

Title	Describe and carry out micro algal culture for use in the New Zealand aquaculture industry		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: describe micro algae cultured for use in the New Zealand aquaculture industry; describe the growth phases and environmental requirements and parameters of cultured micro algae; describe the cultivation of micro algae; and carry out the culture of a micro algal species used in the New Zealand aquaculture industry.
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Classification	Seafood > Aquaculture
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Available grade	Achieved
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Guidance Information

- 1 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.
- 2 Definition
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 industry codes of practice and standards. Company requirements must include legislative requirements.
- 3 All evidence presented in this unit standard must be in accordance with company requirements.

Outcomes and performance criteria

Outcome 1

Describe micro algae cultured for use in the New Zealand aquaculture industry.

Performance criteria

- 1.1 Describe the use of micro algae in the New Zealand aquaculture industry.

- 1.2 Describe the groups of micro algae cultured for use in the New Zealand aquaculture industry, and distinguishing features of each group.

Range flagellates, diatoms, benthic diatoms.

- 1.3 Describe the properties of a micro algae genus from each group that is cultured for use in the New Zealand aquaculture industry.

Range properties include but are not limited to – size, ingestibility, nutritional value, availability.

Outcome 2

Describe the growth phases and environmental requirements and parameters of cultured micro algae used in the New Zealand aquaculture industry.

Performance criteria

- 2.1 Describe the growth phases of micro algal culture.

Range lag, exponential, declining growth, stationary, death phase.

- 2.2 Describe the environmental requirements and parameters for optimum growth of a selected species of cultured micro algae.

Range includes but is not limited to – light, pH, temperature, aeration, salinity, nutrients, carbon dioxide.

Outcome 3

Describe the cultivation of micro algae used in the New Zealand aquaculture industry.

Performance criteria

- 3.1 Describe the types of culture systems and equipment used for culturing micro algae, in terms of their differences, advantages and disadvantages.

Range batch, semi-continuous, continuous.

- 3.2 Describe the culturing practices used to maintain the micro algae in the desired growth phase.

Range may include but is not limited to – use of light, space, equipment.

- 3.3 Describe the procedures for, and importance of, maintenance of hygienic conditions during the culture of micro algae.

Range may include but is not limited to – chlorination and de-chlorination, alcohol, microwave, filtration, ultraviolet, pasteurisation, autoclaving.

- 3.4 Describe the procedures and reasons for the maintenance and use of different types of cultures.

Range parent culture, intermediate culture, production culture, axenic culture.

Outcome 4

Carry out the culture of a micro algal species used in the New Zealand aquaculture industry.

Performance criteria

- 4.1 Prepare the nutrient media for the culture of micro algae.
- 4.2 Prepare equipment and culture vessels for intermediate and production cultures.
- 4.3 Transfer the micro algal species.
- 4.4 Culture the micro algal species and monitor its growth.

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	27 July 2005	31 December 2024
Review	2	12 December 2008	31 December 2024
Review	3	28 October 2021	N/A
Rollover	4	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.