



Title:	Plant Propagation APPROVED
Long Title:	Plant Propagation
Module Code:	AGRI7004
Duration:	1 Semester
Credits:	5
NFQ Level:	Intermediate
Field of Study:	Agriculture
Valid From:	Semester 1 - 2016/17 (September 2016)
Module Delivered in	2 programme(s)
Module Coordinator:	Claire OSullivan Rochford
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Module Description:	This module aims at providing students with the knowledge and practical skills necessary for propagation of horticultural and medicinal plants.
Learning Outcomes	
<i>On successful completion of this module the learner will be able to:</i>	
LO1	Discuss plant propagation from seed
LO2	Describe asexual plant propagation methods.
LO3	Examine the nature of plant propagation media.
LO4	Carry out correct handling operations of plant propagation media.
LO5	Discuss plant propagation in relation to current production best practice
LO6	Complete various propagation methods on plant material
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named MTU module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i>	
11446	BOTA6001 Botany
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module. You may not earn additional credit for the same learning and therefore you may not enrol in this module if you have successfully completed any modules in the incompatible list.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed. You may not enrol on this module if you have not acquired the learning specified in this section.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Propagation Media

Discussions on the properties and handling of propagation composts, traditional and modern formulations. Nutrition pH water holding and particle size. Media storage handling and mixing.

Seed Propagation

Propagation of plants from seed including: Collection, preparation, storage, dormancy, sowing techniques young plant husbandry and transfer.

Clonal Propagation

Propagation of plants by various vegetative means for clonal propagation of plant material. Mother plant selection and preparation. Propagation environment and adjustment. Handling of propagules for growing on. Introduction of plant micropropagation techniques

Grafting and Budding

Discussion of grafting and budding techniques. Scion and rootstock selection and features, scientific principles of successful technique. Finishing operations and inspection.

Propagation Pests and Disease

Plant cultivation for transplanting and will include the production of plants using traditional and modern scientific techniques. Plant protection using the principles of prevention and IPM. Disease and disorder control using cultural and biological measures. Plant protection using pesticides where cultural and biological control measures have been exhausted.

Harvesting and Storage of Plant Material

Harvesting and storage of vegetative materials for future cultivation. Appropriate technologies to be used in handling, drying, preservation and packaging of such materials

Assessment Breakdown

	%
Course Work	100.00%

Course Work

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Short Answer Questions	Plant propagation	1,2,3,5	20.0	Week 6
Written Report	Discussion and comparison of plant propagation methods.	1,2,3,5	40.0	Week 11
Practical/Skills Evaluation	Propagation skills are discussed or performed and evaluated	1,2,3,4,5,6	40.0	Week 13

No End of Module Formal Examination

Reassessment Requirement

Repeat examination

Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

The institute reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Description and discussion of techniques and scientific principles of Propagation	2.0	Every Week	2.00
Lab	Practical operations and techniques in Propagation	2.0	Every Week	2.00
Independent & Directed Learning (Non-contact)	Learner researches material from lectures and labs. Notes and makes observations on propagated material from previous labs.	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

Workload: Part Time				
<i>Workload Type</i>	<i>Workload Description</i>	<i>Hours</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Description and discussion of techniques and scientific principles of Propagation	2.0	Every Week	2.00
Lab	Practical operations and techniques in Propagation	2.0	Every Week	2.00
Independent & Directed Learning (Non-contact)	Learner researches material from lectures and labs. Notes and makes observations on propagated material from previous labs.	3.0	Every Week	3.00
Total Hours				7.00
Total Weekly Learner Workload				7.00
Total Weekly Contact Hours				4.00

Module Resources

Recommended Book Resources

- Hartmann H.T., Kester D.E., Davies F.T. and Geneve R. 2013, *Hartmann & Kester's Plant Propagation: Principles and Practices*, 8th Ed., Pearson [ISBN: 9781292020884]

Supplementary Book Resources

- Michael A. Dirr, Charles W. Heuser Jr. 2006, *The Reference Manual of Woody Plant Propagation* [ISBN: 978-1604690040]
- Bruce Macdonald 2002, *Practical woody plant propagation for nursery growers*, Timber Press Portland, Oregon [ISBN: 0881920622]
- Beyl, C.A., and Trigiano, R.N. 2014, *Plant Propagation Concepts and Laboratory Exercises*, 2nd Ed., CRC Press [ISBN: 9781466503878]
- Handreck K. and Black N. 2012, *Growing Media for Ornamental Plants and Turf*, 4th ed Ed., University of New South Wales Press [ISBN: 978-174223082]
- Kyte L., Kleyn J.G. Scoggins H. and Bridgen M. 2013, *Plants from test tubes: An Introduction to Micropropagation*, 4th Ed Ed., Timber Press Portland, Oregon [ISBN: 1604692065]

This module does not have any article/paper resources

Other Resources

- Website: *International Plant Propagators' Society*
<http://www.ipps.org>
- Website: *International Society for Horticultural Science*
<http://www.ishs.org>

Module Delivered in

Programme Code	Programme	Semester	Delivery
CR_SHERB_8	<u>Bachelor of Science (Honours) in Herbal Science</u>	3	Mandatory
CR_BHORT_7	<u>Bachelor of Science in Horticulture</u>	2	Mandatory