

**OXFORD CAMBRIDGE AND RSA EXAMINATIONS
GCSE
B683/01**

**ENVIRONMENTAL AND
LAND-BASED SCIENCE**

**Commercial Horticulture, Agriculture
and Livestock Husbandry (Foundation Tier)**

WEDNESDAY 17 JUNE 2015: Morning

DURATION: 1 hour

plus your additional time allowance

MODIFIED ENLARGED 24pt

| | | | | | | | | | | |
|-------------------------------|--|--|--|--|--|------------------------------|--|--|--|--|
| Candidate forename | | | | | | Candidate surname | | | | |
| Centre number | | | | | | Candidate number | | | | |

Candidates answer on the Question Paper.

OCR SUPPLIED MATERIALS:

None

OTHER MATERIALS REQUIRED:

Pencil

Ruler (cm/mm)

Calculator

READ INSTRUCTIONS OVERLEAF

INSTRUCTIONS TO CANDIDATES

Write your name, centre number and candidate number in the boxes on the first page. Please write clearly and in capital letters.

Use black ink. HB pencil may be used for graphs and diagrams only.

Answer ALL the questions.

Read each question carefully. Make sure you know what you have to do before starting your answer.

Write your answer to each question in the space provided. Additional paper may be used if necessary but you must clearly show your candidate number, centre number and question number(s).

INFORMATION FOR CANDIDATES

The quality of written communication is assessed in questions marked with a pencil () .

The number of marks is given in brackets [] at the end of each question or part question.

The total number of marks for this paper is 50.

Any blank pages are indicated.

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Answer ALL the questions.

1 This question is about pricking out.

These plants are ready to be pricked out.



Complete the sentences.

(a) Pricking out gives each individual plant more

_____ . [1]

(b) The tray in the photograph below is being filled with

_____ . [1]



(c) When pricking out, care needs to be taken when lifting the plants so as not to damage the

_____ . [1]



(d) After pricking out, the seedlings should be

**_____ and put in the
greenhouse. [1]**

[TOTAL: 4]

- 2 The picture shows a plant being handled by a leaf while being pricked out.**



Explain why the plant should be held by the leaf and not by the stem.

[1]

[TOTAL: 1]

3 The photograph shows a parasitic wasp.

This wasp is used in biological pest control in glasshouses.



Which of the following is a reason for using biological pest control rather than chemical pest control in the glasshouse?

