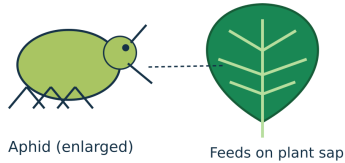


Plant health and defences

AQA Separate Biology 8461 | Paper 1 extras | Foundation + Higher

1 Disease and insect pests



Shared recap: **TMV** is a virus; **rose black spot** is fungal. Bacteria can also infect plants. **Aphids** feed on sap, weakening plants. They can carry viruses from plant to plant.

2 Nitrate deficiency



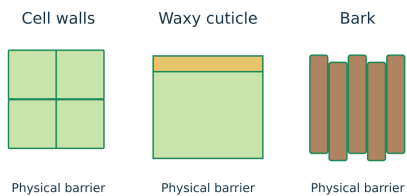
Plants use **nitrate ions** to make amino acids and then proteins. Too little nitrate → less protein synthesis → **stunted growth**. A mineral deficiency is non-communicable: it is not a pathogen.

3 Magnesium deficiency



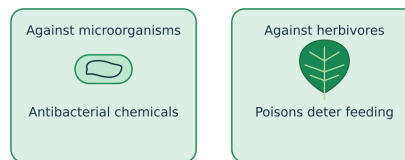
Magnesium ions are needed to make **chlorophyll**. A shortage causes yellowing (**chlorosis**). Less light is absorbed, so photosynthesis may fall. Yellowing alone can have several causes.

4 Physical barriers



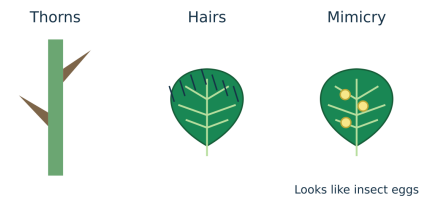
Cellulose cell walls resist entry. A tough **waxy cuticle** protects leaves. **Bark** consists of outer layers of dead cells. Shedding bark can remove pathogens on those layers.

5 Chemical defences



Antibacterial chemicals: act against bacteria. **Poisons:** deter herbivores from feeding. Plants do not use antibodies like animal immune cells.

6 Mechanical adaptations



Thorns and hairs deter herbivores. Leaves may **curl or droop** when touched, discouraging feeding. **Mimicry:** a misleading appearance, such as leaf markings that look like insect eggs and deter egg laying.