



R2113

**UNDERSTANDING THE PRODUCTION OF
OUTDOOR VEGETABLES AND FRUIT**

Level 2

Tuesday 15 February 2011

13.30 – 14.00

Written Examination

Candidate Number:

Candidate Name:

Centre Number/Name:

IMPORTANT – Please read carefully before commencing:

- i) The duration of this paper is **30 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.

Answer all questions

Marks

1. a) State **ONE** pest and **ONE** disease commonly found on a **NAMED** soft fruit.

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- b) Describe the typical symptoms of attack for the pest and the disease **NAMED** in a).

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- c) State **TWO** control measures for **EACH** pest and disease **NAMED** in a).

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Please see over

2. a) State **TWO** benefits and **TWO** limitations of crop rotation for vegetables:

	Benefits	Limitations
1		
2		

- b) Describe the production of carrots under **EACH** of the following headings:

- i) sowing;
- ii) thinning;
- iii) weed control.

[illegible]

Please turn over

3. a) Name **THREE** types of non-living permeable windbreaks. **3**

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- b) Name **THREE** species of plants suitable for use as a living windbreak. **3**

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- c) State **TWO** benefits and **TWO** limitations of living and non-living windbreaks by completing the table below: **4**

		Living	Non-living
Benefits	1		
	2		
Limitations	1		
	2		

Please see over

5. a) Describe how the timing of soil cultivations will be influenced by **EACH** of the following factors:

- i) soil texture;
- ii) soil structure;
- iii) weather and climate.

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b) State **TWO** benefits and **TWO** limitations of open ground production compared to the bed systems for growing vegetables.

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Please see over

6. a) Name **TWO** dessert and **TWO** culinary apple cultivars. 2

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- b) Describe how the quality and yield of fruit can be determined by the appropriate pruning of an apple tree. 4

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- c) State **FOUR** factors to be considered when selecting an apple tree for a specified site. 4

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**The Royal Horticultural Society, Wisley, Woking, Surrey GU23 6QB
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**UNDERSTANDING THE PRODUCTION OF
OUTDOOR VEGETABLES AND FRUIT**

Level 2

Tuesday 15 February 2011

Candidates Registered	60	Pass with Commendation	4 (8.33%)
Candidates Entered	48	Pass	29 (60.41%)
Absent/Withdrawn/Deferred	12	Fail	15 (31.25%)
Total Candidates Passed	33 (68.75%)		

Senior Examiner's Comments:

1. Candidates should be able to demonstrate a good range of plant knowledge and be able to give accurately named plant examples where appropriate. Common names and generic names are often too vague and cannot be rewarded in the positive manner that genus, species and where appropriate, variety/cultivar can. This is particularly important when answering questions relating to particular (named) plant(s). Marks can only be awarded for these narratives where the example(s) are correctly and fully identified.
2. Candidates must be able to display accurate knowledge of the technical terms and concepts detailed in the syllabus, in the context of horticulture and be aware that wider interpretation will not be rewarded. The examination should be regarded as a possible introduction to higher level studies, which will only be open to those who are in possession of a clear understanding of the horticultural terms and concepts which are current.
3. The introductory rubric given on the first page of each question paper should be read carefully by candidates. At each examination there are a significant number of candidates who ignore or misread the instructions given and consequently may not perform as well as they could have done.
4. Candidates should pace themselves during each paper. The most successful candidates allow sufficient time to read the question thoroughly before answering it and also take time to read through their answers. They should take care to write as legibly as possible, so that the examiner is in no doubt about what is intended.

5. Candidates need to interpret key words within questions, particularly those such as 'state', 'list' and 'describe'. Questions requiring descriptions or explanations obviously require a more detailed answer than those requiring a list.
6. It is important to ensure that responses to questions are to the point. Candidates should bear in mind that small sketches might be used to convey information more succinctly than words.
7. Successful candidates ensure that their answers are focused and to the point. It is disappointing when they cannot be rewarded for their efforts because the answer is irrelevant to the particular question. Candidates should take note of the mark allocation for specific sections and allocate their time and efforts accordingly.
8. Diagrams can enhance an answer and where appropriate can replace detailed descriptions. They should be large, clear and well annotated, and preferably in pencil. Colour may be used successfully but only where it is relevant to the answer.
9. In each examination it is clear that some candidates are ill prepared to answer papers of the type set. It is essential that candidates have the opportunity to practice questions. Ideally some papers should be answered in a time constrained situation.
10. Candidates should be aware of the reading list of suggested books for the RHS Level 2 Certificate in The Principles of Garden Planning, Establishment and Maintenance which is available from the Qualifications Section and can also be found on the RHS website together with past papers.

