

Modification history

Release	Comments
Release 1	This version released with SFI Seafood Industry Training Package Version 1.0.

SFIAQU414	Implement low water exchange microbial floc technologies
Application	<p>This unit of competency describes the skills and knowledge required to implement the production of cultured stock, specifically marine prawns, using low water exchange microbial floc technologies.</p> <p>The unit applies to individuals who have specialised aquaculture knowledge and skills and responsibility for overseeing staff to prepare the culture system and produce stock to meet workplace and industry requirements.</p> <p>All work must be carried out to comply with workplace procedures, according to state/territory health and safety, biosecurity and environmental regulations, legislation and standards that apply to the workplace</p> <p>No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
Prerequisite Unit	Nil
Unit Sector	Aquaculture (AQU)

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Plan and organise for stock introduction	1.1 Prepare culture system according to workplace requirements or appropriate literature and biosecurity control measures 1.2 Define water quality and biological parameters to be monitored 1.3 Develop plans which outline monitoring frequency, data management and production thresholds 1.4 Determine equipment requirements for low water exchange microbial floc technologies, check for availability and serviceability, and get ready for use 1.5 Make repairs and calibrations according to workplace and health and safety procedures 1.6 Brief staff on responsibilities according to production schedule
2. Carry out production procedures	2.1 Carry out stock production techniques using low water exchange microbial floc technologies 2.2 Monitor water quality and biological parameters according to workplace procedures 2.3 Preserve samples for external analysis and pack and send to laboratory according to workplace requirements 2.4 Introduce chemical and biological additives into the culture environment 2.5 Provide feedback to staff on production performance
3. Record and analyse relevant data	3.1 Record data gathered from production and monitoring procedures 3.2 Analyse data and report to management 3.3 Modify production techniques based on analysis according to workplace procedures

Foundation Skills	
<i>This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.</i>	
Skill	Description
Reading	<ul style="list-style-type: none"> • Interpret production plans and monitoring schedules • Research and analyse technical information from a range of sources • Analyse data and interpret trends
Writing	<ul style="list-style-type: none"> • Record and present data accurately and in required format
Numeracy	<ul style="list-style-type: none"> • Set and adjust measurement scale to calibrate monitoring equipment • Calculate ratios, percentages and volumes • Apply mathematical concepts related to stocking density and yields
Oral communication	<ul style="list-style-type: none"> • Participate in verbal exchanges to convey and explain information clearly using language appropriate for the audience
Navigate the world of work	<ul style="list-style-type: none"> • Work independently and collectively within broad parameters taking responsibility for plans, decisions and outcomes relating to stock production
Interact with others	<ul style="list-style-type: none"> • Collaborate with others contributing knowledge and skills to achieve work outcomes
Get the work done	<ul style="list-style-type: none"> • Use systematic, analytical processes to identify and solve problems and make decisions relating to stock production using low water exchange microbial floc technologies • Use workplace digital systems and tools to access, organise, and analyse information relevant to stock production

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
SFIAQU414 Implement low water exchange microbial floc technologies	N/A	New unit	No equivalent unit

Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=e31d8c6b-1608-4d77-9f71-9ee749456273
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TITLE	Assessment requirements for SFIAQU414 Implement low water exchange microbial floc technologies
Performance Evidence	
<p>An individual demonstrating competency must satisfy all the elements and performance criteria of this unit. There must be evidence that the individual has implemented the production of cultured stock using low water exchange microbial floc technologies on at least one occasion including:</p> <ul style="list-style-type: none"> • preparing the culture system • operating, maintaining and repairing microscopy equipment • coordinating staff in stock production activities using low water exchange microbial floc technologies • monitoring and modifying the production system • preparing and administering chemicals • recording and analysing data • applying biosecurity and safety measures. 	
Knowledge Evidence	
<p>An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:</p> <ul style="list-style-type: none"> • principles and features of microbial floc ecosystems and management • biology and chemistry of water bodies • collection and submission processes for samples sent for external analyses • monitoring equipment: <ul style="list-style-type: none"> • calibration and operating methods • maintenance and repairs • options and limitations • legislation and regulations relevant to the production of cultured stock using low water exchange microbial floc technologies • types of water quality tests and techniques for testing • key features of normal and abnormal stock behaviour and environmental conditions • methods of identification for a range of algae species • nitrogen conversion pathways • conditions which promote bio floc. 	
Assessment Conditions	
<p>Assessment of this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none"> • physical conditions: <ul style="list-style-type: none"> • skills must be demonstrated in an aquaculture workplace or an environment that accurately represents workplace conditions • resources, equipment and materials: <ul style="list-style-type: none"> • facility or system to implement low water exchange microbial floc technologies • cultured stock (marine prawns) • monitoring and testing equipment • data sets and records to analyse • specifications: <ul style="list-style-type: none"> • workplace forms and technology for recording data • relationships: <ul style="list-style-type: none"> • interactions with staff members. <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
Links	Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=e31d8c6b-1608-4d77-9f71-9ee749456273