



Sharing the best in Gardening

R2113
UNDERSTANDING THE PRODUCTION OF
OUTDOOR VEGETABLES AND FRUIT

Level 2

Tuesday 26 June 2012

13:30 – 14:10

Written Examination

Candidate Name:

Candidate Number:

Centre Name/Number:

IMPORTANT – Please read carefully before commencing.

- i) The duration of this paper is **40** 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 A/601/0264

Please turn over/.....

ANSWER ALL QUESTIONS

MARKS

Q1

Describe the production of a **NAMED** outdoor vegetable crop under the following headings:

1

a) propagation;

3

- b) establishment of young plants;

3

c) weed control.

3

Total Mark

Please see over/.....

Q2

Describe the differences between direct sowing and raising plants in blocks/module by completing the table below.

	Block/Module raised plants	Direct sown	
Crop planning			2
Production costs			2
Ease of establishment			2
Environmental control			2
Machinery used			2
			<div>Total Mark</div>

Please turn over/.....

4

2

2

2

Please see over/.....

Q5

Describe the harvesting and storage of **EACH** of the fruit crops listed by completing the table below.

MARKS

	Harvesting	Storage	
Raspberries			4
Blackcurrants			3
Strawberries			3
			Total Mark

Please see over/.....

Q6

State how the following factors affect the suitability of a newly established site for fruit and vegetable production by completing the table below.

MARKS

Factor	Suitability	
Soil texture		2
Soil structure		2
Soil pH		2
Frost		2
Wind		2
		Total Mark

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**The Royal Horticultural Society, Wisley, Woking, Surrey GU23 6QB.
Charity Registration Number: 222879/SC038262**



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Tuesday 26 June 2012

Candidates Registered	1152	Pass with Commendation	344 (37%)
Candidates Entered	940	Pass	413 (44%)
Absent/Withdrawn/Deferred	212	Fail	183 (19%)
Total Candidates Passed	757 (81%)		

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

Q1	<i>Describe the production of a NAMED outdoor vegetable crop under the following headings:</i>	1
	<i>a) propagation;</i>	3
	<i>b) establishment of young plants;</i>	3
	<i>c) weed control.</i>	3
	a) Candidates who provided specific details of the propagation of a named crop gained full marks. Details included; the structure in which the propagation took place, the method of propagation e.g. from seed and included; timings, spacing, depth of sowing, system of propagation and machinery and equipment used.	
	b) Full marks were awarded to candidates who described the appropriate pest and disease control, environmental control, irrigation, support and nutrition for the crop named.	
	c) The best candidates provided the reason for weed control and a range of methods which can be used to control weeds e.g. hoeing, hand weeding, the use of an appropriate herbicide and mulching and gained full marks.	

Q2

Describe the differences between direct sowing and raising plants in blocks/module by completing the table below.

	<i>Block/Module raised plants</i>	<i>Direct sown</i>	
<i>Crop planning</i>			2
<i>Production costs</i>			2
<i>Ease of establishment</i>			2
<i>Environmental control</i>			2
<i>Machinery used</i>			2

Candidates who gave precise descriptions of the differences between block/module raised plants and direct sown ones were awarded full marks.

- i) In block/module raised plants crop planning can be more accurate, production costs are more expensive, a good crop stand can be assured, a greater flexibility with environmental control is required and there is a need to use sophisticated machinery.
- ii) Careful planning is required to maximise land use for direct sown plants. It is a less expensive process but there is a greater opportunity for crop failure and less flexibility, once the crop is sown to control the environment while less sophisticated machinery and equipment are required.

Q3

- a) *List **FOUR** factors to be considered when choosing a young fruit tree for a small garden.* **4**
- b) *Describe how yield can be determined by **EACH** of the following when growing fruit trees:*
 - i) *top dressing;* **2**
 - ii) *training systems;* **2**
 - iii) *appropriate pruning.* **2**

- a) The majority of candidates were able to list four factors including; fruit type, plant quality, rootstock choice and size of tree and gained full marks.
- b)
 - i) Full marks were awarded to those candidates who described top dressing as applying nutrients, particularly potash in late winter/early spring.

- ii) Candidates who related training systems to yield i.e. by ensuring horizontal branching systems to promote maximum fruit buds and spurs in a limited space as well as providing examples e.g. espalier, cordon and fan gained maximum marks.
- iii) The best answers linked pruning to the effect on yield, e.g. removal of crossing branches and dead, dying and diseased wood to leave more productive wood for the development of fruit buds.

- Q4** a) Explain what is meant by the 'no dig' method of managing raised beds. **2**
- b) Describe **FOUR** soil cultivation techniques commonly used in the vegetable garden. **8**

- a) The majority of candidates correctly explained that the no dig method of managing raised beds is one where no cultivation is carried out between crops. These are simply cleared in preparation for the next crop. This method does not bring weed seeds to the surface and any surface application of organic matter is incorporated by soil organisms.
- b) Full marks were awarded to candidates who described a range of suitable cultivation techniques which included; single or double digging, rotovating, tilth production (forking and raking) and consolidation. Hoeing was accepted as a technique for breaking up surface capping to aerate the topsoil but not for weed control.

The use of crop rotation, green manure and mulching described by some candidates are not cultivation techniques and could not be awarded any marks.

- Q5** Describe the harvesting and storage of **EACH** of the fruit crops listed by completing the table below.

	Harvesting	Storage
Raspberries		
Blackcurrants		
Strawberries		

4

3

3

Most candidates were able to describe the harvesting and storage of soft fruit. Raspberries were described as being harvested by hand, ensuring they are deplugged, at the correct stage of ripening i.e. berries with good colour which leave the vine easily. They are frozen, bottled or used to make juice or jam.

Blackcurrants are harvested by hand by removing the strigs and berries which is labour intensive. The fruits are always picked in dry conditions and handled with care. The fruits are refrigerated to remove the field heat and are frozen, bottled or made into juice or jam.

Strawberries are hand picked fresh for market when the fruits are showing colour over the whole fruit. They are picked including the stalk and the calyx at regular intervals in dry weather and handled with care to avoid bruising. Strawberries can be made into juice, jam or bottled.

Q6

State how the following factors affect the suitability of a newly established site for fruit and vegetable production by completing the table below.

Factor	Suitability
Soil texture	
Soil structure	
Soil pH	
Frost	
Wind	

2
2
2
2
2

Candidates who linked the factor to the suitability of the site for fruit and vegetable production were awarded full marks. The soil texture of e.g. a sandy soil which is light and easy to work is ideal for root crops but may require irrigation and additional nutrients due to its free draining properties.

Depending on the soil structure compaction and moisture retention may be a problem and could affect the timing and type of primary and secondary cultivations.

Brassicas prefer an alkaline soil to avoid club root and raspberries prefer a slightly acidic soil to avoid manganese and iron deficiency.

It is important to avoid frost pockets which will cause damage to young seedlings and cause problems with the pollination of fruit trees. Irrigation and orchard candles can be used to overcome issues with frost.

Shelterbelts and windbreaks are essential to prevent damage to vegetable crops and fruit trees i.e. broken branches and fallen fruit and to ensure that pollinating insects can fly.

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