

Title	Describe and carry out selective breeding for family creation on an aquaculture facility		
Level	4	Credits	15

Purpose	People credited with this unit standard are able to: describe the conditioning and management of brood stock; describe spawning methods for the selected aquatic species and demonstrate knowledge of and carry out selective breeding for family creation on an aquaculture facility.
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Classification	Seafood > Aquaculture
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Available grade	Achieved
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Guidance Information

- Legislation may include but is not limited to:
 - Animal Products Act 1999;
 - Fisheries Act 1996;
 - Health and Safety at Work Act 2015;
 - Resource Management Act 1991;
 - and any subsequent amendments.
- Definitions

Company requirements refer to instructions to staff on policy and procedures that are communicated in an oral or written form. These requirements must include legislative requirements and company safety procedures, and may include but are not limited to – industry codes of practice and standards. Company requirements must include legislative requirements.

Family creation refers to the production of future breeding stock with selected traits and characteristics.
- All evidence presented in this unit standard must be in accordance with company requirements.

Outcomes and performance criteria

Outcome 1

Describe the conditioning and management of brood stock.

Performance criteria

- 1.1 Describe the requirements and procedures for the conditioning and management of brood stock.

Range may include but is not limited to – selection methods, selective breeding, hatchery techniques, controlled spawning, brood stock quantity, male to female ratio, grading, gonad development, feed requirements, hormone manipulation, photoperiod.

Outcome 2

Describe spawning methods for the selected aquatic species.

Range spawning methods may include but are not limited to – chemical cues, UV systems, temperature system, drying system, manual system; evidence of one spawning method is required.

Performance criteria

- 2.1 Describe the factors relevant to the chosen spawning method of the species.

Range may include but is not limited to – timing of fertilisation, cell division and free form swimming, counting systems for gametes, condition of gametes, washing systems, dosage of chemicals, water temperature, condition index system induction of spawning.

Outcome 3

Demonstrate knowledge of selective breeding for family creation on an aquaculture facility.

Performance criteria

- 3.1 Describe stock history in terms of targets and stock performance of the company.

- 3.2 Gather and analyse stock data in terms of the selective breeding objectives of the company.

- 3.3 Describe differences in family stock and production stock.

Range may include but is not limited to – growth, maturation, inbreeding, quality traits.

- 3.4 Describe the differences in family stock in terms of the impact on creating families, and desirable traits outlined in the selective breeding objectives.

- 3.5 Describe the process of selective breeding.

Outcome 4

Carry out selective breeding for family creation on an aquaculture facility.

Performance criteria

- 4.1 Select stock for family creation.
- 4.2 Prepare equipment and resources.
- 4.3 Selectively breed stock.
- 4.4 Complete documentation.

Planned review date	31 December 2028
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 September 2008	31 December 2024
Review	2	28 October 2021	N/A
Rollover	3	29 February 2024	N/A

Consent and Moderation Requirements (CMR) reference	0123
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact the Muka Tangata - People, Food and Fibre Workforce Development Council qualifications@mukatangata.nz if you wish to suggest changes to the content of this unit standard.