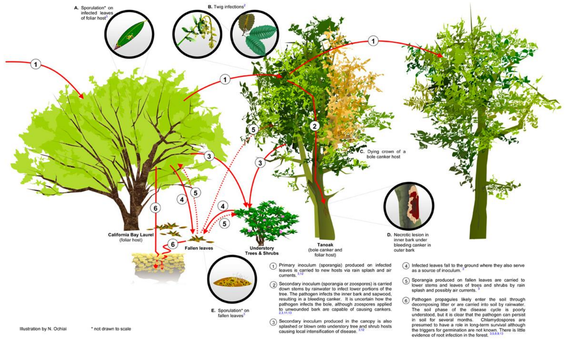


Figure 1: This cycle illustrates how the pathogen *Phytophthora ramorum* is dispersed in an oak tree, begins in the leaves until it reaches the trunk and finally causes oak to die. After causing his death he manages to survive on the soil for months

Proposed Disease Cycle for *Phytophthora ramorum* in Nurseries*

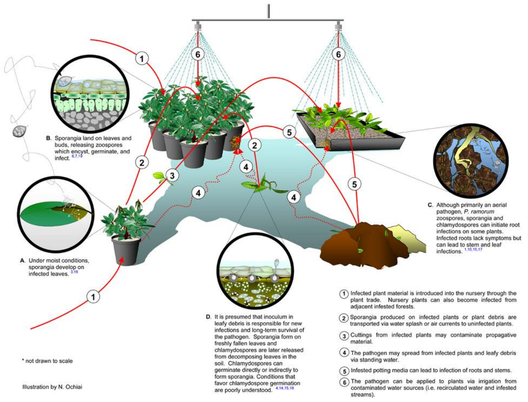
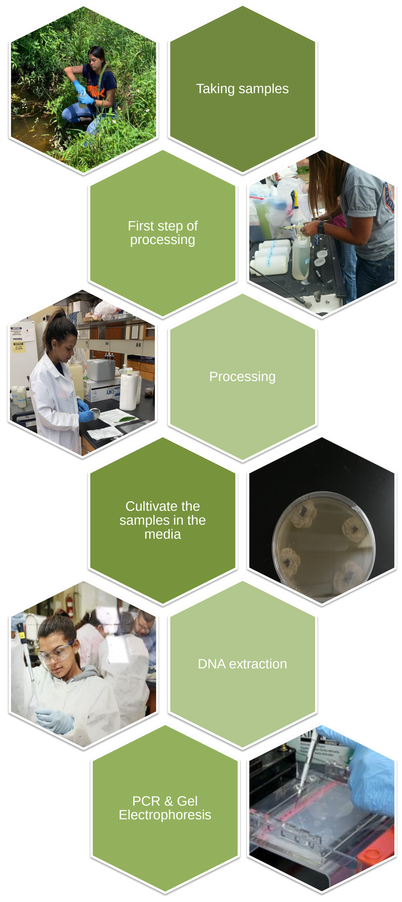


Figure 2: This next cycle occurs in nurseries, it explains how the pathogen is dispersed inside the nursery, through rain and wind and other variants

Steps:



1. Samples were taken at identified locations around Alabama and Mississippi with the possibility of having the *Phytophora* pathogen
2. In the first step of processing we took the place, date and temperature
3. *Rhododendron* leaves were used for the processing of the samples because they are susceptible to many species of *Phytophthora*
4. The media was based with V8 and carrot juice and with 4 antibiotics to kill fungi and bacteria
5. With the use of physical and chemical techniques, the DNA of the culture is extracted to be separated and purified. Afterwards it will be used for the PCR process
6. PCR has proven to be advantageous over morphology-based identification in terms of speed and expertise requirements

Preliminary Data Collected:

Place	Colonies present in carrot media:	Colonies present in V8 media:
AL 1	0	0
AL 2	1	2
AL 3	6	5
AL 4	0	2
AL 6	0	0
AL 7	8	8
AL 8	0	1
AL 9	0	1
MS 1	0	0
MS 2	8	8
MS 4	8	8
MS 5	8	8
MS 6	8	8

Expectactions:

Our expectation is to identify the *Phytophthora* species found in the samples. This will be done in order to identify new places with the presence of different species of this pathogen. I hope my findings help prevent the spread of different species of *Phytophthora*

Acknowledgments:

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