

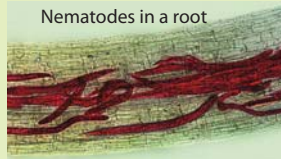


Divide and Conquer

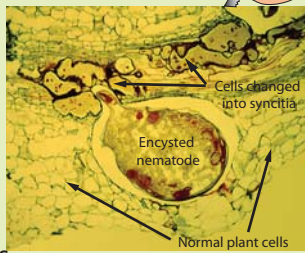


Once inside a plant, pathogens must move and spread in order to feed and multiply. Some pathogens spread further through their hosts than others. For the plant, an infection will be much less serious if only small areas are infected. Stopping movement is one way a plant can defend itself. In order to help plants, we must understand how pathogens move.

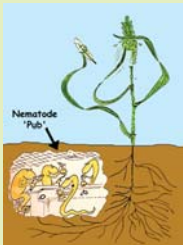
Once inside a plant, nematodes don't move very far.



Instead they make the plant produce special feeding structures.



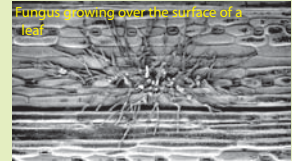
Then the nematodes trick the plant into pumping food towards the feeding sites, and they drink this food through a sharp feeding tube.



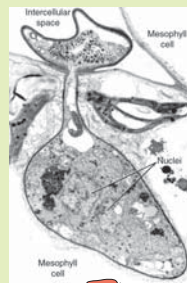
The changes required to produce the feeding sites lead to deformed root systems.



Fungi are capable of growing rapidly and over long distances through plant hosts. Some, like nematodes, create specialised feeding structures



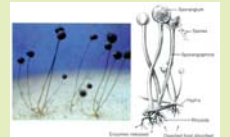
(haustoria) to obtain food from the plant. Other fungi feed by digesting the plant's cells using enzymes. (See Attack of the Rotters poster) These fungi must continually grow to healthy areas of the plant to keep feeding.



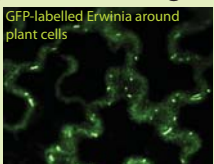
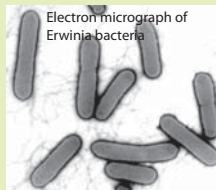
Eventually, fungi can cause large areas of damage.



They also produce spores to allow them to spread to a new plant.



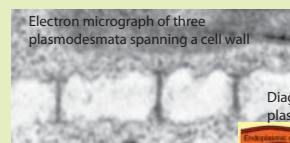
Bacteria generally move through plants by eating their way around. Bacteria are small single cells, and instead of growing through plants like fungi, they must multiply.



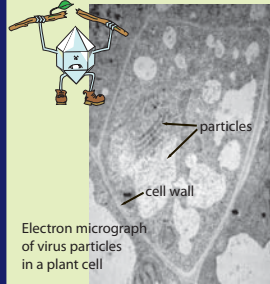
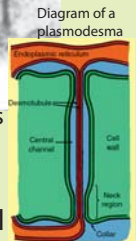
Millions of bacteria producing powerful digestive enzymes, break open plant cells. The bacteria can then feed on the cell contents. The end result of a bacterial infection is that the plant becomes mushy and rotten.



Viruses do not feed in the same way as other pathogens. Instead, they hijack the cellular machinery of the plant and use it to multiply and move



from cell to cell. (See virus replication poster) Viruses move between cells through holes in the cell



wall called plasmodesmata. They can also move over longer distances by hitching a ride in the flow of liquid through plant veins. (See virus movement poster)

