



Australian Government

Department of Education, Employment and Workplace Relations

SFIAQUA215B Carry out on-farm post-harvest operations

Release: 1

SFIAQUA215B Carry out on-farm post-harvest operations

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency covers routine post-harvest operations carried out at an aquaculture, seafood holding or ornamental farm or facility, including applying various treatments and storing harvested cultured or held stock ready for transport off-farm. This unit does not cover other processing activities, such as gill-gutting, cleaning, filleting, cooking and shucking, which are covered in the seafood processing units. The humane killing or slaughter of livestock is covered by RTE3134A Slaughter livestock. The preparation and packing of livestock for off-facility transport is covered by SFISTOR204A Prepare, pack and dispatch stock for live transport. 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	
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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. Prepare for on-farm post-harvest handling	1.1. Specifications of post-harvest stock are identified and confirmed with supervisor. 1.2. Stock is transported to handling facility using field-handling practices and equipment. 1.3. Automatic or mechanised equipment is operated and maintained according to workplace procedures.
2. Grade, label and treat stock	2.1. Correct handling practices aimed at minimising damage or stress to stock are used according to workplace procedures. 2.2. Stock that does not meet enterprise quality specifications are identified and discarded. 2.3. Stock are graded and labelled according to customer requirements and supervisor's instructions. 2.4. Basic post-harvest activities are conducted.
3. Pack produce	3.1. Packing requirements, including packaging materials and containers, are determined according to customer requirements and supervisor's instructions. 3.2. The required quantity of produce is arranged within containers. 3.3. Packaging meets industry and customer packaging specifications. 3.4. Correct filling techniques for specific containers are used. 3.5. Wraps and lids are applied to containers and correct label applied to meet industry and customer requirements.
4. Deliver produce to an on-farm storage facility and maintain hygiene levels	4.1. Containers are placed onto pallets to ensure stability and maximum air flow. 4.2. Pallets are transported to the storage facility and arranged appropriately. 4.3. Gauges monitoring environmental conditions in the storage facility are read accurately and abnormal readings are reported to the supervisor. 4.4. Condition of stored produce is checked on a regular basis and abnormal conditions are reported to the supervisor. 4.5. Damaged produce and broken containers are removed from the storage facility. 4.6. Pests are controlled and containers cleaned.

ELEMENT	PERFORMANCE CRITERIA
5. Finalise and review basic post-harvest activities	5.1.Storage facility is cleaned without damaging the monitoring or environment controlling equipment. 5.2.Clean up of work area, including repairs and storage of equipment, is supervised, and condition report prepared. 5.3.Relevant basic post-harvest data, observations or information are recorded legibly and accurately, and any out of range or unusual records are checked. 5.4.Compliance and other required reports are prepared and conveyed to senior personnel advising of the effectiveness of basic post-harvest activities, and recommendations made for improvements. 5.5.Feedback on own work performance is sought from supervisor and opportunities to improve identified.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- communicating with supervisor on post-harvest activities and on own performance
- communicating ideas on possible improvements
- delivering produce to an on-farm storage facility
- depurating and/or purging stock
- determining industry specifications prior to packaging
- ensuring temperature control of produce
- handling stock
- maintaining post-harvest storage facility hygiene levels
- monitoring conditions of storage environment
- providing oral reports to supervisor on post-harvest activities
- weighing, grading, labelling and treating a crop according to customer or market specifications.

Literacy skills used for:

- interpreting market specifications
- reading and writing labels.

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

- packing produce and stacking pallets
- weighing or packing limits/recommendations, such as weights and numbers.

Required knowledge

- core temperature, rigour and facilities required for storing stock during and after post-harvest activities
- environmental and biological requirements of live culture stock held for processing
- humidity levels and their effect on the quality of produce
- hygiene issues in the storage of seafood and aquatic products
- methods of handling and transporting various types of stock or products and other post-harvest activities
- operation and maintenance of automatic or mechanised equipment
- packaging standards relevant to the various distribution channels for seafood and other aquatic products
- procedures for depurating and/or purging tank operations
- types of cooling systems appropriate to products.

