

AQA Biology GCSE

3.3 - Plant Disease

Flashcards

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How do aphids cause damage to plants?



How do aphids cause damage to plants?

They use their sharp mouthparts to extract sap from the plant phloem, weakening the plant. They are also vectors who can transfer pathogens from diseased plants to healthy plants.



How can we reduce the number of aphids?



How can we reduce the number of aphids?

- Chemical pesticides
- Biological pest control - using ladybirds



Why do plants need a good supply of nitrate ions?



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Nitrate ions are required to convert sugars into proteins which are required for the plant to grow. As a result, the growth of the plant will be stunted if there is not an adequate supply of nitrates.



Why do plants need a good supply of magnesium ions?



Why do plants need a good supply of magnesium ions?

Magnesium ions are required to synthesise chlorophyll, which absorbs light energy during photosynthesis. As a result, the leaves cannot photosynthesise properly and they turn yellow (chlorosis).



What are the symptoms of disease in plants?



What are the symptoms of disease in plants?

- Stunted growth (lack of nitrate ions)
- Spotted leaves (eg. rose black spot fungus)
- Decay/rotting
- Growths
- Malformation of stems/leaves
- Discolouration
- Presence of pests



What are three ways in which plant disease can be identified?



What are three ways in which plant disease can be identified?

- Reference to a gardening website or manual
- Laboratory testing
- Monoclonal antibody test kits



Give examples of physical defence responses used by plants



Give examples of physical defence responses used by plants

- Cellulose cell walls
- Tough waxy cuticle on leaves
- Outside layer on stems/bark on trees
- Leaf fall



Give examples of chemical defence responses used by plants



Give examples of chemical defence responses used by plants

- Antibacterial chemicals
- Poisons



Give examples of mechanical defence responses used by plants



Give examples of mechanical defence responses used by plants

- Thorns and hairs to deter animals
- Leaves that droop/curl on contact
- Mimicry to trick animals