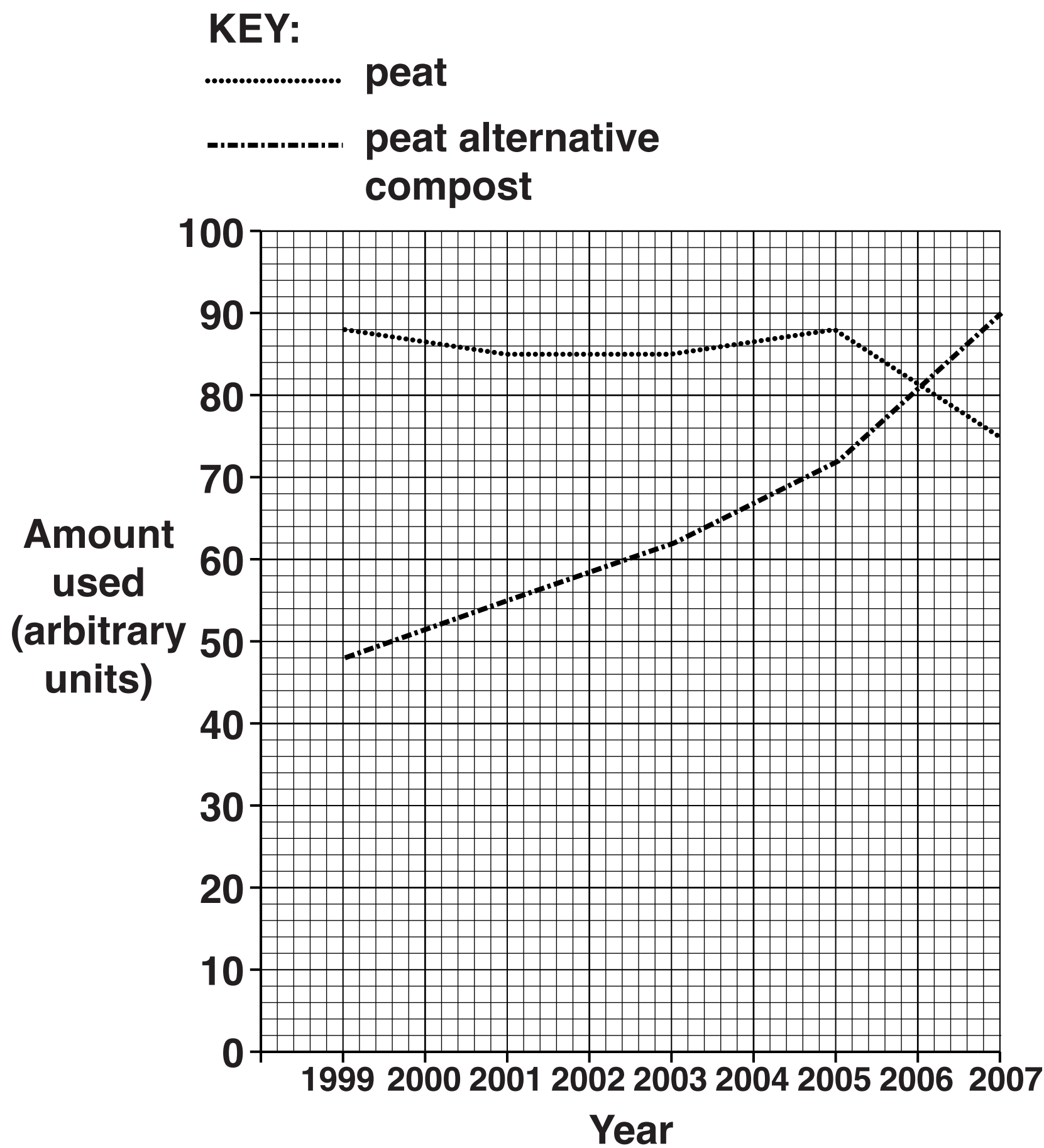
- A All species of pest are removed.**
- B All the pests in the glasshouse are killed instantly.**
- C Using biological pest control in the glasshouse does not cost anything.**
- D If the number of pests increases, the population of wasps increases.**

Answer A, B, C or D _____ [1]

[TOTAL: 1]

4 Compost can be made from peat or from alternative materials.

The graph shows how the use of peat and peat alternative compost changed between 1999 and 2007.



(a) Use the graph to answer the following questions:

(i) What does the graph show about the use of peat between 1999 and 2005?

_____ [1]

(ii) How did the use of peat alternative compost change between 1999 and 2007?

Your answer should include figures from the chart.

[1]

(b) Why should gardeners be reducing the amount of peat that they use?

[1]

[TOTAL: 3]

5 Westwood’s Lawn Feed comes in three differently sized packets.

The table shows information about this lawn feed.

| | SIZE OF PACKET | | |
|----------------------|--------------------|--------------------|--------------------|
| | 2.5 kg | 5.0 kg | 10.0 kg |
| Cost | £12.50 | £18.50 | £29.50 |
| Area of lawn covered | 100 m ² | 200 m ² | 400 m ² |

(a) What would be the cheapest cost of purchasing enough packets of lawn feed for a 550m² lawn?

Answer £ _____ [1]

(b) What is the application rate of the lawn feed in g/m²?

Answer _____ g/m² [1]

[TOTAL: 2]

- 6 Westwood's Lawn Feed is available in three different mixes. NPK values show the percentage of each nutrient in each mix.

| | | |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <div>Autumn Lawn Feed</div> <div>NPK 15-5-20</div> <div>5 kg</div> | <div>Spring Lawn Feed For Clay Soils</div> <div>NPK 22-0-6</div> <div>5 kg</div> | <div>Spring Lawn Feed For Sandy Soils</div> <div>NPK 25-4-10</div> <div>5 kg</div> |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|

- (a) What mass of phosphorus (P) is in 5 kg of Autumn Lawn Feed?

Answer _____ g [2]

- (b) Suggest why there is less nitrogen (N) in the Autumn Lawn Feed than in the Spring Lawn Feed.

