

## Wednesday 17 June 2015 – Morning

### GCSE ENVIRONMENTAL AND LAND-BASED SCIENCE

**B683/01** Commercial Horticulture, Agriculture and Livestock Husbandry  
(Foundation Tier)

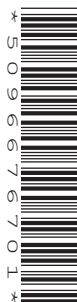
Candidates answer on the Question Paper.

**OCR supplied materials:**  
None

**Other materials required:**

- Pencil
- Ruler (cm/mm)
- Calculator

**Duration:** 1 hour



Candidate forename		Candidate surname	
Centre number		Candidate number	

#### INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. 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).
- Do **not** write in the bar codes.

#### 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**.
- This document consists of **20** pages. Any blank pages are indicated.

2

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]



3

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

.....

[1]



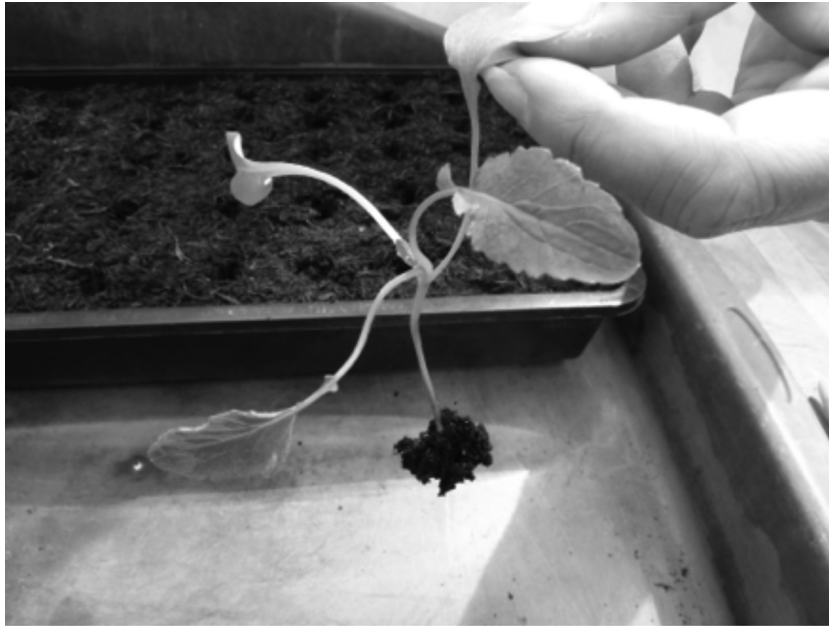
(d) After pricking out, the seedlings should be ..... and put in the greenhouse. [1]

[Total: 4]

Question 2 begins on page 4

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]

5

- 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?

