



Sharing the best in Gardening

R3103

THE MANAGEMENT OF PLANT HEALTH

Level 3

Wednesday 27 June 2012

11:30 – 12:30

Written Examination

Candidate Number:.....

Candidate Name:.....

Centre Number/Name:.....

IMPORTANT – Please read carefully before commencing.

- i) The duration of this paper is **60** minutes.
- ii) **ALL** questions should be attempted.
- iii) **EACH** question carries **10 marks**.
- iv) Write your answers legibly in the spaces provided.
- v) Use **METRIC** measurements only.
- vi) Where plant names are required, they should include genus, species and where appropriate, cultivar.
- vii) Please note, sufficient lined space is provided. It is not necessary that all lined space is used in answering the questions.

Ofqual Unit Code M/601/1038

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ANSWER ALL QUESTIONS

MARKS

Q1 a) Describe the symptoms and damage caused by:

i) aphids;

2

ii) glasshouse whitefly.

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b) State how biological controls are used to manage the pests listed in a).

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MARKS

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Q2 a) Name **TWO** rodent pests of gardens and garden plants.

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b) Describe in relation to specific garden situations:

- i) the damage the rodents named in a) may cause;
- ii) possible control measures.

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Total Mark

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Q3

Describe the plant health controls that are in place for member states of the European Union.

10

Total Mark

7

Q4 a) Describe what is meant by integrated crop management (integrated control).

3

[illegible]

b) Describe an integrated control strategy for **ONE NAMED** horticultural situation.

7

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Total Mark

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Q5 a) Describe the symptoms and damage caused by 'damping off'.

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b) Identify cultural controls that can be employed in preventing 'damping off' in a **NAMED** horticultural situation.

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Total Mark	
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Q6 a) Describe the process of selecting a pesticide for a **NAMED** horticultural situation.

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- 4

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13

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Level 3

Wednesday 27 June 2012

Candidates Registered	79		Total Candidates Passed	38	64.40%
Candidates Entered	59	74.68%	Passed with Commendation	9	15.25%
Candidates Absent	16	20.25%	Passed	29	49.15%
Candidates Deferred	1	1.27%	Failed	21	35.60%
Candidates Withdrawn	3	3.80%			

Q1 a) Describe the symptoms and damage caused by:

- i) aphids;
- ii) glasshouse whitefly.

b) State how biological controls are used to manage the pests listed in a).

The symptoms and damage caused by aphids and whitefly was generally well described, candidates who identified both adult whitefly and its nymphal stages (scales) gave a fuller answer.

Some candidates identified a wide range of natural predators of aphids including ladybirds and lacewings and also included a number of measures that gardeners can do to encourage them in a garden situation. Higher marks were awarded to candidates who named a range of parasitic or predatory organisms that can be manipulated and introduced at levels to affect a control of aphids or whitefly particularly in a controlled environment of a greenhouse or polythene tunnel. References to application rates, timing, and part of the pest lifecycle controlled would give a complete answer.

Q2 a) Name **TWO** rodent pests of gardens and garden plants.

b) Describe in relation to specific garden situations:

- i) the damage the rodents named in a) may cause;
- ii) possible control measures.

The majority of candidates identified two rodent pests of gardens and garden plants. Damage by such pests is wide ranging and extensive. Many candidates identified not only damage to specific crops and garden plants, but also buildings, installations etc. as well as health and hygiene issues. There were many answers which listed extensively the variety of controls that could be applied. Mention was made of trapping, baits and poisons, as well as the use of barriers, and the implementation of good horticultural practices to discourage such pests.

Q3 Describe the plant health controls that are in place for member states of the European Union.

This question required candidates to describe the controls and restrictions that are in place within the European Union (EU) in order to mitigate the spread of plant pests and diseases both within the EU and from countries outside of the EU.

Candidates were required to make reference to, and explain how this legislation was implemented, including references to The Food and Environment Research Agency's (Fera's) Plant Health Division who are responsible for plant health policy in England & Wales. Reference should have also been made to the Plant Passport certification system and the function of protected zones in the EC member states.

Identifying and describing the function of Phytosanitary certificates for importing plants from countries outside the EU, and the restrictions on personal import of plants and seeds would have made a complete answer.

Q4 a) Describe what is meant by integrated crop management (integrated control).

b) Describe an integrated control strategy for **ONE NAMED** horticultural situation.

The term Integrated pest control (IPC) was generally well understood. Candidates who went on to expand their answers with examples of the benefits of implementing IPC, for instance identifying its positive impact on the environment, were awarded higher marks.

In the second part of this question candidates were required to set out a suitable control strategy in a logical and practical way. Where applicable this may have included preventative measures such as plant selection, rotation, timing, followed by other recommendations including assessing and monitoring, and the implementation of appropriate control measures.

- Q5**
- a) Describe the symptoms and damage caused by 'damping off'.
 - b) Identify cultural controls that can be employed in preventing 'damping off' in a **NAMED** horticultural situation.

The majority of candidates answered this question very well; damping off was recognised as a disease mostly of seedlings, there were many good descriptions including identifying the fungal pathogens and the conditions which promoted these diseases.

In the second part of this question many candidates obtained full marks, although some candidates did make references to chemical controls which was not required.

- Q6**
- a) Describe the process of selecting a pesticide for a **NAMED** horticultural situation.
 - b) Describe, using **NAMED** examples, what is meant by 'mode of action' of pesticides.

Candidates answering this question were required to identify a particular horticultural situation where a pesticide may be required, and describe the processes that are needed to be undertaken when selecting a pesticide. This should include reference to risk assessments (COSHH), selection of approved products, control strategies, and environmental impact.

In part b) many candidates referred to systemic and contact pesticides. Other pesticides' modes of action that could have been included were residual chemicals and fumigants. Some of the pesticides written about are no longer approved for use both in professional horticulture and as amateur products.

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