



Australian Government

Department of Education, Employment and Workplace Relations

SFIAQUA317A Oversee the control of diseases

Release: 1

SFIAQUA317A Oversee the control of diseases

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency involves overseeing the prevention of diseases in cultured and held stock, including ornamentals, and selecting the appropriate control measures should an outbreak occur. Licensing, legislative, regulatory or certification requirements may apply to this unit. Therefore it will be necessary to check with the relevant state or territory regulators for current licensing, legislative or regulatory requirements before undertaking this unit.
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Application of the Unit

Application of the unit	The unit has application to <i>cultured or held stock</i> in an aquaculture or holding facility in the seafood industry, or to an aquascape, display or holding tank in the ornamental or pet sector. The unit applies to those workers who have responsibility for a specific area of work or who lead a work group or team. Skills to coordinate staff are covered by RTE3704A Coordinate worksite activities. Licences may be required for the use of chemicals, medications and treatments. All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements, including occupational health and safety (OHS) guidelines, food safety and hygiene regulations and procedures, and ecologically sustainable development (ESD) principles.</i> Equipment operation, maintenance, repairs and calibrations are undertaken in a safe manner that conforms to manufacturer instructions. Appropriate <i>personal protective equipment (PPE)</i> is selected, checked, used and maintained.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Diagnose disease outbreaks	1.1. Hazard identification, assessment and risk control procedures for the workplace are implemented and monitored. 1.2. Appropriate PPE is provided, used and maintained. 1.3. Staff assisting with disease control are organised and briefed on work requirements. 1.4. Stock are monitored for a range of health problems. 1.5. Where appropriate, sick stock are diagnosed and checked against specialist advice where doubt exists. 1.6. Professional advice is obtained where the complexity of or the severity of outbreak dictates. 1.7. Disease outbreaks are investigated and stock deaths reported. 1.8. Observations are made which support a systematic and comprehensive analysis of available symptoms. 1.9. Samples are collected for laboratory diagnosis, where necessary, according to laboratory specifications. 1.10. Conclusions drawn from relevant information are based on appropriate evidence and reasoned decisions.
2. Select prevention and control methods for diseases	2.1. Disease control methods appropriate to environmental conditions and severity of outbreak are selected. 2.2. Preventative methods are selected and implemented to contain the identified outbreak.
3. Treat ill health in stock	3.1. Feedback from external analysis of samples is understood. 3.2. Action is taken or treatment given according to veterinary guidelines, including obtaining appropriate approval for use of restricted medication. 3.3. Withholding periods of medications are complied with as required. 3.4. Infestations/infections are monitored and progress compared with manufacturer specifications and enterprise industry records. 3.5. Treatment programs are modified, where necessary, and records maintained. 3.6. Senior personnel are notified promptly of significant changes to treatments.
4. Monitor and review	4.1. Clean up of work area, including repairs and storage

ELEMENT	PERFORMANCE CRITERIA
post-disease treatment or control activities and operations	of equipment, is supervised and condition report prepared. 4.2. Relevant disease treatment or control data, observations or information are recorded legibly and accurately, and any out of range or unusual records are checked. 4.3. Compliance and other required reports are prepared and conveyed to senior personnel advising of the effectiveness of disease treatment or control, and recommendations made for improvements. 4.4. Staff are given feedback on their work performance.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- applying treatments to diseases
- assessing signs of stress in stock
- communicating information about disease control activities to staff
- communicating significant changes to treatments to senior personnel
- coordinating staff carrying out disease control activities
- diagnosing disease infestations or outbreaks
- identifying potential improvements
- providing feedback to staff on performance
- reviewing disease control programs
- reviewing risk disease problems
- selecting control measures for the treatment of diseases.

Literacy skills used for:

- filling out regulatory forms
- labelling samples
- interpreting stock health plans, labels and laboratory reports
- recording information on enterprise data sheets
- writing reports for management.

REQUIRED SKILLS AND KNOWLEDGE**Numeracy skills used for:**

- analysing the cost-effectiveness of medication/chemical usage
- estimating infestation severity
- calculating dose rates for medication/chemicals
- weights and volumes.

Required knowledge

- alternate combinations of treatment methodologies
- characteristics, signs and symptoms of disease infestations of cultured or held stock
- chemical and non-chemical control measures
- common types and causes of environmental diseases
- ESD principles
- importance of good water quality and correct nutrition
- life cycles and physiology of disease organisms
- local, regional and state or territory-based priorities for the use of chemicals in the control of infestations or outbreaks
- location/availability of expert assistance
- normal/abnormal stock behaviour
- notifiable diseases and associated regulatory requirements
- relevant OHS, food safety and ESD requirements relating to overseeing the control of diseases
- treatment and control methodologies, stock behaviour characteristics and withholding periods of various common treatment programs.

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment evidence required to demonstrate competence in this unit

Assessment must confirm the ability to:

- organise staff assisting with disease control
- select control methods in line with enterprise guidelines
- to protect or prevent stock being harmed by diseases
- respond to outbreaks of diseases in such a way as to minimise loss or harm to stock.

Assessment must confirm knowledge of:

- characteristics, signs and symptoms of disease outbreaks of cultured or held stock
- life cycles and physiology of disease organisms
- types of environmental diseases
- methods for prevention and control of outbreaks of diseases.

Context of and specific resources for assessment

Assessment is to be conducted at the workplace or in a simulated work environment and should reflect the range of controls and preventative measures used on diseases typically threatening cultured or held stock in the local area.

Resources may include:

- culture or holding structures and stock
- equipment for controlling diseases
- medications, chemicals or products used in the treatment of diseases
- microscopes and dissecting instruments
- research reference material
- staff to supervise.

