



UNIVERSITI TEKNOLOGI MARA

AGR272: PLANTATION CROPS II

Course Name (English)	PLANTATION CROPS II APPROVED
Course Code	AGR272
MQF Credit	3
Course Description	This course interactively engage the students cognitively on current important of secondary plantation crops such as paddy, cocoa, pepper and pineapple. Students be able to identify, discuss and explain the characteristics, agronomic practices, as well as interpreting the economic importance of crops. Discussion and presentation are include in the part of learning method in order to communicate the ideas from the current or development of secondary plantation crops in Malaysia.
Transferable Skills	Lifelong Learning Skills, Communication Skills
Teaching Methodologies	Lectures, Discussion, Presentation
CLO	<p>CLO1 Explain the characteristics of secondary plantation crops with the discussion of agronomic practices as well as reviewing their production and commercial potential.</p> <p>CLO2 Propose the ideas and information obtain from literature on current situation or development of secondary plantation crops in Malaysia through the written form.</p> <p>CLO3 Propose the ideas on current situation and development of secondary plantation crops in Malaysia through a presentation.</p>
Pre-Requisite Courses	No course recommendations

Topics
<p>1. 1.0 PADDY</p> <p>1.1) 1.1 Morphology of paddy plant</p> <p>1.2)</p> <p>1.3) 1.2 Soil and climatic requirements</p> <p>1.4)</p> <p>1.5) 1.3 Varieties/clones cultivated in Malaysia</p> <p>1.6) 1.3.1 Wet paddy</p> <p>1.7) 1.3.2 Upland paddy</p> <p>1.8) 1.3.3 Aerobic paddy</p> <p>1.9)</p> <p>1.10) 1.4 Propagation</p> <p>1.11) 1.4.1 Types of planting material</p> <p>1.12) 1.4.2 Methods of propagation</p> <p>1.13) 1.4.3 Advantages and disadvantages of each propagation methods</p> <p>1.14) 1.4.4 Wet nursery and box nursery</p> <p>1.15)</p> <p>1.16) 1.5 Field Planting</p> <p>1.17) 1.5.1 Land preparation – Materials and methods used</p> <p>1.18) 1.5.2 Planting and transplanting techniques</p> <p>1.19) 1.5.3 Planting distance and planting density</p> <p>1.20)</p> <p>1.21) 1.6 General Maintenance</p> <p>1.22) 1.6.1 Fertilizer requirement, schedule and symptoms of deficiency</p> <p>1.23) 1.6.2 Identification of pests and diseases and their control</p> <p>1.24) 1.6.3 Irrigation systems</p> <p>1.25)</p> <p>1.26) 1.7 Harvesting</p> <p>1.27) 1.7.1 Harvesting criteria</p> <p>1.28) 1.7.2 Harvesting methods: Manual / Mechanical</p>

