



Australian Government

Department of Education, Employment and Workplace Relations

SFIAQUA509B Develop stock production plan

Release: 1

SFIAQUA509B Develop stock production plan

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	<p>This unit of competency involves developing a stock production plan for an aquaculture or ornamental enterprise following a detailed analysis of requirements. The plan is to incorporate all relevant stages of facility operations, including labour, equipment and transport requirements.</p> <p>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.</p>
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Application of the Unit

Application of the unit	<p>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>.</p> <p>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.</p>
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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. Determine requirements	<p>1.1. Cultured or held stock production targets for each stage or component of the enterprise are established consistent with marketing, business plans and sustainable aquaculture practices policy.</p> <p>1.2. Suitability of water resources for stock is assessed.</p> <p>1.3. Current information on government regulations relevant to farm ownership/possession and farm production is obtained and action taken, or policies and procedures developed, to ensure compliance.</p> <p>1.4. Production facilities are assessed for appropriate type, condition, location and size/number to achieve production plans targets or arrangements made to bring them up to required standard.</p> <p>1.5. Mechanisation or automation of process or activity, including the use of specialised contract services, is researched and introduced</p> <p>1.6. Labour and equipment requirements are determined.</p> <p>1.7. Handling, harvesting and on-farm transport requirements are determined for each age, sex or category of stock.</p>
2. Develop plan	<p>2.1. Production plan is developed incorporating previously identified requirements.</p> <p>2.2. Plan incorporates a calendar of operations for each enterprise production cycle.</p> <p>2.3. Schedules are drawn up for timing of purchase and use of inputs and services used in production.</p> <p>2.4. On-farm and off-farm processing and off-farm transport programs are developed for each stock category.</p> <p>2.5. Environmental controls and security arrangements are established, as required.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE
This section describes the skills and knowledge required for this unit.

REQUIRED SKILLS AND KNOWLEDGE**Required skills**

- establishing OHS procedures
- making judgements on a wide range of factors, including resource requirements, which are to be detailed in the production plan
- managing personnel
- planning and scheduling to meet market, on-farm processing and off-farm transport requirements
- researching mechanical and automation options

Literacy skills used for:

- developing detailed production plans and supporting schedules
- extracting data/information from journals, websites, magazines, books and trade journals
- writing reports.

Numeracy skills used for:

- calculating chemical dose rate
- forecasting and budgeting
- recording and presenting data
- using spreadsheets and entering data.

Required knowledge

- biological and physical requirements of stock
- disease surveillance and health management protocols
- legislation, regulations and voluntary codes of practice
- production cycles
- mechanisation or automation of process or activity
- stock breeding, where appropriate
- stock health
- stock husbandry and management
- stock nutrition or feeding
- use of specialised contract services.

Evidence Guide

EVIDENCE GUIDE	
<p>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.</p>	
Overview of assessment	
Critical aspects for assessment evidence required to demonstrate competence in this unit	<p>Assessment must confirm the ability to:</p> <ul style="list-style-type: none"> accurately determine labour, equipment and other requirements for each stage of operation produce a profitable and sustainable stock production plan for an aquaculture enterprise which is ecologically, biologically and financially sustainable. <p>Assessment must confirm knowledge of:</p> <ul style="list-style-type: none"> aquaculture production basic business skills to analyse financial performance of the production plan.
Context of and specific resources for assessment	<p>Assessment is to be conducted at the workplace or in a simulated work environment. To assess a plan's profitability and sustainability, evidence should be gathered over a period of time which allows for at least one (1) full production cycle.</p> <p>Resources may include:</p> <ul style="list-style-type: none"> marketing or business plan sustainable aquaculture policies
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> project (work or scenario based) case studies written or oral questions.
Guidance information for assessment	<p>This unit may be assessed holistically with other units within a qualification.</p>

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:

- business or workplace operations, policies and practices:
 - commercial law, including fair trading and trade practices
 - consumer law
 - corporate law, including registration, licensing and financial reporting
 - disability policies and practices
 - equal opportunity, anti-discrimination and sexual harassment
 - industrial relations and awards, individual employment contracts and share of catch agreements
 - jurisdictional variations
 - superannuation
 - taxation
 - trade practices
 - warnings and dismissals
 - worker's compensation
- ESD principles, environmental hazard identification, risk assessment and control
- fisheries or aquaculture regulations, permits, licences, quotas, catch restrictions and other compliance requirements, including:
 - Australian Exclusive Economic Zone
 - international treaties and agreements
- food safety, Hazard Analysis Critical Control Point (HACCP), hygiene and temperature control along chain of custody
- imports quarantine and inspection, and importing approved arrangements for Australian Quarantine Inspection Service (AQIS), Australian Customs Service (ACS) and Biosecurity Australia (BA)
- Indigenous native title, land claims and