Method of assessment

The following assessment methods are suggested:

- case study analysis
- project (work or scenario based)

EVIDENCE GUIDE	
	• research assignment • written or oral short-answer testing.
Guidance information for assessment	This unit may be assessed holistically with other units within a qualification.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
<i>Cultured or held stock</i> may include:	• adults, broodstock (ready to breed), seedstock or stockers, eggs and sperm, fertilised eggs, larvae, post-larvae, seed, spat, hatchlings, yearlings, juveniles, fry, fingerlings, yearlings, smolt, sporophytes, seedlings and tissue cultures • finfish, crustaceans, molluscs, aquatic reptiles, amphibians, polychaete and oligochaete worms, plankton, micro-algae, seaweed, aquatic plants, live rock, sponges and other aquatic invertebrates • for human consumption (seafood), stockers for other farms, stockers for conservation or recreational fishing, display or companion animals (ornamentals), and other products, including pearls, skins, shells, eggs, chemicals and pigments • wild caught, hatchery or nursery reared.
<i>Relevant government regulations, licensing and other compliance requirements</i> may include:	• biodiversity and genetically modified organisms • biosecurity, translocation and quarantine • Australian Quarantine Inspection Service (AQIS) and other import requirements • business or workplace operations, policies and practices

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	• ESD principles, environmental hazard identification, risk assessment and control • fisheries or aquaculture regulations, permits and licences • health and welfare of aquatic animals • Indigenous land rights and cultural activities, including fishing by traditional methods • OHS hazard identification, risk assessment and control.
<i>OHS standards</i> may include:	• appropriate workplace provision of first aid kits and fire extinguishers • codes of practice, regulations and/or guidance notes which may apply in a jurisdiction or industry sector • enterprise-specific OHS procedures, policies or standards • hazard and risk assessment of workplace, maintenance activities and control measures • induction or training of staff, contractors and visitors in relevant OHS procedures and/or requirements to allow them to carry out their duties in a safe manner • OHS training register • safe lifting, carrying and handling techniques, including manual handling, and the handling and storage of hazardous substances • safe systems and procedures for outdoor work, including protection from solar radiation, fall protection, confined space entry and the protection of people in the workplace • systems and procedures for the safe maintenance of property, machinery and equipment, including hydraulics and exposed moving parts • the appropriate use, maintenance and storage of PPE.
<i>Food safety and hygiene regulations and procedures</i> may include:	• Australian Shellfish Sanitation program • equipment design, use, cleaning and maintenance • exporting requirements, including Australian Quarantine Inspection Service (AQIS) Export Control (Fish) orders • handling and disposal of condemned or

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	recalled seafood products • Hazard Analysis Critical Control Point (HACCP), food safety program, and other risk minimisation and quality assurance systems • location, construction and servicing of seafood premises • people, product and place hygiene and sanitation requirements • Primary Products Standard and the Australian Seafood Standard (voluntary) • processing, further processing and preparation of food, including seafood and aquatic products • product labelling, tracing and recall • receipt, storage and transportation of food, including seafood and aquatic products • requirements set out in Australian and New Zealand Food Authority (ANZFA) Food Standards Code and state and territory food regulations • temperature and contamination control along chain of custody.
ESD principles may include:	• applying animal welfare ethics and procedures • control of effluents, chemical residues, contaminants, wastes and pollution • control of weeds, pests, predators and diseases, and stock health maintenance • improving energy efficiency • increasing use of renewable, recyclable and recoverable resources • minimising noise, dust, light or odour emissions • preventing live cultured or held organisms from escaping into environment • reducing emissions of greenhouse gases • reducing energy use • reducing interactions with native and protected flora and fauna, marine or land parks or areas • reducing use of non-renewable resources • undertaking environmental hazard identification, risk assessment and control • undertaking facility quarantine, biosecurity and translocation of livestock and genetic material

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	• using and recycling water, and maintaining water quality
PPE may include:	• buoyancy vest or personal floatation device (PFD) • gloves, mitts or gauntlets, and protective hand and arm covering • hard hat or protective head covering • hearing protection (e.g. ear plugs and ear muffs) • non-slip and waterproof boots (gumboots) or other safety footwear • personal locator beacon or Emergency Position Indicating Radio Beacon (EPIRB) • protective eyewear, glasses and face mask • protective outdoor clothing for tropical conditions • respirator or face mask • safety harness • sun protection (e.g. sun hat, sunscreen and sunglasses) • uniforms or overalls • waterproof clothing (e.g. wet weather gear and waders).
Diseases may include:	• causes of impairment of health or a condition resulting in abnormal functioning of the cultured or held stock • environmental causes, such as poor water quality or contaminants (chemicals) • nutritional (e.g. feed contaminants, quality and quantity) • viruses, protozoans, bacteria, fungi, worms, parasites and toxins of biological origin (e.g. toxic algae).
Diagnosed may include:	• dissection of stock • microscope, binocular or stage • visual inspection.
Prevention and control methods may include:	• appropriate nutritional program, additional vitamins • biological control (e.g. cleaner fish) • chemical barriers (e.g. foot baths) • deprivation or purging • disinfection of equipment

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	• filtration, ozonation or water treatment • freshwater, saltwater or chemical baths • medication in food • probiotics and other chemicals (e.g. pesticides, herbicides and algacides) • prophylactic treatments of probiotics • reducing stress (e.g. providing cover, hides, shelters and habitat) • replacing susceptible species/variety with resistant species/variety • vaccination or inoculation: • medicated feeds • syringes, drippers and other application equipment • water quality optimisation.
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Unit Sector(s)

Unit sector	Aquaculture operations
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Co-requisite units

Co-requisite units	

Competency field

Competency field	
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