

Incubate fertilised eggs for aquaculture species

Level 3

Credits 10

Purpose People credited with this unit standard are able to: describe incubation requirements, egg requirements, and the potential risks of egg incubation; prepare the incubator(s) to receive fertilised eggs; describe egg requirements and the potential risks in terms of egg incubation; carry out the separation of live and dead eggs in incubation; and maintain the incubation conditions during hatching of the alevins or larvae.

Subfield Seafood

Domain Aquaculture

Status Registered

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Entry information Open.

Accreditation Evaluation of documentation and visit by NZQA and industry.

Standard setting body (SSB) Primary Industry Training Organisation

Accreditation and Moderation Action Plan (AMAP) reference 0123

This AMAP can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Special notes

1 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 legislation and safety requirements and may include but are not limited to – manufacturers' instructions, industry codes of practice and standards.

Cumulative temperature units refers 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 facilities refer to the facilities used for holding the broodstock. This may include but is not limited to, ponds, raceways or tanks.

- 2 This unit standard can be applied to all aquaculture species, excluding aquatic plants.

Elements and performance criteria

Element 1

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

Performance criteria

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

Element 2

Prepare the incubator(s) to receive fertilised eggs.

Performance criteria

- 2.1 The incubator(s) is cleaned and sterilised in preparation to receive the fertilised eggs in accordance with company requirements.
- 2.2 The incubator(s) is set up and run to ensure it is ready for operation in accordance with company requirements.
- Range may include but is not limited to – water flow rates, incubation equipment.
- 2.3 The water quality parameters are assessed in accordance with company requirements.
- Range may include but is not limited to – water temperature, pH, oxygen, ammonia, suspended solids.

- 2.4 The eggs are placed into the incubator(s) and records completed in accordance with company requirements.

Element 3

Carry out the separation of live and dead eggs in incubation.

Performance criteria

- 3.1 The stage at which separation of the live and dead eggs occurs is described, in accordance with company requirements.
- 3.2 The reasons for separation and counting of live and dead eggs are described in accordance with company requirements.
- 3.3 The process of separation and counting is carried out in accordance with company requirements.
- 3.4 The results of separation and counting are recorded and reported in accordance with company requirements.

Element 4

Maintain incubation conditions during hatching of the alevins or larvae.

Performance criteria

- 4.1 The incubation monitoring required is described in accordance with company requirements.
- Range may include but is not limited to – pH, temperature, oxygen, ammonia, egg movement, contamination.
- 4.2 The water quality and flow rates in the incubator are monitored in accordance with company requirements.
- 4.3 Debris is removed from the incubators in accordance with company requirements.
- 4.4 The alevins or larvae are monitored for abnormal development in accordance with company requirements.
- Range during and post hatching.
- 4.5 Dead and deformed alevins or larvae are removed in accordance with company requirements.
- 4.6 The alevins or larvae are monitored to determine when they are ready for first feed, in accordance with company requirements.

- 4.7 The alevins or larvae are transferred to the holding facility in accordance with company requirements.
- 4.8 The records are maintained and reporting requirements are adhered to in accordance with company requirements.

Please note

Providers must be accredited by NZQA, or an inter-institutional body with delegated authority for quality assurance, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be accredited by NZQA before they can register credits from assessment against unit standards.

Accredited providers and Industry Training Organisations assessing against unit standards must engage with the moderation system that applies to those standards.

Accreditation requirements and an outline of the moderation system that applies to this standard are outlined in the Accreditation and Moderation Action Plan (AMAP). The AMAP also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.