

## Apprehending Plant Killers: Educating the Public--Plant Pathogen Wanted Poster Research Project

**Objective/Problem:** In this activity, you will select a particular plant pathogen of your interest and conduct research through the library resources to answer the guiding questions in your data sheet. Upon finishing, you will create a Wanted Poster of your findings about the significance of these plant pathogens to crop failures, economic losses, and loss of food resources to a growing global population.

**Observations:** Look at the handout your teacher has given you on various Plant Pathogens. Select one from the list and record information here. Tell your instructor your selection to research.

**Real (Scientific) Name:** \_\_\_\_\_ **Alias (Common Name):** \_\_\_\_\_

**Major Victim(s) (Host(s)):** \_\_\_\_\_

**Hypothesis:** Based upon its host, inquire to what you think you will find out about your plant pathogen. How do you think it may infect its host? Do you think it can infect other plants, animals or people? How much do you think this pathogen costs globally to farmers? How similar do you think it is to *P. infestans*?

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**Data:** Using credible internet & library resources, research the following items to include on the wanted poster. Also include a **formal bibliography** on the back with **3 or more references**, at least 1 being a **Book/Journal**.

**Note:** Keep a running record of where you found your information. Include this on the back of your poster.

For Pathogen Wanted Posters:

1. Include **photographs** (in color) of the **affected plant and of the suspect/pathogen**.
2. How can you tell it has struck its victim? What should the public Be On the Look Out (BOLO) for?  
**Identification** includes Sign and Symptoms, and detection systems to give a positive result for this pathogen.
3. Infectious agent **Information** (Description or drawing of its life cycle, reproduction, category (bacterial, viral, nematode, fungus or oomycete)) Include its Taxonomy (Kingdom/Phylum/Class/Order/Family/Genus/Species), Alias (Common Name) and any known accomplices (similar plant pathogens.)

4. Who is/are its common victims? **Host/Reservoir** (is it Host specific or can it move between species? Where does it hide out when it is not directly infecting its preferred host?)
  
5. What is its Modus Operandi or Mode of **Transmission/Vector**? (E.g. How does it diffuse across space and time? How does it find or select its next victim?)
  
6. **Occurrence** (Where has it been spotted in the world? What is its geographic distribution? It is rare and deadly (like a new species or variety) or common and treatable?) Rank it on a scale of 1 (public enemy #1) to 10 (common and not very harmful)
  
7. **Incubation Period and Period of Communicability** (I.e. what environmental factors are optimum for its spread?) Remember the Disease Triangle!
  
8. **Susceptibility** (What type of plants or populations are most at risk? I.e. plants that travel, crops that are replanted every year, etc?)
  
9. **Methods of Control and Management** (Quarantine, Cultural, Plant Resistant, Chemical, Biological, and Integrated) What type of weapons are effective against this pathogen?
  
10. Outline its **Significance** to human life and the Environment. What is the Economic Cost of lost crops or plants (Locally or Globally), Historical context, other systems affected by an outbreak of this plant pathogen?

**Analysis and Conclusions:** Answer the following two questions below.

1. Was your hypothesis supported or rejected? Why or why not?

2. Why do you think that plant pathogens are not as visible as animal diseases? Do they cause the same level of harm to people? Defend your answer.