

Explain 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: explain micro algae cultured for use in the New Zealand aquaculture industry; explain the growth phases and environmental requirements of cultured micro algae; explain the cultivation of micro algae; and carry out the culture of micro algae for use in the New Zealand aquaculture industry.

Subfield Seafood

Domain Aquaculture

Status Registered

Status date 12 December 2008

Date version published 12 December 2008

Planned review date 31 December 2013

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

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.

Elements and performance criteria

Element 1

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

Performance criteria

- 1.1 The explanation includes the use of micro algae in the New Zealand aquaculture industry.
- 1.2 The explanation includes the groups of micro algae cultured for use in the New Zealand aquaculture industry, and distinguishing features of each group are explained.
- Range flagellates, diatoms, benthic diatoms.
- 1.3 The explanation includes 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.

Element 2

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

Performance criteria

- 2.1 The explanation includes the growth phases of micro algal culture.
- Range lag, exponential, declining growth, stationary, death phase.
- 2.2 The explanation includes the environmental requirements and parameters for optimum growth of a selected species of micro algae.
- Range includes but is not limited to – light, pH, temperature, aeration, salinity, nutrients, carbon dioxide.

Element 3

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

Performance criteria

- 3.1 The explanation includes 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 The explanation includes the culturing practices used to maintain the micro algae in the desired growth phase in accordance with company requirements.
- Range may include but is not limited to – use of light, space, equipment.
- 3.3 The explanation includes the procedures for, and importance of, maintenance of hygienic conditions during the culture of micro algae, in accordance with company requirements.
- Range may include but is not limited to – chlorination and de-chlorination, alcohol, microwave, filtration, ultraviolet, pasteurisation, autoclaving.
- 3.4 The explanation includes the procedures and reasons for the maintenance and use of different types of cultures.
- Range parent culture, intermediate culture, production culture, axenic culture.

Element 4

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

Performance criteria

- 4.1 The nutrient media is prepared for the culture of micro algae in accordance with company requirements.
- 4.2 Equipment and culture vessels for intermediate and production cultures are prepared in accordance with company requirements.
- 4.3 The micro algal species is transferred in accordance with company requirements.
- 4.4 The micro algal species is cultured and growth is monitored 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 at standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.