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: - carry out on-farm post-harvest handling of stock safely and to enterprise standards and customer specifications, including grading, depurating, purging, applying relevant treatments, packing, storing and transporting. Assessment must confirm knowledge of: - post-harvest treatments - product quality - storage facility operations - work procedures relevant to on-farm post-harvest operations.
Context of and specific resources for assessment	Assessment is to be conducted at the workplace or in a simulated work environment and involve a range of processes typically carried out for local species at an aquaculture enterprise. Resources may include: - cooling equipment and ice - equipment necessary for carrying out post-harvest treatments, transport and storage - harvested stock - market or product specifications - monitoring equipment - packaging materials - work procedures for post-harvest tasks - treatments appropriate to the harvested stock and methods of packing, storage and transport.
Method of assessment	The following assessment methods are suggested: - demonstration - practical exercises

EVIDENCE GUIDE	
	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 - business or workplace operations, policies and practices - correct marketing names and labelling - environmental hazard identification, risk assessment and control

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	• food safety/Hazard Analysis and Critical Control Point (HACCP), hygiene and temperature control along chain of custody, and Australian Quarantine Inspection Service (AQIS) Export Control (Fish) orders • health and welfare of aquatic animals • OHS hazard identification, risk assessment and control.
<i>OHS guidelines</i> may include:	• appropriate workplace provision of first aid kits and fire extinguishers • clean, uncluttered, hygienic workplace • 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 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 AQIS Export Control (Fish) orders • HACCP, food safety program, and other risk minimisation and quality assurance systems • location, construction and servicing of seafood

RANGE STATEMENT	
	- premises - people, product and place hygiene and sanitation requirements - Primary Products Standard and the Australian Seafood Standard (voluntary) - 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 - 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 use of non-renewable resources - undertaking environmental hazard identification, risk assessment and control.
PPE may include:	- gloves, mitts or gauntlets, and protective hand and arm covering - protective hair, beard and boot covers - insulated protective clothing for freezers, chillers and refrigeration units - non-slip and waterproof boots (gumboots) or other safety footwear - protective eyewear, glasses and face mask - uniforms, overalls or protective clothing (e.g. mesh and waterproof aprons).
Specifications of post-harvest stock may include:	- absence of pests or contaminants - alive or dead, and whole (not processed) - colour and appearance

RANGE STATEMENT	
	• hygiene standards • industry standards • other customer requirements • quality assurance • quantity • size, weight and grades • species • temperature ranges.
Workplace procedures may include:	• care of stock • channels of communication • contamination controls • hygiene routines and standards • quality assurance • temperature ranges • weighing, using zero balance or scales.
Basic post-harvest activities may include:	• anaesthesia or sedation • cool room storage • depuration or shellfish sanitation • dips, drips and sprays • icing, chilling, ice slurry or refrigeration • meeting quarantine or biosecurity requirements • on-facility transport of livestock or product • packing • preparation for off-facility transport of dead stock or product • purging or holding (live) • sorting, grading or removing half pearls from molluscs • washing, cleaning and hydrating.
Packaging materials may include:	• container divisions to separate stock • foam lining • plastic bags and liners • substrate, including plastic mesh, coconut fibre, sawdust, paper cuttings and cotton wool • ties.
Containers may include:	• bags • boxes, trays and crates • bulk bins • foam eskies

RANGE STATEMENT	
	tanks.
<i>Environmental conditions in the storage facility</i> may include:	- humidity - light - oxygen - protection from contamination and pests - salinity - temperature - waste products (nitrogenous and carbon dioxide).
<i>Pests</i> may include:	- microorganisms, such as bacteria and fungi - insects - rodents.

Unit Sector(s)

Unit sector	Licences may be required if operating: - load-shifting equipment, including forklifts - vehicles - vessels. All enterprise or workplace procedures and activities are carried out according to <i>relevant government regulations, licensing and other compliance requirements</i>, including <i>occupational health and safety (OHS) guidelines, food safety and hygiene regulations and procedures</i>, and <i>ecologically sustainable development (ESD) principles</i>. Equipment operation, maintenance, repairs and calibrations are undertaken in a safe manner that conforms to manufacturer's instructions. Appropriate <i>personal protective equipment (PPE)</i> is selected, checked, used and maintained.
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Co-requisite units

Co-requisite units		

Co-requisite units		

Competency field

Competency field	Aquaculture operations
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