

**GCSE Biology A (Gateway)**

**J247/04 Biology A B4-B6 and B7 (Higher Tier)**

**Question Set: 18**

- 1 Two farmers grow barley in their fields.
- They both have a problem with barley powdery mildew infecting their crops.
- (a) Powdery mildew is caused by a fungus.
- Describe how fungal infections can spread and how they enter plant leaves.  
Fungi reproduces in warm conditions, with plenty of moisture, nutrients and space.  
Spores are carried by the wind so spread to leaves. [3]  
where fungi grew
- (b) The farmers want to prevent their crops from getting powdery mildew.
- (i) Explain how burning plants after the barley has been harvested can protect the crops.  
This kills fungi which cause powdery mildew. [1]
- (ii) Explain how growing barley in the fields one year, then wheat the next year can protect the crops.  
Crop rotation - improve soil health, optimize nutrients in soil and kill pests. [2]
- (c) The farmers test two different fungicides.
- They each grow barley in one of their fields. Each farmer sprays a different fungicide on their field. They then compare the crop yield in the two different fields.
- How could you improve the farmers' experiment?
- Explain your answer.  
Grow barley in the same field to ensure the same conditions: same temperature, weather, [2]  
nutrient availability as they affect crops' & fungal growth

**Total Marks for Question Set 18: 8**

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