# Meet the Scientist!

A plant pathologist studies the organisms and environmental factors that cause plant diseases, and methods to reduce or prevent damage by diseases.

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### Important Scientist Characteristics

Plant pathologists must piece together clues as to what might be causing the damage before deciding what techniques to use for identification of a potential pathogen. Pathologists carefully observe disease symptoms, signs, patterns, past management and environment. Deductive reasoning helps a pathologist to determine what areas to investigate further.

### Example of a simple research question I have tried to answer:

What is the host range of Longidorus americanus and can it cause stunting of southern pine seedlings?

### Technology or equipment used in research:

The most important tool for a pathologist is the microscope. Diseases are caused by fungi, bacteria, viruses, and nematodes (microscopic worms). All of these pathogens are microscopic and require high magnification for our eye to see.

### Most Exciting Discovery

We discovered a new nematode, *Longidorus americanus*, which caused stunting of southern pine seedlings. We determined the host range of this nematode and found that small grains did not host the nematode. A nursery could control the nematode by alternating their pine crop with these small grain crops.

### When did you know you wanted to be a scientist?

I knew I wanted to work on protecting our environment after attending a Girl Scout Camp in 5th grade. I realized in high school I wanted to be a pathologist after I went to a "Trees for Tomorrow" camp and a pathologist showed us all the diseases affecting the forest.

http://www.srs.fs.usda.gov/staff/1001