1.29)	1.7.3 Technology used
1.30)	1.7.4 Problems involved in harvesting
1.31)	
1.32)	1.8 Processing
1.33)	1.8.1 Preparation methods before milling
1.34)	1.8.2 Flow of processing
2. 2.0 COCOA	
2.1)	2.1 Morphology of cocoa plant
2.2)	
2.3)	2.2 Soil and climatic requirements
2.4)	
2.5)	2.3 Clones
2.6)	2.3.1 Original and principal clones cultivated in Malaysia
2.7)	2.3.2 Characteristics and yield potential of commercial clone
2.8)	
2.9)	2.4 Propagation
2.10)	2.4.1 Types of planting materials
2.11)	2.4.2 Methods of propagation and shortcoming of various propagation methods
2.12)	
2.13)	2.5 Field Planting
2.14)	2.5.1 Techniques of transplanting and field planting
2.15)	2.5.2 Planting distance and planting density
2.16)	2.5.3 Shading and intercropping
2.17)	
2.18)	2.6 General Maintenance
2.19)	2.6.1 Fertilizer requirement, schedule and symptoms of deficiency
2.20)	2.6.2 Identification of pests and diseases and their control
2.21)	2.6.3 Pruning methods and techniques
2.22)	
2.23)	2.7 Harvesting
2.24)	2.7.1 Harvesting criteria
2.25)	2.7.2 Methods of harvesting
2.26)	2.7.3 Technology used
2.27)	
2.28)	2.8 Processing
2.29)	2.8.1 Fermentation and drying methods
2.30)	2.8.2 Grading
2.31)	2.8.3 Products
3. 3.0 PEPPER	
3.1)	3.1 Morphology of pepper plants
3.2)	
3.3)	3.2 Soil and climatic requirements
3.4)	
3.5)	3.3 New varieties in Malaysia
3.6)	3.3.1 Original and principal varieties cultivated in Malaysia
3.7)	3.3.2 Characteristics and yield potential for commercial production
3.8)	
3.9)	3.4 Propagation
3.10)	3.4.1 Types of planting materials
3.11)	3.4.2 Nursery preparation and methods of propagation
3.12)	
3.13)	3.5 Field Planting
3.14)	3.5.1 Techniques of field planting
3.15)	3.5.2 Planting distance and planting density
3.16)	3.5.5 Support systems
3.17)	
3.18)	3.6 General Maintenance
3.19)	3.6.1 Fertilizer requirement schedule and symptoms of deficiency
3.20)	3.6.2 Identification of pests and diseases and their control
3.21)	3.6.3 Pruning methods and techniques
3.22)	
3.23)	3.7 Harvesting
3.24)	3.7.1 Harvesting criteria
3.25)	3.7.2 Methods of harvesting
3.26)	3.7.3 Technology used
3.27)	
3.28)	3.8 Processing
3.29)	3.8.1 Black pepper processing
3.30)	3.8.2 White pepper processing

4. 4.0 PINEAPPLE

- 4.1) 4.1 Morphology of pineapple plant
- 4.2)
- 4.3) 4.2 Soil and climatic requirements
- 4.4)
- 4.5) 4.3 New varieties in Malaysia
- 4.6) 4.3.1 Original and principal varieties cultivated in Malaysia
- 4.7) 4.3.2 Characteristics and yield potential for commercial production
- 4.8)
- 4.9) 4.4 Propagation
- 4.10) 4.4.1 Types of planting materials
- 4.11) 4.4.2 Nursery preparation and methods of propagation
- 4.12)
- 4.13) 4.5 Field Planting
- 4.14) 4.5.1 Techniques of field planting
- 4.15) 4.5.2 Planting distance and planting density
- 4.16)
- 4.17) 4.6 General maintenance
- 4.18) 4.6.1 Fertilizer requirement, schedule and symptoms of deficiency
- 4.19) 4.6.2 Identification of pests and diseases and their control
- 4.20) 4.6.3 Flower induction and hormone for fruits development
- 4.21)
- 4.22) 4.7 Harvesting
- 4.23) 4.7.1 Harvesting criteria
- 4.24) 4.7.2 Methods of harvesting
- 4.25) 4.7.3 Technology used

Assessment Breakdown	%
Continuous Assessment	60.00%
Final Assessment	40.00%

Details of Continuous Assessment	Assessment Type	Assessment Description	% of Total Mark	CLO
	Assignment	GROUP ASSIGNMENT (WRITTEN REPORT)	15%	CLO2
	Presentation	GROUP PRESENTATION	15%	CLO3
	Test	TEST 1	15%	CLO1
	Test	TEST 2	15%	CLO1

Reading List	Reference Book Resources	<ul style="list-style-type: none"> Sharma, S.D 2010, <i>Rice; Origin, antiquity and history</i>, CRC Press Wayne Smith, C. & Dilday, R.H. 2003, <i>Rice: Origin, history, technology and production</i>. Scot, C.N and Cannon-Eger, K.T. 2011, <i>Farm and Forestry and Marketing Profile for Black Pepper (Piper nigrum)</i>. Permanent Agriculture Resources, Permanent Agriculture Resources Wilson, K.C 1999, <i>Coffee, Cocoa and Tea</i>, CABI Publishing
Article/Paper List	This Course does not have any article/paper resources	
Other References	This Course does not have any other resources	