



## Parallel Studies in the Plant World

Similar work on pathogen pollution is being done in species besides bats. The following resources have been compiled to stimulate a discussion of similarities and differences between pathogen pollution in the animal world and the plant world.

**Sudden Oak Death** is a tree disease caused by the plant pathogen *Phytophthora ramorum*. Similar to WNS, this is a fungus spreading through a population, resulting in population decline. Unlike WNS, this fungus also seems to be spreading to other plant species, with a host range of more than 100 plant species.

- What is Sudden Oak Death?  
<http://www.suddenoakdeath.org/>
- Sudden Oak Death and *ramorum* blight  
<http://www.apsnet.org/edcenter/intropp/lessons/fungi/Oomycetes/Pages/SuddenOakDeath.aspx>
- One-page *Science* News Article on Sudden Oak Death:  
<http://www.sciencemag.org/content/303/5666/1959.1.full.pdf?sid=1713b29b-9a3e-4584-b542-748dd74b2a22>

Unlike for WNS, the scientific community has some ideas on how to stop the spread of Sudden Oak Death. One is the setting of controlled fires. The debate now becomes whether to risk the loss of other plant (and animal) species in the controlled fire in order to possibly save another. What are the ecological consequences of this?

- One-page *Science* News Article on preventing the spread of Sudden Oak Death by setting fires:  
<http://www.sciencemag.org/content/305/5687/1101.full.pdf?sid=3dfba287-8896-4ead-9a7b-0facd706605e>

- A short letter from the scientific community on the above News Article  
<http://www.sciencemag.org/content/306/5702/1680.2.full.pdf?sid=f8ae65e2-4a2e-41fc-8224-310f89f99440>

**Stem Rust** is a plant disease caused by the fungus *Puccinia graminis* and is a significant disease affecting cereal crops such as wheat. The spread of this disease would have a serious effect on the world's food supply.

Similar to WNS, Stem Rust is a fungus that is spreading throughout plant populations. Unlike WNS, Stem Rust has not been contained to a limited area, but instead has spread around the globe. Another major difference between Stem Rust and WNS is that scientists thought they had solved the Stem Rust epidemic...until it reappeared in another form, years later.

What is Stem Rust?

<http://www.apsnet.org/edcenter/intropp/lessons/fungi/Basidiomycetes/Pages/StemRust.aspx>

Stem Rust: A threat to food security:

<http://www.sciencemag.org/content/327/5967/804.full.pdf?sid=a87e7d00-825f-4011-8f49-737976509e7f>

A 5-minute video on the fight against Stem Rust (produced by *Science*):

<http://www.sciencemag.org/content/324/5928/710.2.full>

A two-page *Science News* story on the reemergence of Stem Rust:

<http://www.sciencemag.org/content/315/5820/1786.full.pdf?sid=a87e7d00-825f-4011-8f49-737976509e7f>

A three-page *Science News* story on the history of Stem Rust:

<http://www.sciencemag.org/content/324/5928/710.1.full.pdf?sid=a87e7d00-825f-4011-8f49-737976509e7f>

The scientific community responds to Stem Rust through an Editorial in *Science*:

<http://www.sciencemag.org/content/329/5990/369.full.pdf?sid=a87e7d00-825f-4011-8f49-737976509e7f>