_____ [1]

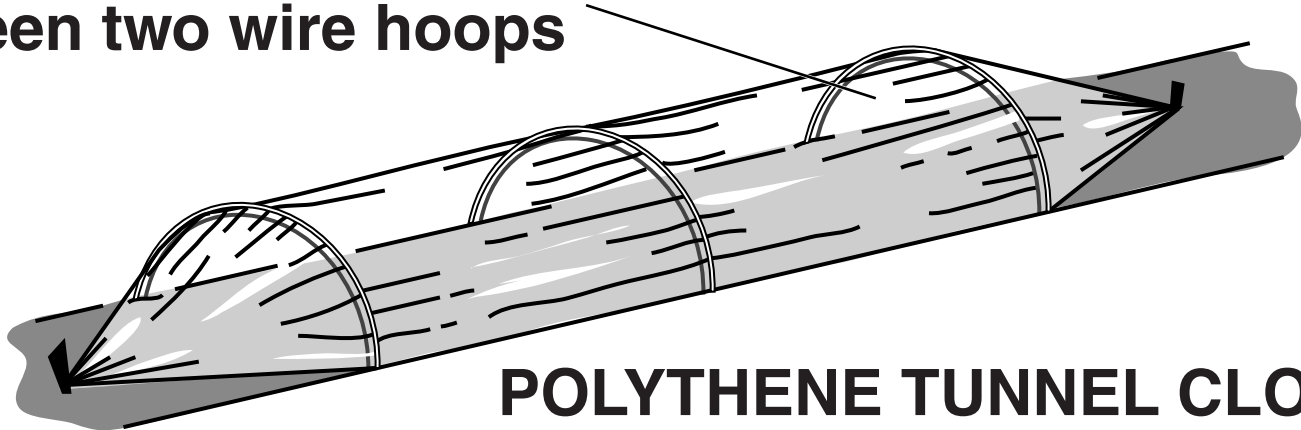
- (c) Suggest why lawn feeds for clay soil and for sandy soil have different amounts of NPK.

_____ [1]

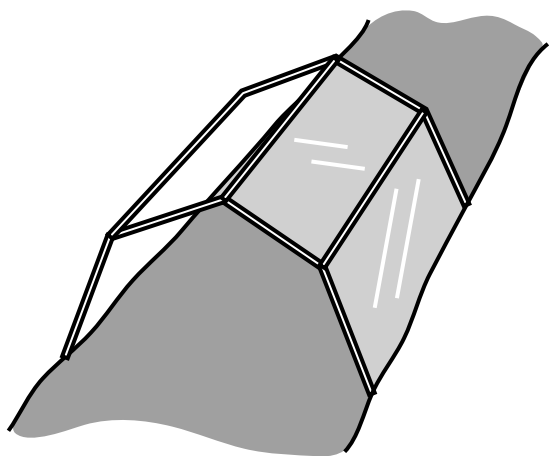
[TOTAL: 4]

7 The diagrams show different types of cloche.

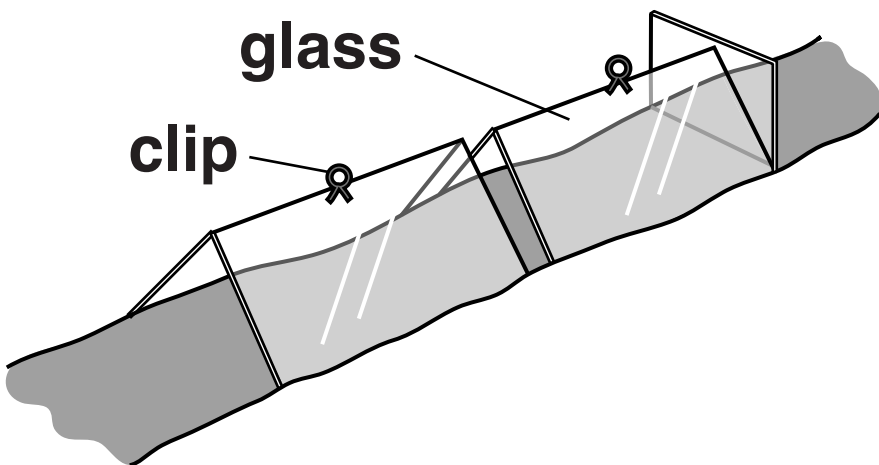
polythene sheet held
between two wire hoops



POLYTHENE TUNNEL CLOCHE



BARN CLOCHE – four
sheets of glass held
on a wire frame



TENT CLOCHES – placed end
to end to form a tunnel – the
end of a tunnel is blocked
with a sheet of glass

Describe how and why a cloche is used for plant cultivation.

