

<b>Title</b>	<b>Describe incubation procedures, egg requirements, and risks, and maintain fertilised eggs for aquaculture species</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to: describe incubation procedures, egg requirements and the potential risks of egg incubation; prepare the incubator(s) to receive fertilised eggs; describe stages and reasons for separation of live and dead eggs and carry out the separation of live and dead eggs and all larvae in incubation; and maintain the incubation conditions during hatching of the alevins or larvae.
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<b>Classification</b>	Seafood > Aquaculture
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<b>Available grade</b>	Achieved
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### Guidance Information

- Legislation relevant to this unit standard includes but is not limited to:
  - Animal Products Act 1999;
  - Health and Safety at Work Act 2015;
  - 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 may include but are not limited to – manufacturers’ instructions, company safety requirements, throughput, and industry codes of practice and standards. Company requirements must include legislative requirements.

*Cumulative temperature units* refer to cumulative daily temperature units that begin on fertilisation and end on the eggs hatching. These may also be referred to as degree days.

*Holding facility* refers to the facilities used for holding the broodstock. This may include but is not limited to, ponds, raceways or tanks.
- This unit standard can be applied to all aquaculture species, excluding aquatic plants.
- All evidence presented in this unit standard must be in accordance with company requirements.

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## Outcomes and performance criteria

### Outcome 1

Describe incubation procedures, egg requirements and the potential risks of egg incubation.

#### Performance criteria

- 1.1 Describe the set-up procedures for incubators.
- Range includes but is not limited to – cleaning, sterilising, water flow rate.
- 1.2 Describe the sensitivities of the developing eggs and appropriate handling techniques for each stage of development.
- Range sensitivities include but are not limited to – light, movement, temperature, water flow rate.
- 1.3 Describe the procedures available to prevent infection of the eggs and alevins or larvae.
- 1.4 Describe the relationship between cumulative temperature units and egg development.

### Outcome 2

Prepare the incubator(s) to receive fertilised eggs.

#### Performance criteria

- 2.1 Clean and sterilise the incubator(s) in preparation to receive the fertilised eggs.
- 2.2 Set-up and run the incubator(s) to ensure it is ready for operation.
- Range may include but is not limited to – water flow rates, incubation equipment.
- 2.3 Assess water quality parameters.
- Range may include but is not limited to – water temperature, pH, oxygen, ammonia, suspended solids.
- 2.4 Place eggs into the incubator(s) and complete records.

### Outcome 3

Describe stages and reasons for separation of live and dead eggs and carry out the separation of live and dead eggs and all larvae in incubation.

**Performance criteria**

- 3.1 Describe the stage at which separation of the live and dead eggs occurs.
- 3.2 Describe the reasons for separation and counting of live and dead eggs.
- 3.3 Carry out the process of separation and counting.
- 3.4 Record and report the results of separation and counting.

**Outcome 4**

Maintain the incubation conditions during hatching of the alevins or larvae.

**Performance criteria**

- 4.1 Describe the incubation monitoring.
  - Range may include but is not limited to – pH, temperature, oxygen, ammonia, egg movement, contamination.
- 4.2 Monitor the water quality and flow rates in the incubator.
- 4.3 Remove debris from the incubators.
- 4.4 Monitor the alevins or larvae for abnormal development.
  - Range during and post hatching.
- 4.5 Remove dead and deformed alevins or larvae.
- 4.6 Monitor the alevins or larvae to determine when they are ready for first feed.
- 4.7 Transfer the alevins or larvae to the holding facility.
- 4.8 Maintain records and adhere to reporting requirements.

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<b>Planned review date</b>	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	16 December 2003	31 December 2024
Review	2	23 August 2005	31 December 2024
Review	3	18 September 2009	31 December 2024
Review	4	28 October 2021	N/A
Rollover	5	29 February 2024	N/A

**Consent and Moderation Requirements (CMR) reference**

0123

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](mailto:qualifications@mukatangata.nz) if you wish to suggest changes to the content of this unit standard.