



Australian Government

SFIAQU511 Culture new aquaculture species

Release: 1

SFIAQU511 Culture new aquaculture species

Modification History

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

Application

This unit of competency describes the skills and knowledge required to introduce a new aquatic species that has not been previously cultured in the workplace. It includes the ability to research information on new target species, condition broodstock, rear larvae, and analyse and record data.

This unit applies to individuals who have specialised knowledge and technical and/or management responsibility for the breeding program and hatchery operations within an aquaculture setting.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Aquaculture (AQU)

Elements and Performance Criteria

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. Assess the validity of new target species	1.1 Research and document existing life history, traits and spawning cues of target species from a range of sources 1.2 Research optimal environmental conditions and nutritional requirements for target species from a range of sources 1.3 Investigate and estimate production costs for target species at all life stages

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Undertake target species market evaluation, considering demand and projected sales 1.5 Prepare cost estimate and analysis of infrastructure modifications required to produce new species 1.6 Collate all information and present a business case for culturing new species to key stakeholders 1.7 Make decisions on validity of target species culture potential and size of trial based on feedback from key individuals
2. Culture new aquaculture species	2.1 Acquire and condition broodstock to meet workplace objectives 2.2 Implement and monitor optimal conditions for spawning 2.3 Target offspring of species for production 2.4 Rear larvae in optimal larval rearing culture conditions according to workplace procedures 2.5 Move post larvae to adequate growout facilities 2.6 Grow post larvae in optimal growout conditions 2.7 Harvest and sell new species according to customer requirements and workplace sales plan
3. Record and analyse relevant data	3.1 Record data gathered from production and monitoring procedures and sales 3.2 Analyse and report all data against pre-determined standards and criteria 3.3 Report and present data and results to relevant stakeholders 3.4 Make decisions around the future validity of the culture species

Foundation Skills

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.

Skill	Description
Reading	Researches and extracts environmental and biological information relating to culturing target species from a range of technical

Skill	Description
	information Analyses business plans and sales targets
Writing	- Prepares reports and presentations using workplace formats and technical information to support a business case - Maintains operational and financial records
Numeracy	- Quantifies resource requirements and calculates costs associated with culturing a new species - Analyses data to determine potential and actual sales
Oral communication	Participates in verbal exchanges to explain information clearly using language appropriate for the audience
Navigate the world of work	Works independently and collectively within broad parameters, taking responsibility for plans, decisions and outcomes relating to culturing new species
Interact with others	Liaises and consults collaboratively, influencing direction and taking a leadership role on occasion
Get the work done	- Plans, implements and coordinates multiple activities and resources, to effectively culture new aquaculture species - Uses systematic, analytical processes to identify and solve problems and make decisions relating to culturing a new species - Uses workplace digital systems and tools to access, record, analyse and present information and data relevant to culturing a new species

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
SFIAQU511 Culture new aquaculture species	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=e31d8c6b-1608-4d77-9f71-9ee749456273>

Assessment Requirements for SFIAQU511 Culture new aquaculture species

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has introduced a new aquatic species that has not been previously cultured in the workplace on at least one occasion, including:

- researching and documenting detailed requirements for the introduction of the new aquaculture species
- preparing and presenting a business case, including market evaluation, protocols and a budget for introducing the new species to stakeholders
- culturing the new species and reporting on the outcomes of the production and sales to determine future implementation.

Knowledge Evidence

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:

- key principles of breeding and rearing target species
- target species life history traits
- target species spawning and nutritional requirements
- characteristics of normal and abnormal stock behaviour and environmental conditions for target species
- principles of aquatic animal husbandry, including stock handling, feeding, health monitoring, water quality monitoring and culture vessel maintenance
- use of microscopy in monitoring water quality and environmental conditions
- types and features of advanced water quality tests and water sampling
- procedures for preparing and administering chemicals and/or biological agents.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in an aquaculture workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - broodstock for new species
 - holding structures for spawning or breeding activities
 - monitoring equipment and sampling kits
 - technology for researching and preparing and presenting information
- specifications:
 - workplace business plan and budget.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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