

FISH HATCHERY OPERATIONS

ISCED UNIT CODE: 0831 451 03A

TVETCDACC UNIT CODE: AQ/CU/AM/CR/01/4/MA

UNIT DURATION: 180 HOURS

Relationship to Occupational Standards

This unit addresses the unit: Operate fish rearing unit.

Unit Description

This unit covers the competencies required to operate fish hatchery. It involves preparing fish hatchery, stocking brood fish, nursing fry and fingerlings and maintaining hatchery unit.

Summary of Learning Outcomes

By the end of this unit, the trainee will be able to:

1. To prepare fish hatchery
2. To stock brood fish
3. To nurse fry and fingerlings
4. To maintain fish hatchery unit.

Learning Outcomes, Content and Suggested Assessment Methods

Learning Outcomes	Content	Suggested Assessment Methods
1. Prepare fish hatchery	Theory 1.1 PPEs <ul style="list-style-type: none">• Safety goggles• Gumboots• Wading suit• Gloves• Dust coats• First aid kits• Life ring• Life jacket 1.2 Assembling of tools, equipment and materials Tools and equipment 1.2.1 pH meters 1.2.2 DO meters 1.2.3 Multiparameter water test kit 1.2.4 Secchi disk	<ul style="list-style-type: none">• Practical• Project• Third party report• Portfolio of evidence• Written tests• Oral questioning

	<p>1.2.5 Computer</p> <p>1.2.6 Ammonia alarms</p> <p>1.2.7 Automatic titrators</p> <p>Materials</p> <p>1.2.8 Assorted reagents</p> <p>1.2.9 Assorted chemicals</p> <p>1.2.10 Test strips</p> <p>1.3 Disinfection of fish hatchery facility</p> <p>1.4 Filling of fish rearing unit</p> <p>1.5 Carrying out of rearing unit water conditioning</p> <ul style="list-style-type: none"> • Sedimentation • Filtration • Flocculation • Desalination • Micro-organism control • Heating/cooling • pH Adjustment • Aeration • Degassing 	
2. Stock brood fish	<p>Theory.</p> <p>2.1 PPEs are worn</p> <p>2.2 Assembling of tools, equipment and materials</p> <p>2.3 Grading of brooders</p> <p>2.4 Transferring of brood fish</p> <p>Practice.</p> <ul style="list-style-type: none"> • Carry out brood fish stocking 	<ul style="list-style-type: none"> • Practical • Project • Third party report • Portfolio of evidence • Written tests • Oral questioning
3 Nurse fry and fingerlings	<p>Theory.</p> <p>3.1 PPEs</p> <p>3.2 Assembling of tools, equipment and materials</p> <p>3.3 Carrying out of fish fry and fingerlings stocking</p> <p>3.4 Fish fry and fingerling feeding</p>	<ul style="list-style-type: none"> • Practical • Project • Third party report • Portfolio of evidence • Written tests • Oral questioning

	3.5 Fish rearing unit water quality maintenance 3.6 Fish fry and fingerlings grading based on growth rates Practice. <ul style="list-style-type: none"> Carry out fish fry and fingerlings nursing 	
4 Maintain hatchery rearing units	Theory 4.1 Water flow rate regulation 4.2 Aeration systems regular maintenance 4.3 Cleaning schedule development 4.4 Water quality parameter ranges maintenance <ul style="list-style-type: none"> Dissolved oxygen Temperature pH Ammonia Nitrite Alkalinity Turbidity 4.5 Rearing unit repairs Practice. Carry out hatchery rearing unit maintenance	<ul style="list-style-type: none"> Practical Project Third party report Portfolio of evidence Written tests Oral questioning

Suggested Methods of Instruction

- Project
- Demonstration
- Practicals
- Discussions
- Direct instruction

Recommended resources for 25 trainees.

S/NO	Category/Item	Description/specification	Qty	Recommended ratio (item: trainee)
	Projector	EPSON	1	1:25
	Whiteboard/smartboard	2.5 By 1.5.M	1	1:25
	Desktop/computer		1	1:25

	Classroom	Well-lit with 25 seats	1	1:25
	Hatchery	operational	1	1:25
	Feed production manual	Up to date	5	1:5
	Sets of Writing materials		25	1:25
	Video clips		5	1:25
	Human resource	Trainer and Technician	2	1:25
	Library	Equipped with fish production books and E-section	1	1:25