[4]

[TOTAL: 4]

8 The photograph shows plants being grown hydroponically.



(a) What is the difference between growing plants normally and growing plants hydroponically?

_____ [1]

(b) Name THREE advantages of growing plants hydroponically.

1 _____

2 _____

3 _____

_____ [3]

[TOTAL: 4]

9 The photograph shows a garden in which the same plants have been growing for many years.



Describe what needs to be done to care for this garden to keep it looking good for many years.



The quality of written communication will be assessed in your answer.

[6]

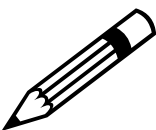
[TOTAL: 6]

10 A balanced diet is essential to keep this animal healthy.



Choose an animal you have studied.

Explain how the food it is given keeps it in good condition.



The quality of written communication will be assessed in your answer.

[6]

[TOTAL: 6]

11 The photograph shows an example of animal housing that is in poor condition.



Explain why this housing would be a risk to any cattle kept in it.

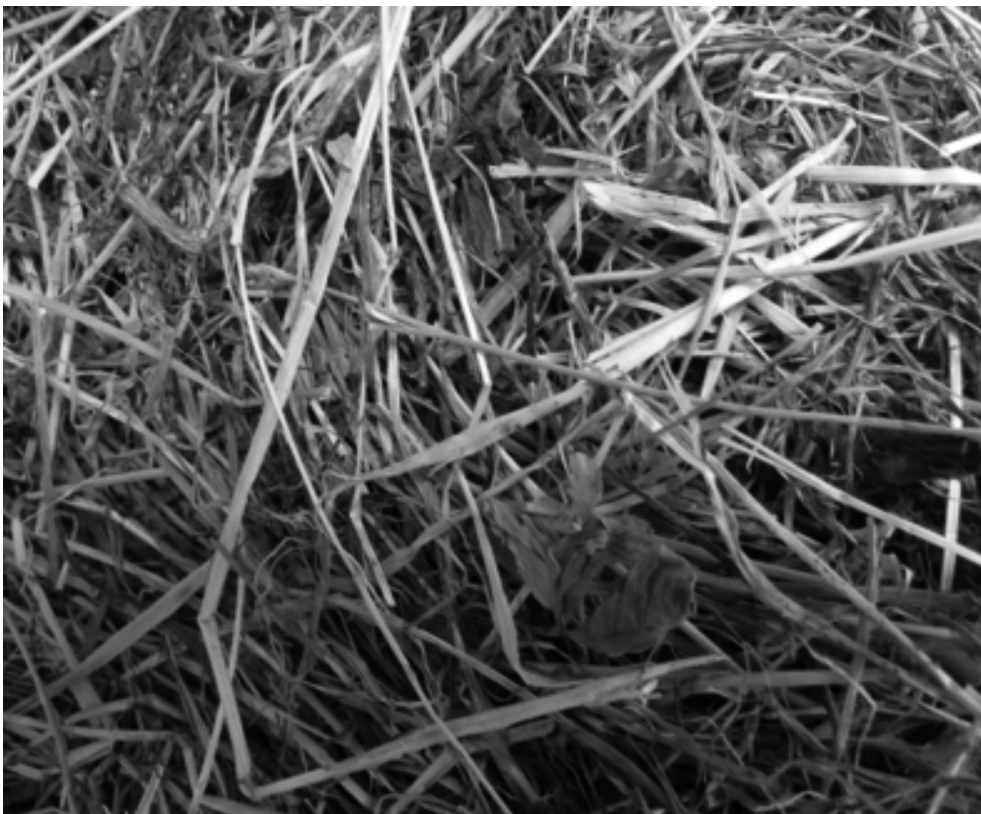
[3]

[TOTAL: 3]

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12 The photographs on pages 18 and 19 show four different animal feeds.





[4]

Label each feed with the correct name from the list below.

- hay

calf-rearing mix

pellets

milk substitute

succulent

[TOTAL: 4]

13 The photograph shows an extensive system of rearing pigs.



Name TWO things in the photograph that tell you that this is an EXTENSIVE system.

1 _____

2 _____

[2]

[TOTAL: 2]

14 Choose an animal you have studied.

Describe how a farmer can tell that this animal is coming into heat.

Explain why this information is important to the farmer.



The quality of written communication will be assessed in your answer.

[6]

[TOTAL: 6]

END OF QUESTION PAPER

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