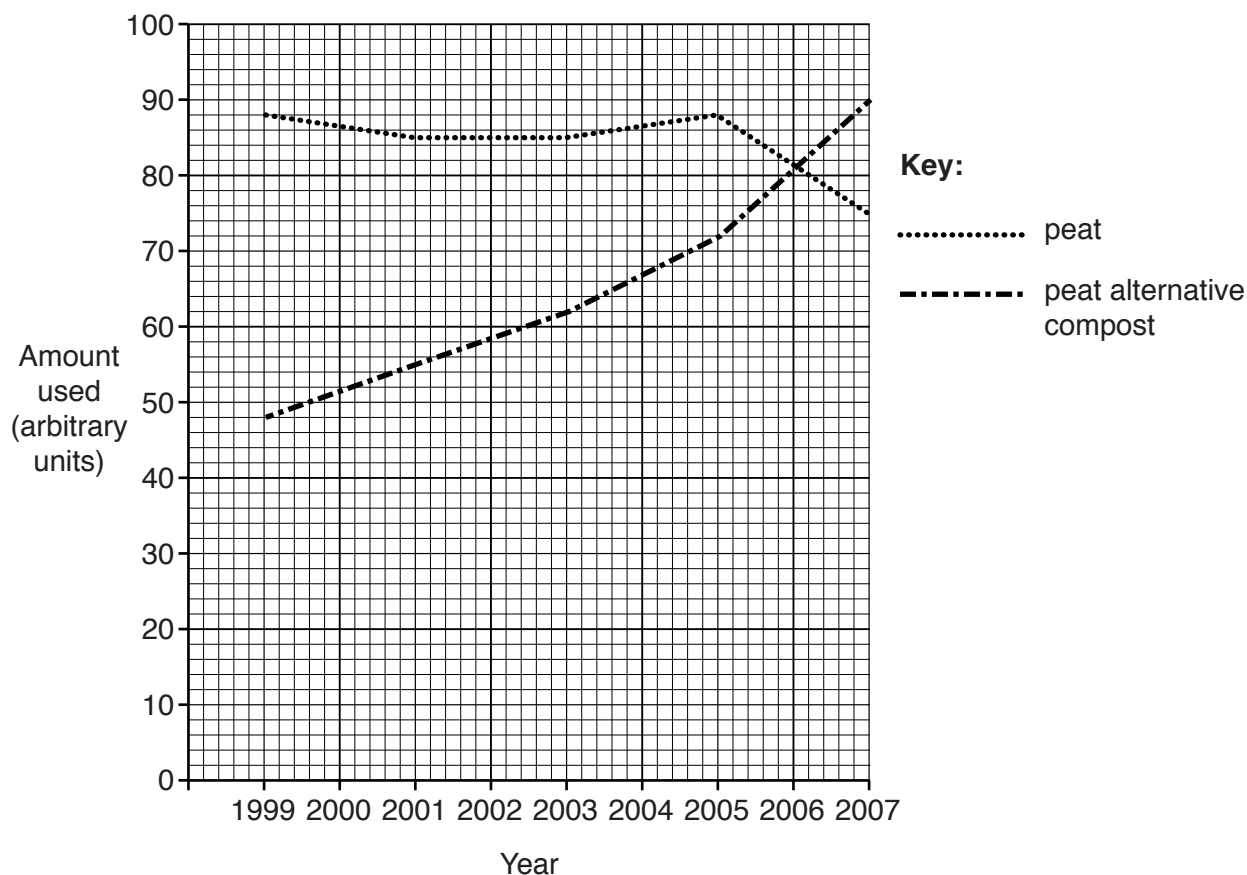
- A All species of pest are removed.
- B All the pests in the glasshouse are killed instantly.
- C Using biological pest control in the glasshouse does not cost anything.
- D If the number of pests increases, the population of wasps increases.

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]

7

- 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 <sup>2</sup>	200 m <sup>2</sup>	400 m <sup>2</sup>

- (a) What would be the cheapest cost of purchasing enough packets of lawn feed for a 550 m<sup>2</sup> lawn?

Answer £ ..... [1]

- (b) What is the application rate of the lawn feed in g/m<sup>2</sup>?

Answer ..... g/m<sup>2</sup> [1]

[Total: 2]

8

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



- (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.

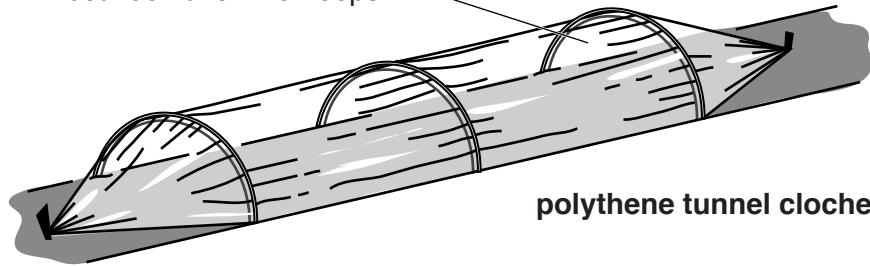
.....  
 ..... [1]