Examiners' Comments:

Marks

1. a) State **ONE** pest and **ONE** disease commonly found on a **NAMED** soft fruit. 2

Most candidates were able to name one pest and one disease of a soft fruit e.g. raspberry which is affected by raspberry beetle and botrytis. Named top fruits were not acceptable.

- b) Describe the typical symptoms of attack for the pest and the disease **NAMED** in a). 4

Better candidates provided good descriptions of the symptoms of attack for the named pest and disease which included details of the visual symptoms, visual observation of the pest and where to find it on the plant, symptoms on the foliage and associated symptoms e.g. sooty mould and possible collapse of part or all of the plant.

- c) State **TWO** control measures for **EACH** pest and disease **NAMED** in a).

4

Candidates provided a range of control measures including chemical, biological, physical and cultural. The best answers included the active ingredient of chemicals and the agent effective against the pest or disease when using biological control.

2. a) State **TWO** benefits and **TWO** limitations of crop rotation for vegetables:

4

	Benefits	Limitations
1		
2		

Most candidates were able to state the benefits of crop rotation including; prevention of build up of soil borne pests and diseases but the best answers were from those candidates who were able to state the limitations as well, e.g. limits what is grown and where.

- b) Describe the production of carrots under **EACH** of the following headings:

- i) sowing;
ii) thinning;
iii) weed control.

2

2

2

Soil preparation was described well by most candidates and the better candidates included distance between the drills and depth of sowing. Many candidates also included all aspects of weed control.

3. a) Name **THREE** types of non-living permeable windbreaks.

3

Candidates who named a range of permeable non-living materials that can be used as windbreaks e.g. plastic fencing (Netlon) or wooden laths gained maximum marks. Solid materials were not acceptable.

- b) Name **THREE** species of plants suitable for use as a living windbreak.

3

The best answers were from candidates who gave appropriate plant species with full botanical names e.g. *Fagus sylvatica*, *Thuja plicata* and *Alnus incana*.

- c) State **TWO** benefits and **TWO** limitations of living and non-living windbreaks by completing the table below:

4

		Living	Non-living
Benefits	1		
	2		
Limitations	1		
	2		

Most candidates were able to provide examples of benefits and limitations of living and non living windbreaks. The candidates who gained maximum marks understood that both types of windbreak can be permeable if chosen and managed correctly and that although less expensive than a non living windbreak living windbreaks still have a significant cost both in terms of labour and materials.

4. a) Define 'successional cropping'.

2

The majority of candidates provided a good definition of successional cropping including sowing a crop at intervals to ensure that it does not mature all at the same time and sowing different varieties of the same crop where there are early and late varieties.

- b) **NAME** a crop suitable for successional cropping.

1

All candidates were able to name a crop suitable for successional cropping e.g. lettuce, radish, broad beans etc.

- c) State how successional cropping can be achieved for the crop **NAMED** in b), using the following headings:

- i) sowing and planting dates;
- ii) choice of cultivars.

4

3

Candidates who provided suitable sowing or planting dates and stated how the choice of cultivars could be used to achieve a succession of crop maturity gained maximum marks.

5. a) *Describe how the timing of soil cultivations will be influenced by **EACH** of the following factors:*
- i) *soil texture;* 2
 - ii) *soil structure;* 2
 - iii) *weather and climate.* 2

The best answers were those that related the timing of soil cultivations to soil texture i.e. the relative proportions of sand, silt and clay in a soil etc. Candidates who identified soil structures also discussed the need to cultivate in the autumn to exploit natural weathering of the soil during the winter. Maximum marks were achieved where candidates also described how climate will influence the timing of soil cultivations and weather will determine more accurately when the cultivations can be carried out.

- b) *State **TWO** benefits and **TWO** limitations of open ground production compared to the bed systems for growing vegetables.* 4

The majority of candidates were able to provide a range of benefits and limitations of open ground production systems. These included more intensive use of land and the likelihood of soil becoming compacted when there are no designated beds.

6. a) *Name **TWO** dessert and **TWO** culinary apple cultivars.* 2

Most candidates were able to name the required number of apple cultivars including Malus 'Laxton's Superb' and Malus 'Bramley's Seedling' as examples of dessert and culinary apples respectively.

- b) *Describe how the quality and yield of fruit can be determined by the appropriate pruning of an apple tree.* 4

The need for an apple tree to have an open centre and for crossing and damaged branches to be removed was well understood by most candidates. The best candidates also explained the importance of balance in terms of growth and fruiting.

- c) *State **FOUR** factors to be considered when selecting an apple tree for a specified site.* 4

Candidates were able to state factors to be considered when selecting an apple tree for a specified site e.g. exposure of the site, pollination requirements etc.

A few candidates listed factors to be considered when selecting a site for an orchard which was not required.

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May 2011