PLANT BREEDING

ISCED UNIT CODE: 0811 551 23A

TVET CDACC UNIT CODE: HO/CU/HP/CR/03/6/MA

Unit duration: 100 Hours

Relationship to Occupational Standards

This unit addresses the Unit of Competency: **Carry out plant breeding**

Unit Description

This unit specifies the competencies required to carry out plant breeding to produce clean and quality planting materials. It involves performing asexual and sexual plant breeding and maintaining improved cultivars.

Summary of Learning Outcomes

SNO	Learning Outcome	Duration (Hours)
1.	Perform asexual plant breeding	40
2.	Perform sexual plant breeding	40
3.	Maintain improved cultivars	20
	TOTAL	**100**

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcomes	Content	Suggested Assessment Methods
1 Perform asexual plant breeding	**Theory** 1.1 Asexual plant breeding 1.1.1 Definition of terms 1.1.1.1 breeding 1.1.1.2 Asexual breeding 1.1.2 Importance of asexual plant breeding 1.1.3 Advantages and disadvantages	• Written tests • Reflection papers • Projects • Interviews/ Oral questions • Individual/group assignments

	of asexual plant breeding 1.1.4 Tools, equipment and materials used in asexual plant breeding 1.1.4.1 Magnifying lens 1.1.4.2 Forceps 1.1.4.3 Scissors 1.1.4.4 Needles 1.1.4.5 Brushes 1.1.4.6 Bags 1.2 Propagation of germ plasm 1.2.1 Seeds 1.2.2 Cuttings 1.2.3 Cultures 1.2.4 Tissues 1.3 Testing progeny desired characteristics 1.3.1 High yielding 1.3.2 Resistance to pest and diseases 1.3.3 Non- shattering 1.3.4 Improved quality 1.4 Waste management **Practice** 1.5 Carry out asexual plant breeding. 1.6 Carry out waste management.	• Practicals
2 Perform sexual plant breeding	**Theory** 2.1 Sexual plant breeding 2.1.1 Definition of sexual plant breeding 2.1.2 Importance of sexual plant breeding 2.1.3 Advantages and disadvantages of sexual plant breeding 2.1.4 Tools, equipment and materials used in sexual plant breeding	• Written tests • Reflection papers • Projects • Interviews/ Oral questions • Individual/group assignments • Practicals

	2.1.4.1 Magnifying lens 2.1.4.2 Forceps 2.1.4.3 Scissors 2.1.4.4 Needles 2.1.4.5 Brushes 2.1.4.6 Bags 2.2 Propagation of germ plasm 2.2.1 Seeds 2.2.2 Cuttings 2.2.3 Cultures 2.2.4 Tissues 2.3 Testing progeny desired characteristics 2.3.1 High yielding 2.3.2 Resistance to pest and diseases 2.3.3 Non- shattering 2.3.4 Improved quality 2.4 Waste management **Practice** 2.5 Carry out sexual plant breeding. 2.6 Carry out waste management.	
3 Maintain improved cultivars	**Theory** 3.1 Multiplication of cultivars 3.1.1 Definition of improved cultivars 3.1.2 Importance of multiplying cultivars 3.2 Marketing techniques 3.2.1 Online marketing 3.2.2 Email marketing 3.2.3 Event marketing **Practice** 3.3 Multiply sexual and asexual cultivars	• Written tests • Reflection papers • Projects • Interviews/ Oral questions • Individual/group assignments • Practicals

Suggested Methods of Instruction

- Role playing
- Group discussion
- Direct instruction
- Role playing
- Group discussion
- Direct instruction
- Questionnaires
- Interviews
- Experiment
- Survey
- Observation

Recommended Resources for 25 Trainees

- 25 Magnifying lens
- 25 Forceps
- 25 Scissors
- 25 Needles
- 25 Brushes
- 25 Bags
- Ethyl alcohol
- 25 Markers, pencil, eraser.
- 25 Meter scale and measuring tag
- 25 Weighing balance
- 25 Field books
- 25 Microscopes