[Total: 4]

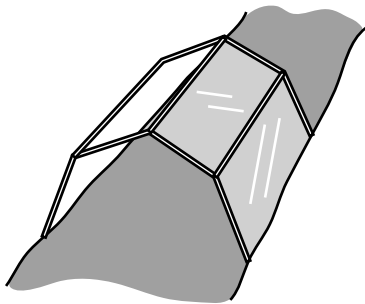


7 The diagrams show different types of cloche.

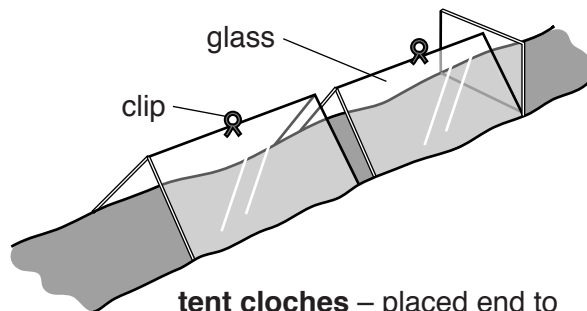
polythene sheet held  
between two wire hoops



**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]

10

- 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]

A black and white photograph showing a landscaped area. In the foreground, there are several large, rounded, and well-manicured bushes. To the left, a paved path or sidewalk is visible. In the background, a multi-story building with a curved facade and large windows is partially obscured by trees and other foliage. The overall scene suggests a park or a well-maintained urban space.



..... [6

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**Turn over**

A black and white photograph of a pig's head, showing its snout and eye, positioned next to a brick wall. The pig's snout is prominent, with its nostrils clearly visible. The brick wall is on the left side of the frame, and the pig's head is on the right. The background is dark.



..... [6

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13

- 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]

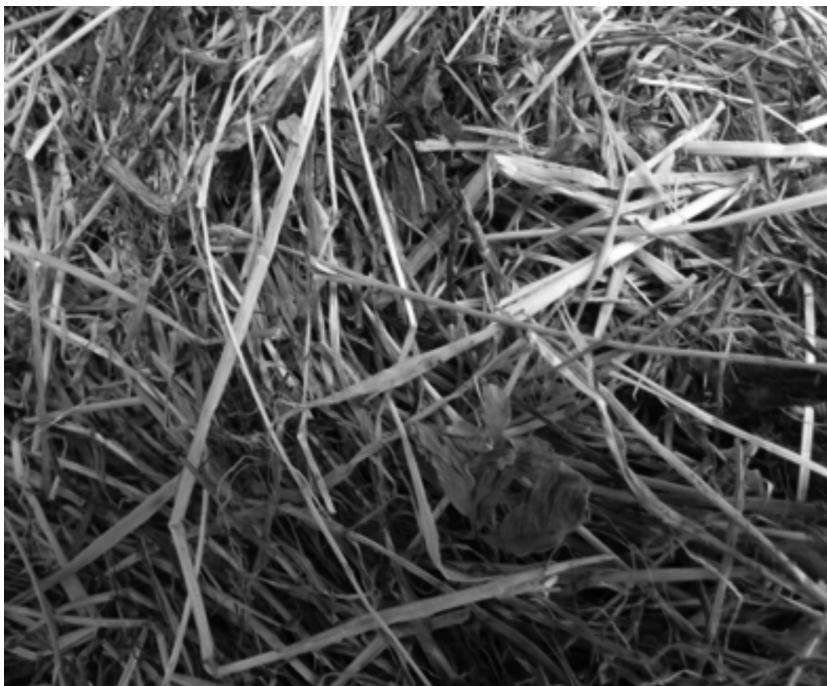
[Total: 3]

12 The photographs on pages 14 and 15 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]

Turn over

16

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.*

.....

.....

.....

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.....

.....

.....

.....

.....

.....

..... [6]

[Total: 6]

**END OF QUESTION PAPER**

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