Australian Government

Department of Education, Employment and Workplace Relations

SFIAQUA318A Coordinate feed activities

Release: 1

SFIAQUA318A Coordinate feed activities

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency involves overseeing feeding activities and using data analysis and observations to optimise the uptake of feed. It covers interpreting instructions, selecting equipment, and data entry and analysis. 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.

Application of the Unit

Application of the unit	The unit applies to feeding cultured or held stock in culture or holding facilities where stock are nurtured with formulated feed or formulated feed in conjunction with naturally occurring feed. The unit has application to personnel 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. The unit does not cover the production of micro-algae and live-feeds, nor is it applicable to stock that rely on only naturally-occurring feeds. Licences may be required for: • forklifts • motorbikes • vehicles • vessels. All enterprise or workplace procedures and activities are carried out according to ***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***. Equipment operation, maintenance, repairs and calibrations are undertaken in a safe manner that conforms to manufacturer instructions. Appropriate ***personal***

	protective equipment (***PPE***) is selected, checked, used and maintained.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills	

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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and organise feed for ***cultured or held stock***	1.1. ***Feeding schedule*** is read or heard and confirmed with senior personnel. 1.2. ***Feed types***, quantities and sizes are checked against feeding schedule. 1.3. ***Basic quality of feed*** is checked and, if instructed, samples taken and sent to external laboratory for ***advanced quality analyses***. 1.4. ***Feeding equipment*** is selected and checked for availability and serviceability. 1.5. Staff are briefed on feeding schedule and their responsibilities.
2. Coordinate feeding	2.1. Feeding equipment is positioned, calibrated and operated to maximise efficiency. 2.2. ***Conditions affecting feeding activity and operations*** are documented. 2.3. Feeding operations are stopped once feeding requirements of stock are fulfilled. 2.4. Feeding operation is monitored to ensure feeding schedule is being followed.
3. Optimise feed uptake	3.1. ***Advanced observations*** and ***required samplings*** are undertaken and factors that can be varied to improve feed uptake identified. 3.2. Effectiveness of feeding activities is monitored and steps taken to improve feed update and reduce wastage. 3.3. Feeding schedule is altered to compensate for factors limiting feed uptake.
4. Finalise and review feeding operations	4.1. Work areas are cleaned, ***maintenance and repair checks*** undertaken and feeding equipment stored. 4.2. Feed is stored in a manner that minimises degradation or contamination. 4.3. ***Relevant feeding data***, ***observations or information*** are recorded legibly and accurately, and any out of range or unusual records are checked and non-compliances reported to senior personnel. 4.4. Options for improving efficiency through mechanisation or automation of process or activity, and use of specialised contract staff are researched and presented to senior personnel as potential improvements.

ELEMENT	PERFORMANCE CRITERIA
	4.5. 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
• altering feeding schedule to compensate for factors or conditions influencing feed uptake • briefing personnel on food schedule implementation • communicating with senior personnel on feeding schedule and optimisation of feed uptake • coordinating feeding activities and staff • identifying potential improvements • maintaining and undertaking minor repairs on feeding equipment • observing effects of environmental conditions on feeding • operating advanced feeding equipment • providing staff with feedback on performance • recognising abnormal stock behaviour • researching options for improvement. **Literacy skills used for**: • interpreting and altering feeding schedules • reading and interpreting labels on food packaging • recording feeding information on feed record sheets. **Numeracy skills used for**: • calculating formulae using ratios, metric units and percentages • estimating, calculating, measuring and weighing feeds.
Required knowledge
• advanced stock behaviour and dietary requirements under given or changing conditions • effects of feeding on stock • effects of food wastage on environment and economics of enterprise

REQUIRED SKILLS AND KNOWLEDGE
• equipment calibration and operating methods • feed handling and preparation requirements of enterprise • feeding equipment maintenance and repairs • safety considerations and hazards associated with feeding equipment options and limitations • specialised machinery components, functions and controls.

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: • coordinate staff responsible for feeding stock • maximise the uptake of feed by stock through an effective feeding schedule and strategies that compensate for identified conditions which inhibit or limit feed uptake. Assessment must confirm knowledge of: • factors and conditions that inhibit or limit feed uptake • feeding requirements of identified stock, stock types and age groups • feed types.
Context of and specific resources for assessment	Assessment is to be conducted at the workplace or in a simulated work environment. Assessment should cover the range of stock and factors and conditions that inhibit or limit the uptake of feed typical of the region. Resources may include: • feeding equipment and feed • on-site scenario or case study • research reference material • staff carrying out feeding that can be coordinated • stock to be fed.
Method of assessment	The following assessment methods are suggested: • case study analysis • demonstration • project (work or scenario based) • research assignment • written or oral short-answer testing.
Guidance information for assessment	This unit may be assessed holistically with RTE3704A Coordinate worksite activities, and other units within a