RANGE STATEMENT

	<p>cultural activities, including fishing by traditional methods</p> <ul style="list-style-type: none"> • maritime and occupational diving operations: <ul style="list-style-type: none"> • foreign and Australian legislation applying to quarantine and customs • International Convention for the Safety of Life at Sea (SOLAS) • International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 1978) • Marine Emergency Response Search and Rescue (MERSAR) • National Standards for Commercial Vessels • pollution prevention - International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) • Uniform Shipping Laws (USL) Code • use of vessels, right of way and other marine orders, bunkering and refuelling • land, buildings and vehicles: <ul style="list-style-type: none"> • buildings and structures design and appearance, constructions and additions • poaching, trespass and theft • road laws for use of motor vehicles, bikes, trucks and other transport equipment • soil and water management • use of chemicals and biological agents • use of firearms and powerheads • use of utilities, including water, natural gas, electricity and sewage • water or land lease, tenure or ownership and use • OHS hazard identification, risk assessment and control • product quality assurance: <ul style="list-style-type: none"> • correct naming and labelling (e.g. country of origin, Australian Fish Names Standard and eco-labelling) • correct quantities, sizes and other customer requirements
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	<ul style="list-style-type: none"> • third-party certification (e.g. Australian Grown and ISO 14001:2004 Environmental management systems).
<i>OHS guidelines</i> may include:	<ul style="list-style-type: none"> • 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 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:	<ul style="list-style-type: none"> • Australian Shellfish Sanitation program • display, packaging and sale of food, including seafood and aquatic products • equipment design, use, cleaning and maintenance • exporting requirements, including AQIS Export Control (Fish) orders • handling and disposal of condemned or recalled seafood products • HACCP, food safety program, and other risk minimisation and quality assurance systems • location, construction and servicing of

RANGE STATEMENT	
	<p>seafood premises</p> <ul style="list-style-type: none"> • 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.
<i>ESD principles</i> may include:	<ul style="list-style-type: none"> • controlling use and recycling of water, and managing water quality and quantity • increasing use of renewable, recyclable and recoverable resources • managing environmental hazard identification, risk assessment and control • managing imported products quarantine and inspection, facility biosecurity, translocation of livestock and genetic material, and health certification • managing stock health and welfare, especially for handling, holding, transport and slaughter • managing sustainable fisheries or broodstock/seedstock collection requirements, such as size limits, quotas, season restrictions, population dynamics, fishing impacts, reducing by-catch, fisheries management strategies and maintaining biodiversity • managing, controlling and treating effluents, chemical residues, contaminants, wastes and pollution • minimising noise, dust, light or odour emissions • planning environmental and resource efficiency improvements • preventing genetically modified and live

RANGE STATEMENT	
	<p>cultured or held organisms from escaping into environment</p> <ul style="list-style-type: none"> • protecting native and protected flora and fauna, marine or land parks or areas, adhering to the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), the Ramsar Convention, World Heritage and other international treaties for which Australia is a signatory • reducing emissions of greenhouse gases • reducing use of non-renewable resources • reducing disturbances to soils, erosion and surface water flows from machinery use and other activities • reducing energy use and introducing alternative energy sources.
<i>PPE</i> may include:	<ul style="list-style-type: none"> • 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) • insulated protective clothing for freezers or chillers and refrigeration units • 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 hair, beard and boot covers • protective outdoor clothing for tropical conditions • respirator or face mask • 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).
<i>Cultured or held stock</i> may	<ul style="list-style-type: none"> • adults, broodstock (ready to breed), seedstock or stockers, eggs and sperm, fertilised eggs,

RANGE STATEMENT	
include:	<p>larvae, post-larvae, seed, spat, hatchlings, yearlings, juveniles, fry, fingerlings, yearlings, smolt, sporophytes, seedlings and tissue cultures</p> <ul style="list-style-type: none"> • 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>Stage or component of the enterprise</i> may include:	<ul style="list-style-type: none"> • broodstock collection and maturation • display or holding • hatchery production or seed stock collection • nursery culture • on-farm post-harvest or processing • on growing and grow out • single or multiple species (e.g. polyculture and integrated culture).
<i>Government regulations relating to farm ownership/possession</i> may include:	<ul style="list-style-type: none"> • aquacultural tenancy, ornamental permits or leases • lease arrangements and requirements (contract growing) • rights, responsibilities and limitations relating to farm ownership or possession (lease) • stock permits/licences.
<i>Government regulations relating to farm production</i> may include:	<ul style="list-style-type: none"> • baseline study and environmental monitoring • control of predators, pests and diseases • handling, transport, storage and use of chemicals • licensing of vehicles and vessels • notification of notifiable diseases • OHS requirements • product quality and food safety • provision of relevant data for authorities • registration of firearms • transport of broodstock and seedstock

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	<ul style="list-style-type: none"> • use of exotic species.
<i>Production facilities</i> may include:	<ul style="list-style-type: none"> • air supplies, oxygen or gases • backup equipment (e.g. water, air and power supplies) • culture or holding structures • electricity, gas or power supplies • feeding equipment • lease markers, fences and gateways, laneways, tracks and roads • predator or pest exclusion • processing, grading and storage sheds • waste treatment and disposal • water storage, supply, treatment and disposal systems • water quality.
<i>Equipment requirements</i> may include:	<ul style="list-style-type: none"> • cleaning equipment • graders, counters, scales and measuring equipment • harvesting equipment: <ul style="list-style-type: none"> • fish pump • nets, cages, traps and scoops • remote operated video or still camera • swim way • PPE: <ul style="list-style-type: none"> • anaesthetics or restraints for dangerous animals • transport equipment: <ul style="list-style-type: none"> • bags • baskets • buckets, pails and tanks • oxygen supply • water treatment equipment: <ul style="list-style-type: none"> • aerators • filters • flow regulators • sterilisers, including ultraviolet (UV) and ozone • temperature control • waste collection or disposal.

RANGE STATEMENT***Inputs and services*** may include:

- biofoulants and other pest treatments
- chemicals for parasite and disease prevention and control
- culture or holding infrastructure and associated materials
- employed labour, contractors and share farmers
- energy (e.g. fuel, gas and electricity)
- feeds
- harvesting and production equipment and supplies
- seedstock and broodstock
- water.

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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