EVIDENCE GUIDE	
	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.	
Relevant government regulations, licensing and other compliance requirements 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 • food safety/Hazard Analysis 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 • maritime operations, safety at sea and pollution control • OHS hazard identification, risk assessment and control.
OHS guidelines 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

RANGE STATEMENT	
	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.
Food safety and hygiene regulations and procedures 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 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 • appropriate disposal of waste feeds • control of effluents, chemical residues, contaminants, wastes and pollution

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	• improving energy efficiency • increasing use of renewable, recyclable and recoverable resources • minimising noise, dust, light or odour emissions • 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 • buoyancy vest or personal floatation device (PFD) • 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 outdoor clothing for tropical conditions • safety harness • sun protection (e.g. sun hat, sunscreen and sunglasses) • uniforms, overalls or protective clothing (e.g. mesh and waterproof aprons) • waterproof clothing (e.g. wet weather gear and waders).
Cultured or held stock may be:	• 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 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

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	animals (ornamentals), and other products, including pearls, skins, shells, eggs, chemicals and pigments • wild caught, hatchery or nursery reared.

Feeding schedule may include:	• any specific requirements for:
	  • feeding trays or other receptacles
	  • impact of culture system design on feeding and water flow
	  • local conditions which can affect feed supply availability or uptake
	  • maximisation of uptake of naturally occurring organisms or fertilised 'green water'
	  • observations to be made
	  • preparation (e.g. quantity, washing, sieving, enrichment, and addition of antibiotics or other therapeutics)
	  • special care or feeding techniques
	  • the stocking density or numbers of stock
	• feed types and location of stores
	• feeding method (e.g. natural, hand, demand and mechanised)
	• frequency (e.g. times per day, per hour)
	• location of stock, stock types and age groups to be fed
	• period over which feeding is to be carried out
	• quantities (e.g. weight and volume)
	• time at which feeding is to be carried out.

Feed types may include:	• brand or batch
	• formulated feeds:
	  • emulsions
	  • flakes
	  • micro-particles
	  • pellets
	  • powders
	• live cultures:
	  • brine shrimp
	  • copepods
	  • micro-algae
	  • rotifers

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	• naturally occurring organisms, such as fertilised 'green water' • nematodes • polychaetes • seaweed • sinking or floating • size and shape • zooplankton.
Basic quality of feed may include:	• dust and physical contaminant-free • free of insect, rodent or moisture damage • mould-free • non-rancid • within labelled use-by period.
Advanced quality analysis may include:	• absence of biotoxins • absence of chemical contaminants • proximate analysis • rancidity of meals and ingredients • Vitamin C or other ingredient deficiencies.

Feeding equipment may include:	• hands, buckets, bags, scoops and shovels
	• feed hoppers, buckets or bags
	• mechanised or electronic:
	  • air blower or water cannon
	  • automatic or demand feeders (e.g. clock, belt, demand and spinner)
	  • CCTV for in-water observations
	  • floating silo or other centralised feeding stations
	  • smart feeders (computerised feedback)
	• motorised or hydraulic lifting equipment, such as forklift, Hiab or other cranes
	• transport equipment:
	  • motorbikes
	  • vehicles or tractors
	  • vessels.

Conditions affecting feeding activity and operations may include:	• algal blooms • feed additives and attractants • moult or breeding cycle • presence and activity of predators • presence of natural foods

RANGE STATEMENT	
	• quality of feeds • rainfall • size of individuals • stock density and biomass • stock health • strong winds and rough water • temperature • tides or water flow • time of day and light conditions • water quality, particularly dissolved oxygen.
Advanced observations may include:	• condition and calibration of feeding equipment • health and condition of stock (e.g. prawns in feed tray, fullness of gut, discolouration and loss of appendages) • percentage of feed lost or wasted • remaining diet or uneaten food • specific feeding behaviour • spread/distribution of feed.
Required samplings may include:	• culture organism size, weight and general appearance/condition • density, types and sizes of natural foods • food particles or pellets • water quality (particularly oxygen).
Maintenance and repair checks may include:	• basic repairs, such as replacing cotter pins • cleaning feed residues from hoppers, pipes and lines • lubrication and cleaning of moving parts • removal of fouling or other debris • repair of bins, baskets, scoops and other plastic or fibreglass products.
Relevant feeding data, observations or information :	• amount of feed provided • amount of feed required • basic feed quality • daily consumption • general stock condition • number of feeds undertaken • percentage in feed trays at end • percentage in feed trays at start • time between feedings • time of feed

RANGE STATEMENT	
	• type, batch and size of feed.

Unit Sector(s)

Unit sector	Aquaculture operations

Co-requisite units

Co-requisite units		

Competency field

Competency field	